



UJALA

UTTARAKHAND JUDICIAL AND LEGAL ACADEMY, BHOWALI NAINITAL

Topic of Presentation – Uttarakhand: Land, Cultural Heritage
and Biodiversity

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- Uttarakhand has a **highly varied topography**, with snow-covered peaks, glaciers, deep canyons, roaring streams, beautiful lakes, and a few patches of dusty plains in the south.
- Out of the total 5348300 hectares area of Uttarakhand, (86.15%) of the area is under forests and wastelands, (13.85%) and a small portion of total land (13.85%) is available for agricultural practicing.
- Uttarakhand or Devbhumi as the locals call it, which literally means Land of the Gods, is known for its beautiful, scenic environment. Being surrounded by the Himalayas, Uttarakhand is blessed with fertile land. Uttarakhand being endowed with diverse agro-climatic regions, practices agriculture depending on the area. While the hill farmers prefers subsistence farming, those in the plain regions opt for commercial farming.
- Availability of irrigated land in the plain regions make it favorable to cultivate more than just the staples. Another drawback of hill farming, other than the availability of ample amount of water, is the small and scattered land holding. As the cultivated land in the hills can range anywhere from 4 hectares to less than 1 hectare, thus lowering the productivity of the crops.
- Uttarakhand has a highly varied topography, with snow-covered peaks, glaciers, deep canyons, roaring streams, beautiful lakes, and a few patches of dusty plains in the south. Some of the highest mountains in the world are found in Uttarakhand. Most notably, these include Nanda Devi (25,646 feet [7,817 metres]), which is the second highest peak in India, Kamet (25,446 feet [7,756 metres]), and Badrinath (23,420 feet [7,138 metres]).

Uttarakhand can be divided into several physiographic zones, all running parallel to each other from northwest to southeast.

- Northern zone, popularly known as the Himadri, contains segments of the Zaskar and the Great Himalaya ranges, with elevations ranging roughly from 10,000 to 25,000 feet (3,000 to 7,600 metres). Most of the major peaks are located in this zone.
- Adjacent to and south of the Great Himalayas is a zone containing the Lesser Himalayas, known popularly as the Himachal, with elevations between about 6,500 and 10,000 feet (2,000 to 3,000 metres); the zone has two linear ranges—the Mussoorie and the Nag Tibba.
- To the south of the Himachal is a stretch of the Siwalik Range. The entire area containing the Himadri, the Himachal, and the Siwaliks is broadly known as the Kumaun Himalayas. The southern edge of the Siwalik Range merges with a narrow bed of gravel and alluvium known as the Bhabar, which interfaces to the southeast with the marshy terrain known as the Tarai. The combined Siwalik-Bhabar-Tarai area ranges in elevation from 1,000 to 10,000 feet (300 to 3,000 metres). South of the Siwaliks are found flat-floored depressions, known locally as *duns*, such as the Dehra Dun.

Drainage

The state is drained by various rivers of the Ganges (Ganga) system. The westernmost watershed is formed by the Yamuna River and its major tributary, the Tons. The land to the east of this basin is drained by the Bhagirathi and the Alaknanda—which join to form the Ganges at the town of Devaprayag—and the Mandakini, Pindar, and Dhauliganga, all principal tributaries of the Alaknanda.

To the east again are the southward-flowing Ramganga and Kosi rivers, and draining to the southeast in the same region are the Sarju and Goriganga, both of which join the Kali at Uttarakhand's eastern border with Nepal.

Soil

Uttarakhand has **various types of soil**. The five main types of soil found in the state are

- Tertiary soil: found in Shivalik and Doon valley, this soil is suitable for production of tea.
- Cord soil: the soil contains shell cysts and quarts. This is light and unproductive soil found in Nainital district.
- Volcanic soil: the soil is found in the mountain slopes of the state.
- Brown forest soil: often shallow, gravelly, and rich in organic content, is found farther to the south.
- Alluvial soil: found in the river valleys and is suitable for agriculture.

Uttarakhand has various types of soil, all of which are susceptible to soil erosion. In the north, the soil ranges from gravel (debris from glaciers) to stiff clay. Brown forest soil—often shallow, gravelly, and rich in organic content—is found farther to the south. The Bhabar area is characterized by soils that are coarse-textured, sandy to gravelly, highly porous, and largely infertile. In the extreme southeastern part of the state, the Tarai soils are mostly rich, clayey loams, mixed to varying degrees with fine sand and humus; they are well suited to the cultivation of rice and sugarcane.

The soil of Tarai region is very fertile and rich in nutrients. On the other hand, the hill region is prone to constant soil erosion due to steep slopes which again makes it less fertile.

Minerals in Uttrakhand

- The minerals that are found in the district are the following-
- Asbestos-This is of the amosite variety and can be used for the production of asbestos, cement bricks, laboratory asbestos sheet and paper, but is not considered to be of economic importance.
- Magnestic - This is of an average quality is crystalline in nature, and is found associated with crystalline dolomites and sometimes with soapstone. The Magnesium carbonate found here is also of average quality and its mineralisation has also been reported to occur in the district.
- Soapstone or Steatite - This white saponaceous stone resembling pipe clay is obtained in as lenticular body and is associated with mineral pyrites, which adds a color to it, and in places with magnesite. it can be mined for use as filler in soap and in the cosmetic industries. In the past various utensils were made of it which, when polished, had the appearance of marble.
- Copper - The copper mines in the district are extensive and of reputed during the period of Hindus and The Gorkhas rules. All the rich mines have since being exhausted and at present they do not offer a fair field for the employment of capital.
- Iron - Small and sporadic occurrence of iron are known to occur in several parts of district but are of hardly any economic important. Iron ore, rich in haematite, and magnetic ore, with haematite and siderite, also occur in the district.
- Graphite - In the past this mineral, also known as plumbago, found mostly in patti Lohba, was used as a dye but no large deposits have been noticed for a long time.
- Gypsum - This mineral is found on the bank of some river and was used in the past for the manufacture of saucers and bowls .when ground to a fine powder it is known as Plaster of Paris and can be used for a number of purposes

Lead - Deposits of this metal were fairly numerous in the past but it is found in somewhat inaccessible places and has long since ceased to be worked.

- Slate - This dense, fine grained metamorphic rock, which is produced from a fine clay, can be split into thin, smooth plates and is quarried throughout the district. It is suitable for roofing purposes, the thin dark blue slates being somewhat inferior in quality.
- Building Stone - Stone which can be used for building purposes is available in most parts of the district. Sand stone is found in abundance in the lower hills. Gneiss and chlorite schists which are available throughout the district are frequently used for building purposes.
- Sulphur - This yellow mineral, also known as brimstone is found in the district as green sulphate of iron and is obtainable from iron pyrites and copper mines, its presence being characterised by a smell as of rotten eggs. Sulphur springs also occur in many parts in the district.
- Bitumen - The brownish white natural sulphate of alumina known as Shilajit is found in rocks at a fairly high altitude and occur in small lumps which generally have an admixture of red sand and micaceous stone embedded in them. It is used in Ayurvedic medicine and during the season when there is an influx of pilgrims, it fetches good income to those who deal in it.

Land Use

- . Out of a total geographical area of 5.35 million ha in the state, 4.6 million ha (86%) is hilly area and 0.74 million ha (14%) is plain area.
- Only about 14 percent of the geographical area is cultivable which is mainly attributed to the topography of the state.
- Because of its location and diverse climate, the State has certain unique advantages for development of horticulture, agro processing industries, organic farming, off season vegetable cultivation and cultivation of medicinal and aromatic plants which can be gainfully exploited.
- Similarly, service sector, particularly tourism offers a large potential for employment generation in both urban and rural areas. The State is having about 61.1% area under forests. The share of net sown area is only about 14 % as against the national average of 43.37%. The share of culturable wasteland is about 7% which provides a huge potential for fodder trees and other plantation crops including fruits.
- Agriculture is a predominant sector in the state economy which contributes around 23.4% in State Domestic Product (GDP).
- The average size of land holding in the state is 0.95 ha (Marginal-0.39, Small-1.38, Medium-3.33 and Large-36.00) as against the National Average of 1.57 ha. The share of small and marginal holdings is higher in Uttarakhand State as compared to National Average.
- The agriculture sector in the state continues to remain heavily depended on rainfall. The net Irrigated area in the State is 3.45 lakh ha. Out of which 85.83% is in plains and 14.17% are is in hills. The irrigation intensity in the State is 159% which varies between 155% in plains to 184% in hilly region.

Agricultural methods

Basically two kinds of agricultural methods are followed by the state farmers

- rain fed
- irrigated.

Horticultural practicing is also one of the prominent economic activity in rural areas of this state. It has a potential to generate employment as well as also restore the fragile ecosystem. During the 9th and 10th plan periods horticulture has transformed agrarian economy towards hike . Three fourth population of Uttarakhand depends on agriculture for their livelihood dominates with small and marginal land holding, however they are facing several challenges regarding small land holding and fragmented land as well as limited irrigation facilities

Types of farming in the state:

- Uttarakhand being endowed with diverse agro-climatic regions, practices agriculture depending on the area. While the hill farmers prefer **subsistence farming**, those in the plain regions opt for **commercial farming**. Availability of irrigated land in the plain regions make it favorable to cultivate more than just the staples.

Farming Patterns

- **Contour farming**- The practice of tilling sloped land, this is done so to conserve rainwater and reduce soil erosion. This can be achieved by the means of furrows, crop rows, and wheel tracks across slopes, acting as reservoirs to catch and retain the rainwater. This practice helps in reducing time consumption and can help lower the fertilizer loss. Contour farming is most effective when practiced along with strip cropping, terracing and water diversion.
- **Terrace farming**- A type of farming that consists of different steps or terraces. This method is popular in the mountain regions. Though terrace farming is labor-intensive, this method helps in maximizing land area in variable terrains. Mostly, terraces are a low, flat ridge that is built across the slope, with a channel for water just above the ridge. Terraces are usually built on a slight grade to slow the water caught in the channel so that the soil can take in the water readily.
- **Jhumming farming**- Usually done by the tribes of the region, it's just a local term for shifting cultivation. In this, the plots of land are cultivated temporarily, and abandoned to allow it to revert to its natural vegetation.

Crops cultivated in the region:

Government of Uttarakhand, due to low productivity of various crops, is promoting cultivation of more resourceful crops such

- Basmati rice,
- medicinal plants,
- vegetable and flower cultivation.
- Major crops grown in Uttarakhand are rice, wheat, sugarcane, maize, soybean, pulses and oilseeds.
- Many medicinal plants like belladonna and germanium were first introduced in this region by Kumaun.
- Major fruits grown in Uttarakhand are Mango, litchi, guava, apricot etc. while major vegetables grown in Uttarakhand are Potato, tomato, green pea, cauliflower and capsicum etc. Farmers or primary producers face many challenges, of both technical and economic nature.

Horticulture

The geographical attributes and climatic conditions of the state are ideal for production of temperate and subtropical fruit crops.

- In hilly areas, fruits like apple, pear, peach, plum, khumani and walnut are produced
- mango, litchi, malta, santra, lemon, aonla, guava, and pomegranate are mostly grown in Tarai and valley areas.
- Major vegetables grown in the state are potato, cauliflower, tomato, onion, brinjal, pea, cabbage and okra. The state has a unique advantage of producing off-season vegetables in hilly areas, which fetches good price in the market. Major spices are ginger, garlic, turmeric and chilly. Details of area, production and productivity of major Horticulture crops in the state

Land reforms and Land management in Uttarakhand

- As land is the most essential productive asset owned by people in rural area, land reform is necessary.
- Land reforms are needed because:
- It raises productivity and exploitation of the underprivileged.
- It helps settle the existing institutional factors such as insecurity of tenure, high rents, feudal relations, sub-division of land, thus assisting the cultivator to raise their production.
- It reduces the capacity of the farmers to invest and save in agriculture.
- The measures of land reforms such as land ceiling helps in making the best use of small land and generate gains.

- *Kumaun Uttarakhand zamindari Abolition* and land reforms act in hilly area of Uttar Pradesh had been passed in 1960. The agriculture farmers' class was directly connected to government and he got permanent right related to land. The land tenure of hill area had been cleared as per.
- Before Zamindari Abolition, who had his on land, they had the right of owner or zamindari right and whatever land he had, he became a landlord.
- Before this act, a man who captured on this zamindari land, and printed in the records, declared that man as Seerdar.
- Before this act, a man who captured on this zamindari land and not printed in the records, declared that man as Aasami.
- The state government had taken of barren land and this land was transferred to "Gaon Sabha" and having formatted of land management committee, land transferred to that committee but this tenure was not applicable in hill area and barren land was put under state government.

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Abolition of intermediaries:

- Before independence, there were three major types of land tenure systems in India: Zamindar, Mahalwari and Ryotwari.
- The state abolished intermediaries after the legislations were passed, first one being in Madras in 1948.
- About 30 lakh tenants acquired the land rights over the cultivated area.
- There were several challenges made to the land reform legislations in courts.
- Legislations recognized Zamindars as intermediaries, therefore leaving the other two out.
- Thus, compensation were provided only to the Zamindars.

Tenancy reforms and security:

- Three type of tenants: Occupancy or permanent, tenants at will and sub-tenants.
- The higher degree of exploitations were faced by tenants at will and sub-tenants.
- NSS in 1953-1954 estimated that about one-fifth of the area under cultivation was held under tenancy.
- Measures for the reforms included the conferment of the ownership rights, security if tenure and regulating rents.
- Recommendation that rents should not exceed one-fourth of the gross produce. Several states enacted to the legislations.
- Law observed more breach in owing to the weak position of the tenants.
- Three types of legislation were framed by the states due to the insecurity of tenure.
- The tenants were given full security in the first, the second type stated that the owners had the right to resume a limited area for own condition but tenants should have minimum area and the third, where the tenants aren't entitled to minimum are for cultivation.

Present situation

- Most of the area of State is under forests and wastelands thus leaving only a small amount of land *i.e.* 7.41lakh ha (about 14%) ([LUS 2009-10](#)) for cultivation out of the total reported area of 56.72 lakh ha.
- Out of the total, about 89% are under small and sub marginal. As large number and area is under small and marginal holdings, scale of economies cannot be availed of, and so the input cost per unit of output is higher. The soil of *tarai* region is very fertile and support to number of crops. Indiscriminate use of chemicals and overexploitation of groundwater makes the soil of this region less fertile, causing the reduction in the sustainability in productivity. On the other hand the hill region is prone to constant soil erosion due to steep slopes making it less and less fertile, which could be achieved through adoption of better management practices.
- In the state, farmers adopt generally two types of agricultural practices *i.e.* the rainfed and the irrigated. Most of the agriculture in the state is rainfed. The net irrigated area of the state stands at 3.38 lakh hectares (2009-2010). The net irrigated area to net sown area for the state is 45 percent. Being large area under hills, irrigation is available mostly in the plains and valleys. So there is a need to generate alternate sources of irrigation to increase the net irrigated area, which in turn shall also increase the cropping intensity of the state. These alternative sources can be rainwater harvesting, check dams, hydram for lift irrigation etc. Technologies like drip irrigation, sprinklers etc. can also be used for better water management.

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- The growth of foodgrain production is quite variable in different areas. As a result, agriculture scenario presents a mixed picture. ([Area Production and Productivity 2010-11](#)) Productivity of district Udham Singh Nagar, Haridwar, Nainital (plain) and Dehradun (plain) is very high, on the other side; productivity of the hilly area is very low, although the valleys are fertile. Plains and hill agriculture stand in stark contrast to each other. While productivity in plains can be compared with agriculturally developed regions of the country, productivity in hill lags far behind. The Green Revolution had highly benefitted the farming system of the plain area of the State while it has neglected the hilly region.
- Besides the threats there are ample opportunities of increasing production and productivity, especially in the field of pulses and oilseeds, availability of cultivable waste land, conservation of rain water harvesting activities. There is also a good opportunity of organic farming, diversification of agriculture, post-harvest technologies, strengthening of market interventions, and use of farm machinery to make the agriculture more profitable occupation

Units of Land Measurement in Uttarakhand

- **Bigha:** Bigha is the most commonly used unit of land measurement in Uttarakhand. It is equal to 632.1123 square meters or 0.15619835102 acres.
- **Biswa:** Biswa is another unit of land measurement used in Uttarakhand, which is equal to twenty of a Bigha. It is equal to 31.605615 square meters or 0.00780991755108 acres.
- **Nali:** Nali is a traditional unit of land measurement in Uttarakhand, particularly in the hilly areas. It is defined as the area of land that can be irrigated by a nali of water in one irrigation. The exact size of a Nali can vary depending on the local region, but it is typically around 200.6706 square meters or 0.049586785162 acres or 1350 sq ft.
- **Mutthi:** Mutthi is another unit of land measurement used in Uttarakhand, which is equal to sixteenth of a Nali. It is equal to 135 square feet or 12.5419 square meters.
- **Katha:** Katha is a unit of land measurement commonly used in rural areas of Uttarakhand. It is equal to two and a half Biswa, which is equivalent to 2879.999904006 square feet.
- It is important to note that the exact size of a Nali or Bigha can vary depending on the local region and the method of measurement used. Therefore, it is recommended to consult with a professional land surveyor or real estate agent who is well-versed in the local measurement units to get an accurate estimate of the land area.

Methods of Land Measurement in Uttarakhand:

- Chain Method: The chain method is the traditional method of land measurement used in Uttarakhand. It involves using a measuring chain, which is typically made of brass, to measure the length and breadth of the land.
- Total Station Method: The Total Station method is a more modern and accurate method of land measurement used in Uttarakhand. It involves using a device called a Total Station, which uses electronic distance measurement technology to measure the land's length, breadth, and height.
- GPS Method: The GPS method is another modern method of land measurement that uses GPS technology to measure the land's exact location, length, breadth, and height.

Uttarakhand Land Conversion

- Uttarakhand land conversion is a process of converting agricultural land for non-agricultural purposes. Agricultural properties cannot be utilised for development purposes such as residential, industrial, commercial or medical facilities apart from the conversion of the land into non-agricultural lands. As per the provisions contained in Uttarakhand Zamindari Abolition and Land Reforms Act, agriculture land in the Uttarakhand cannot be used for the development purpose, without the permission from the prescribed authority.
- The process of conversion of land be completed on verification, if it is found that the owner of the property fulfils all the conditions, a conversion order will be granted to the landholder.

Purposes of Uttarakhand Land Conversion

- Any agriculture property can be converted, for one or more of the following purposes in Uttarakhand:
- Educational purpose
- Residential Purposes
- Charity Purpose
- Commercial Purposes
- Mineral, Bricks production and other Industry
- Animal rearing and husbandry
- Systematic farming and dairies such as isolated farms specialising in horticulture, rising of genetically enhanced crop or agriculture needs specialised abiotic premises.
- Medical facilities
- Public utility of use to the state or district
- The public or semi-public service of land use to the community, tribe or an entire anchal Ceremonials purposes

- **Exempted Lands for Uttarakhand Land Conversion**

- No permission will be granted for Uttarakhand land conversion of the following type of lands:
- Land which is under the Central or Uttarakhand Government firm about the management of Coastal Regulation Zone
- Landfalling within the boundary limit of any railway line or national highways
- Land earmarked as a controlled land in any development plan notified by the Uttarakhand Government under the Uttarakhand Urban Land Ceiling Code,
- Land identified and declared by the State Government through its Forest Department as Protected Forests
- Uttarakhand land conversion cannot be done in the zones of irrigation project and also those about the environment, public health, peace or safety

- **Eligibility Criteria**

- Under The Uttarakhand Zamindari Abolition and Land Reforms Act, only legal holder or occupant will be eligible to obtain nonagricultural permission in Uttarakhand. If land possession holders are more than one, then each possession holders, need to make application with a standard signature.

- **Prescribed Authority for Land Conversion**

- Lands can be called non-agricultural land if any activities like urban development are carried over on the agriculture property, which makes agriculture land, unfit for cultivation. Sub-Divisional Magistrate is the prescribed authority for Uttarakhand land conversion.

- **Time Frame**

- Uttarakhand Land Conversion permission for any purpose will be granted within 40 days from the date of application.

- **Convert Agriculture Land**

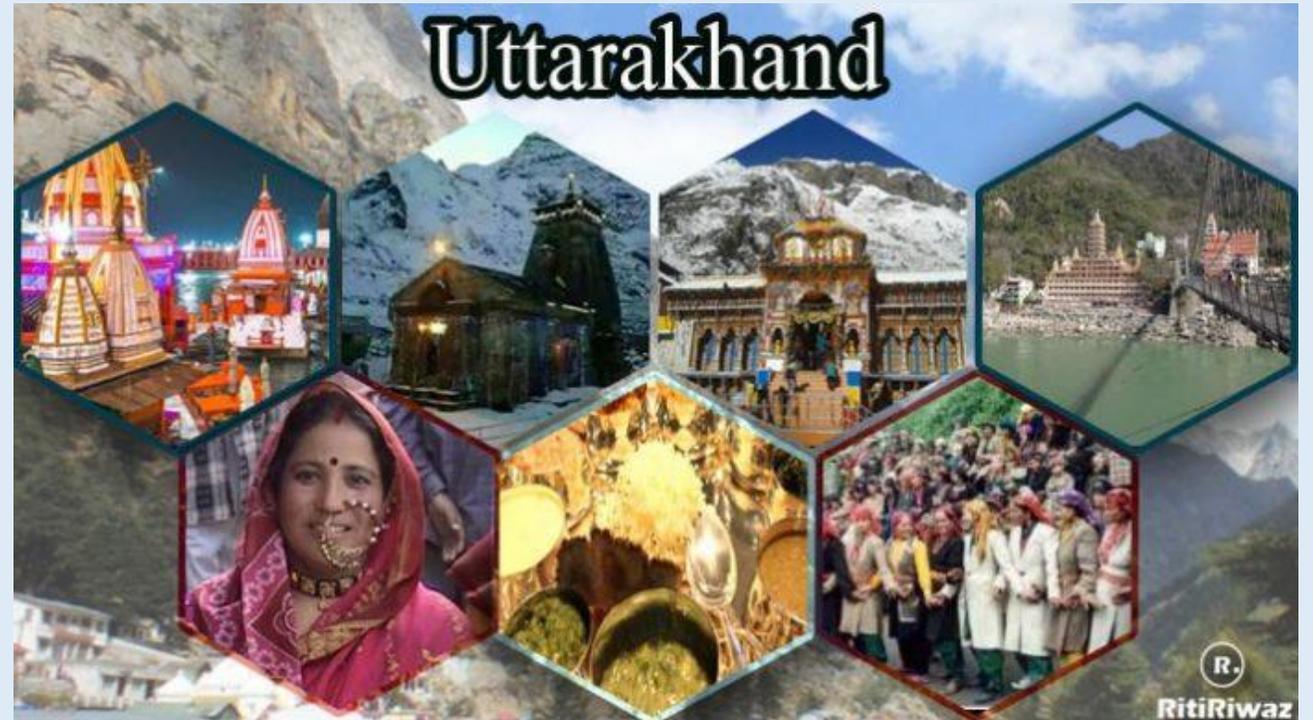
- Any agricultural land, converted for a non-agricultural purpose can be used for such converted purpose within a year from the date of issue of the permission.
- If the land is not converted within the prescribed time, the permission granted will be withdrawn and the premium deposited will be relinquished to the Uttarakhand State Government.

Movement for new land policy /Bhu Kanoon

There is no prohibition on buying of a property by any individual or organisation within municipal limits and cantonment areas in the hill state. The buying of agricultural land over 250 square meters outside the municipal limits is prohibited, but that limit can be relaxed by state government officials, including district magistrates. Outsiders buying agricultural land in Uttarakhand can be provided relaxation under tourism policy if they have a project that will generate jobs for locals and revenues for the state.

Cultural Heritage of Uttarakhand

- ❑ Meaning of culture and Importance of cultural heritage
- ❑ Religious Places
- ❑ Historical sites & Monuments
- ❑ Art and Sculpture
- ❑ Dances & Folk Songs
- ❑ Fairs and Festivals
- ❑ Cuisines



Cultural heritage of Uttarakhand

- Culture and people are very closely associated with each other. The term ‘culture’ refers to the complex collection of knowledge; folklore, language, rules, rituals, habits, lifestyles, attitudes, beliefs, and customs that link and give a common identity to a particular group of people. In case of Uttarakhand, the Land of Gods, natural diversity and the element of the Himalaya’s unparalleled beauty and sanctity add a new dimension to the word ‘culture’.
- Cultural Identity provides individuals with an automatic sense of unity and belonging within a group. It allows people to share stories of the past and the history of where we come from. Understanding our cultural heritage can give a sense of personal identity.

Religious Places



- **Badrinath:** Badrinath temple of lord shiva is situated at a height a height of 3,133 m. The Badrinath temple stands in a beautiful valley on the bank of River Alaknanda. The Badrinath temple traces its origins to Adi Shankaracharya (8th century) while the present temple was built by the Garhwal rulers. Below the Badrinath temple are the hot springs (Tapt Kund and Surya Kund) with waters at a temperature of 55°C.
- **Kedarnath:** Kedarnath is situated at a height of 3,581 m. The Kedarnath shrine stone stands against the backdrop of the Kedarnath range. According to legends, the Pandavas came here to pray to Lord Shiva after great battle of Kurukshetra to atone for killing their own near and dear ones in the war. It is said that Lord Shiva kept eluding the Pandavas and sought refuge at Kedarnath in the form of a bull. The present Kedarnath temple is said to have been resurrected by Adi Guru Shankaracharya. Kedarnath Mandir is one of the holiest Hindu temples dedicated to Lord Shiv and is located at the top of the Garhwal Himalayan range near the Mandakini River in Kedarnath, Uttarakhand in India

- Gangotri: Gangotri is an important pilgrim and tourist place. Gangotri is located at 3,048 m above sea level. The Gangotri glacier is the original source of river Ganga. There is a temple dedicated to Goddess Ganga and the sacred stone where King Bhagirath is believed to have worshipped Lord Shiva.
- Yamnotri: Yamunotri is also an important pilgrim as well as tourist place. The shrine of Yamunotri is located at a height of about 3,235 m and is dedicated to the river Goddess, Yamuna. The main pilgrim place at Yamunotri is the temple of Goddess Yamuna. There are many hot water springs in the vicinity of the temple.
- Surya Temple, Katarmal on bank of the river Kosi and about 18 km from Almora. The temple is locally known as “Bara Adit” or the great sun god.
- Baijnath Temples: Lying in the Katyuri valley is the small but ancient town of Baijnath. It was once upon a time the capital of the Katyuri dynasty of kings and the place was then called Kartikyapura. The temple is famous for its ancient and magnificent stone idol of the Hindu goddess Parvati.

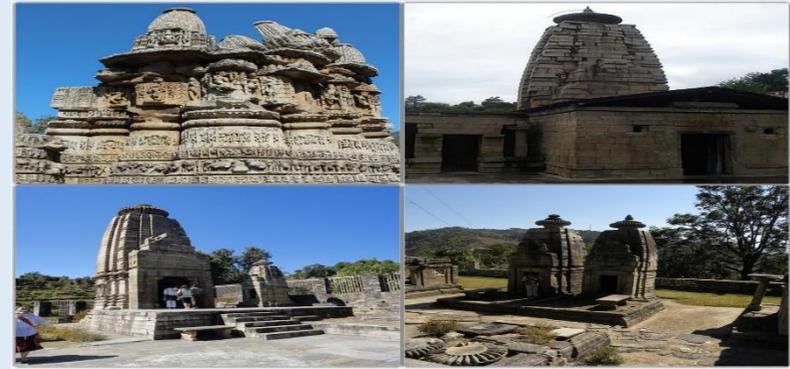
- **Mansa Devi:** Mansa Devi Temple, Haridwar is a Hindu temple dedicated to Goddess Mansa in the holy city of Haridwar in the Uttarakhand state of India. The temple is known for being the holy abode of Mansa, a form of Shakti and is said to have emerged from the mind of the sage Kashyap.
- **Neelkanth Mahadev:** Neelkanth Mahadev Temple is a Hindu temple dedicated to Neelkanth (Lord Shiv). The Temple is one of the most revered holy shrines dedicated to Lord Shiva and is a prominent Hindu pilgrimage site.
- **The Baleshwar temple in Champawat** is dedicated to Lord Shiv (who is also known as Baleshwar). There are two other temples in the compound of Baleshwar, one dedicated to Ratneshwar and other to Champawati Durga.
- **Chandi Devi Temple, Haridwar** is dedicated to Goddess Chandi Devi. Chandi Devi Temple is highly respected by devotees as a Siddh Peetha.

- **Tungnath:** Tungnath is the highest temple in the world and is one of the five and the highest Panch Kedar temples located in the mountain range of Tunganath in the Chamoli district. The temple is believed to be 1000 years old and is the second in the visiting order of the Panch Kedars.
- **Hemkund Sahib:** Hemkund or Hemkunt is a pilgrimage site for Sikhs in Chamoli district. It is most known for a gurudwara, known as Sri Hemkunt Sahib Ji, associated with Guru Gobind Singh Ji. It is said that Guru Gobind Singh Ji meditated here in the 16th century

- Churches in Uttarakhand are the significant monuments of the country. Christianity had emerged in the state of Uttarakhand ages ago and flourished mainly during the British Empire in India. Numerous churches were built in this era, which have been efficiently maintained through years.
- St. John's Church: St. John's Church is a famous church of the state built in 1844. It is situated in Nainital near Naina Devi Temple. On the altar of the church, a brass plaque is placed on which the names of 1880 Landslip victims are inscribed.
- Kellogg Memorial Church: Kellogg Memorial Church is located in Mussoorie. This was constructed in the year 1903. Built in greystone, the church exhibits magnificent gothic architecture with elegant stained glass windows. The church serves as a famous landmark as well as a popular tourist destination.

- **Christ Church:** Christ church of Mussoorie is one of the oldest churches of the Himalayan belt established in 1836 by the British community who were the residents of this region at that time. The spectacular church was built in gothic style of architecture and the magnificent stained glass windows portray life events of Jesus Christ.
- **St. Mary's Church:** St. Mary's Church is another ancient church of the state, constructed in 1895 by Col. A.H.B Hume of the Royal Engineers. Around 1947, when the church started to deteriorate, it was converted into a small museum by the Garhwal Rifles Regimental Centre. It presently houses pictures of pre independence era and audio visuals narrating the history of the regime.
- **Piran Kaliyar:** Piran Kaliyar is the dargah of 13th-century Sufi saint of Chishti Order, Alauddin Ali Ahmed Sabir Kalyari situated at Kaliyar village, 7 km. from Roorkee, It is one of the most revered shrine in India and is equally revered by Hindus and Muslims. The dargah shrine built by Ibrahim Lodhi, a ruler of Delhi.

Historical sites & Monuments



Many of the fortresses in Uttarakhand have even been battlegrounds for mighty armies. Garhwal originally consisted of 52 petty chieftainships, each chief with his own independent fortress (garh). Nearly 500 years ago, one of these chiefs, Ajai Pal, reduced all the minor principalities under his own sway, and founded the Garhwal kingdom.

This is a list of Monuments of National Importance (ASI) as officially recognized by and available through the website of the Archeological Survey of India in the Indian state Uttarakhand.

- Chandpur garhi Fort is situated in Patti Sili Chandpur, Pargana in District Chamoli. The Fort was the seat of Kanak Pal, the actual founder of the present Garhwal dynasty. His descendant Ajaipal consolidated the kingdom of Garhwal. The fort is situated on the peak of a promontory formed by the bend of a stream flowing about 150 m below.
- Ancient horse sacrifice Site at Jagatgram vikasnagar : The excavation exposed the remains of three sites at Jagatgram where the King Silavaraman of the 3rd century AD performed asvamedhas yagya. Here, well designed bricks are laid like a hawk or eagle) with spread wings. Bricks from the first site bore Sanskrit inscriptions in the Brahmi script of the 3rd century AD. It says that the place was the city of the king's fourth horse sacrifice.

- Asokan Rock Edict, Kalsi, Dehradun: Located near the confluence of Yamuna and Tons, Kalsi is about 50 km from Dehradun on the road to Chakrata via Herbertpur. The Great Mauryan Emperor Ashoka (273 – 232 BC) got his fourteenth edict inscribed on a rock at Kalsi. The rock edict is looked after by the Archaeological Survey of India (ASI). Representing the times when Ashoka had vowed himself to be a Buddhist, after having conquered a substantial chunk of the globe, the 10 x 8 ft-rock edict is identified in Prakrit language and Brahmi script.

- Robber's Cave, located at a distance of 8 km from the city centre dehradun, is one of the most popular picnic spots of the destination. Popularly known as Guchu Pani, due to the natural condition of this place, it was used by robbers to hide from the britishers.
- Gauri Udiyar, Bageshwar: Gauri Udiyar is located some 8 km from Bageshwar. There is a huge cave here that has the old idols of Lord Shiva.
- Pandav Gufa, Gangotri: The Pandav Gufa can be reached after a trek of 1.5 km from Gangotri. This very site is believed to be the place, where the Pandavas of Mahabharata meditated on their way to Kailash.

Art and Sculptures

- Dekara: Special images of Gods and Goddesses were made, since idol worship played an important role in the lives of the inhabitants of Garhwal . Dekaras are the clay images of Gods and Goddesses either in relief or in three dimensional form and are meant solely for worship.They are prepared out of fine clay mixed with Colour.
- Aipan: Aipan is one of the traditional art (painting form) of Kumaon. It has great social, cultural and religious significance. In Uttarakhand, aipan are popularly drawn at places of worship, houses, and main entry doors of house and in front courtyard. Recently this aipan folk art gets GI tag recognition.
- Many temples in uttarakhand have stone carvings like Baleshwar, jogeshwar, almora, etc . Baleshwar temple follow the south indian school of sculpture and architecture it was built by first chand dynasty king, raja somchand.

Folk Dances & Songs



- **Langvir Nritya:** This is an acrobatic dance and is performed by the men folk only. In this dance, a long bamboo pole is fixed at a place. The dancer-acrobat climbs to the top of this pole and then balances himself on his stomach on the top. This dance is popular in the Tehri Garhwal region.
- **Barada Nati:** The Barada Nati folk dance is a popular dance of the Jaunsar Bhawar area of Chakrata Tehsil in Dehradun district. The folk dance is performed on the eve of some religious festivals or on the occasion of some social functions.
- **Pandav Nritya:** The Pandav Nritya, which is related to the story of the Mahabharata, has been very popular, particularly in the Garhwal region. Pandavas Nritya is nothing but a simple narration of the story of the Mahabharata in the form of dance and music. It is mostly enacted on the occasion of 'Dussehra' and Diwali. Pandavas Nritya is popular in Chamoli district and Pauri Garhwal.
- **Chhopati:** These are the folk songs popular in the barkot area of Tehri Garhwal. 'Chhopati' are the love songs sung between men and women in the form of questions and answers.

- Chounphula and Jhumeila: "Chounphula and Jhumeila" are among seasonal dances, that are performed from 'Basant Panchami' onwards to 'Sankranti'. 'Jhumeila' is sometimes mixed but is usually restricted to women. 'Chounphula' is performed by all sections of the community, at night, in groups, by men and women. 'Chounphula' folk songs are composed for the appreciation of nature on various occasions. Chounpala, Jhumeila and Daryola folk songs all derive their names from the folk dances of the same nomenclature.
- Basanti: "Basanti" folk songs are composed for the coming spring season when flowers bloom and new life springs in the valleys of the hills of Garhwal. The folk song is sung individually or in groups.
- Mangal: Mangal songs are sung during marriage ceremonies. These songs are basically "Puja Songs" (hymns) sung along with the Purohits (Panditjee/priests) who keep chanting "Shlokas"(verses) in Sanskrit according to the Shastras (scriptures) during the marriage ceremony.

- **Jaggar:** Jaggar falls in the category of ghost and spirit worship, in the form of a folk song or, at times, combined with dances. Sometimes, Jaggar may also be in the form of Puja folk songs and is sung in honour of the various Gods and Goddesses.
- **Bajuband:** This is a folk song of love and sacrifice among the shepherds. It is a love dialogue between a man and woman, or, between a boy and girl.
- **Chhura:** 'Chhura' folk songs are sung among shepherds, in the form of advice given by the old to the young, learnt from their experience, particularly about grazing sheep and goats.
- **Khuded:** These folk songs depict the suffering of a woman caused by separation from her husband. The women curse the circumstances under which she has been separated. This is generally when the husband is away looking for a job.
- **'Laman',** another folk song is sung on special occasions, expressing the sacrifice that a man is willing to undergo for his beloved. 'Pawada' also belongs to this category of folk songs, when sorrow is felt when the husband has gone to the battle field.

Fairs and Festivals

- Jauljibi And Thal Fairs: The fair of Jauljibi (or the Kumaoni festival as it is known) is held here every year in the month of November. The place is also very significant since it is the confluence point of Rivers Kali and Gori. It is also the place of meeting of cultures, Shauka, Nepali and Kumaoni; these three cultures meet at this place. While the fair is important for its commercial value yet its cultural significance is equally important. It invites visitors from as far as Nepal, who come here to sell horses, ghee and take back food grains and jaggery.
- The Uttarayani Fair: The Uttarayani fair is a very important fair to the cultural and social fabric of Uttarakhand. It is organised at not one but many places throughout the land of Uttarakhand - Bageshwar, Rameshwar, Chitrashila (Ranibagh) and Hanshwar. However it's Bageshwar where maximum crowds gather, though all are important from cultural, social and economic point of view. The fair also is connected with history, in the past also this fair has played key role, during the freedom movement. Gandhiji came here in Bageshwar fair in 1929.

- The Nanda Devi fair is held at many important cities across Uttarakhand like in Almora, Nainital, Kot, Ranikhet, Bhowali, Kichha and on a smaller level in villages of Lohar and in valleys of Pindar. According to the locals, the fair started in Kumaon region during the time of Kalyan Chand in 16th century. The fair is very important and sees visitors from far-flung areas. Rich with folk expression, the Nanda Devi fairs are also important from economical point of view..
- Kasar Devi Mela A fair is held twice a year, during winter and summer months, in the picturesque and older part of the town. The fact that the great Swami Vivekananda came to Almora and gained enlightenment in a small cave at Kasar Devi adds the trivia to give a lot more significance to the place.

• **Festivals**

- Makar Sankranti: it marks the beginning of season change. People give alms to the poor on this day and take dips in holy rivers.
- Ghughutia or Kale Kauva. People make sweetmeats of flour and jaggery and make it in the shape of pomegranates, swords and knives and other such interesting shapes. A necklace is made with these then with an orange in the centre. Little children wear these and go out to attract crows and other birds and offer them pieces from their necklaces.

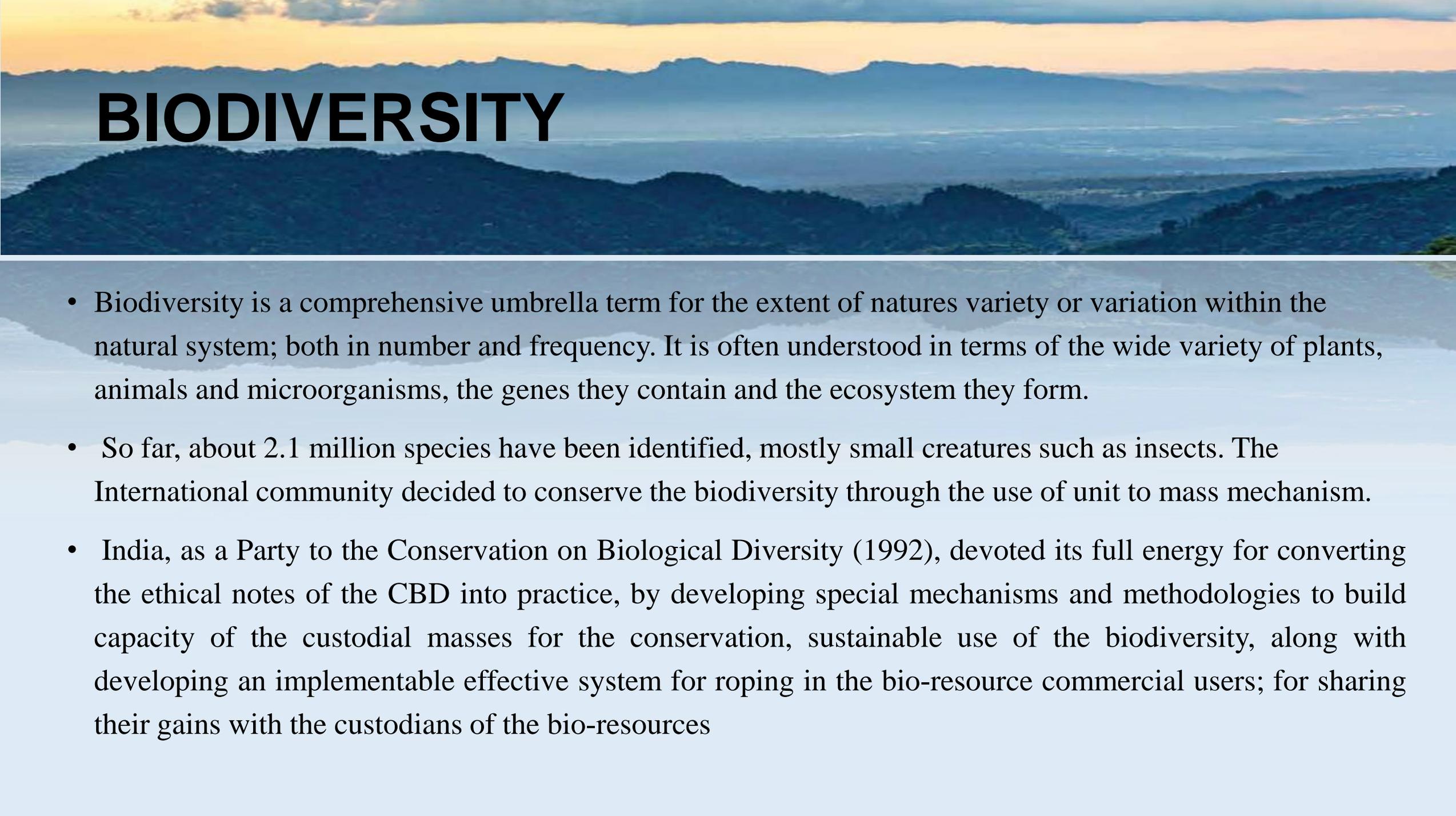
- **Olgia:** The festival is celebrated on the first day of August or Bhado as it is called in the Hindi calendar. This is the time when the fields are full of lush green harvest and the milking animals are very productive. Earlier son-in-laws to father and nephews to maternal uncles used to give presents, however now a days it has changed. People eat chapatis with ghee and urad dal (pulse) filled in it. The festival 's popularity has declined over a period of time.
- **Khatarua:** While some say that the festival is celebrated in lieu of victory of king of Kumaon. But the popular belief goes that the festival marks the beginning of autumn season. Bonfires are lighted around which children dance. People offer cucumbers to fire as it is said to destroy all the evils. Special care is taken of animals during this time
- **Bat Savitri:** Another popular festival celebrated in entire northern India by married women for the well being of their spouses. Women worship Savitri who with her intense devotion brought her husband from death and observe fasts. They also worship a holy tree called Bat or Banyan tree.
- **Ganga Dusshera or Dasar:** This is the day of worshipping river Ganga and people take a dip in holy rivers. Many people put up stalls and offer water and food.
- **Phool Dei:** The festival is celebrated in the beginning of month of Chaitra according to the Hindu calendar, which comes sometime in mid March. It is mainly a festival of young girls, where in they go from house to house with plates full of rice, jaggery, coconut, green leaves and flowers. These girls give their blessings and wishes for the prosperity of the house and are given presents, jaggery, sweets, and money in return.

- Kumaoni Holi: The uniqueness of the Kumaoni Holi lies in its being a musical affair, whichever may be its form, be it the Baithki Holi, the Khari Holi or the Mahila Holi. The Baithki Holi and Khari Holi are unique in that the songs on which they are based have touch of melody, fun and spiritualism. These songs are essentially based on classical ragas.
- Harela and Bhitauli: On the first day of the navaratri (nine day holy period) of the month of Chaitra women fill baskets with soil and sow seven types of grains in them. The grains germinate symbolizing the future harvest. These yellow leaves, called Harela, are cut on the tenth day and people put them on their heads and behind their ears. During the month of Chaitra (March-April) brothers send presents to their sisters and parents to their daughters. These presents are called Bhitauli.

Food

- The primary food of Uttarakhand is vegetables with wheat being a staple, although non-vegetarian food is also served. A distinctive characteristic of Uttarakhand cuisine is the sparing use of tomatoes, milk, and milk based products.
- Coarse grain with high fibre content is very common in Uttarakhand due to the harsh terrain. Another crop which is associated with Uttarakhand is Buckwheat (locally called Madua or Jhingora), particularly in the interior regions of Kumaon and Garhwal. Generally, either Desi Ghee or Mustard oil is used for the purpose of cooking food. Simple recipes are made interesting with the use of hash seeds "Jakhiya" as spice.
- Bal Mithai, jhangore ki kheer, is a popular fudge-like sweet.
- Other popular dishes include kafuli, phaanu, Chainsoo, aag, Chutkani, Sei, and Gulgula. A regional variation of Kadhi called Jhoi or Jholi is also popular.

BIODIVERSITY



- Biodiversity is a comprehensive umbrella term for the extent of nature's variety or variation within the natural system; both in number and frequency. It is often understood in terms of the wide variety of plants, animals and microorganisms, the genes they contain and the ecosystem they form.
- So far, about 2.1 million species have been identified, mostly small creatures such as insects. The International community decided to conserve the biodiversity through the use of unit to mass mechanism.
- India, as a Party to the Convention on Biological Diversity (1992), devoted its full energy for converting the ethical notes of the CBD into practice, by developing special mechanisms and methodologies to build capacity of the custodial masses for the conservation, sustainable use of the biodiversity, along with developing an implementable effective system for roping in the bio-resource commercial users; for sharing their gains with the custodians of the bio-resources

BIODIVERSITY(Cont..)

- Recognizing the sovereign rights of the States to use their own biological resources, the Convention, expects the parties to facilitate access to genetic resources by other Parties subject to national legislation and on mutually agreed upon terms (Article 3 and 15 of CBD).
- Article 8 (j) of the Convention of Biological Diversity recognizes contribution of local and indigenous communities to the conservation and sustainable utilization of biological resources through traditional knowledge, practices and innovations and provides for equitable sharing of benefits with such people arising from the utilization of their knowledge, practices and innovation.

BIODIVERSITY(Cont..)

After an extensive and Intensive consultation process involving the stakeholders, the Central Government has brought Biological Diversity Act, 2002 with the following salient features:

1. To regulate access to biological resources of the country with the purpose of securing equitable share in benefits arising out of the use of biological resources; and associated knowledge relating to the biological resources.
2. To conserve and sustainably use biological diversity.
3. To respect and protect knowledge of local communities related to biodiversity.
4. To secure sharing of benefits with local peoples as conservers of biological resources and holders of knowledge and information relating to the use of biological resources.
5. Conservation and development of areas of importance from the standpoint of biological diversity by declaring them as biological diversity heritage sites.
6. Protection and rehabilitation of threatened species.
7. Involvement of Institutions of state governments in the broad scheme of the implementation of the Biodiversity Act.



PHYSIOGRAPHY

- The Uttarakhand Himalaya is divided into distinct **Non-Montane** and **Montane** physiographic zones for the convenience for the understanding of its biodiversity, bio - resources and development.
- **Non-montane Regions Bhabhar:** This is a level surface zone at the foothills of the Himalaya, roughly 34 km wide, where the Himalayan torrents rush down from the steep slopes and disappear under boulders and gravels due to the extremely porous soil type of the Bhabhar.
- **Tarai:** Situated below the Bhabhar and parallel to it, the Tarai is a marshy and damp tract (once 80–90 km wide) containing fertile soils with good water retention capacity.

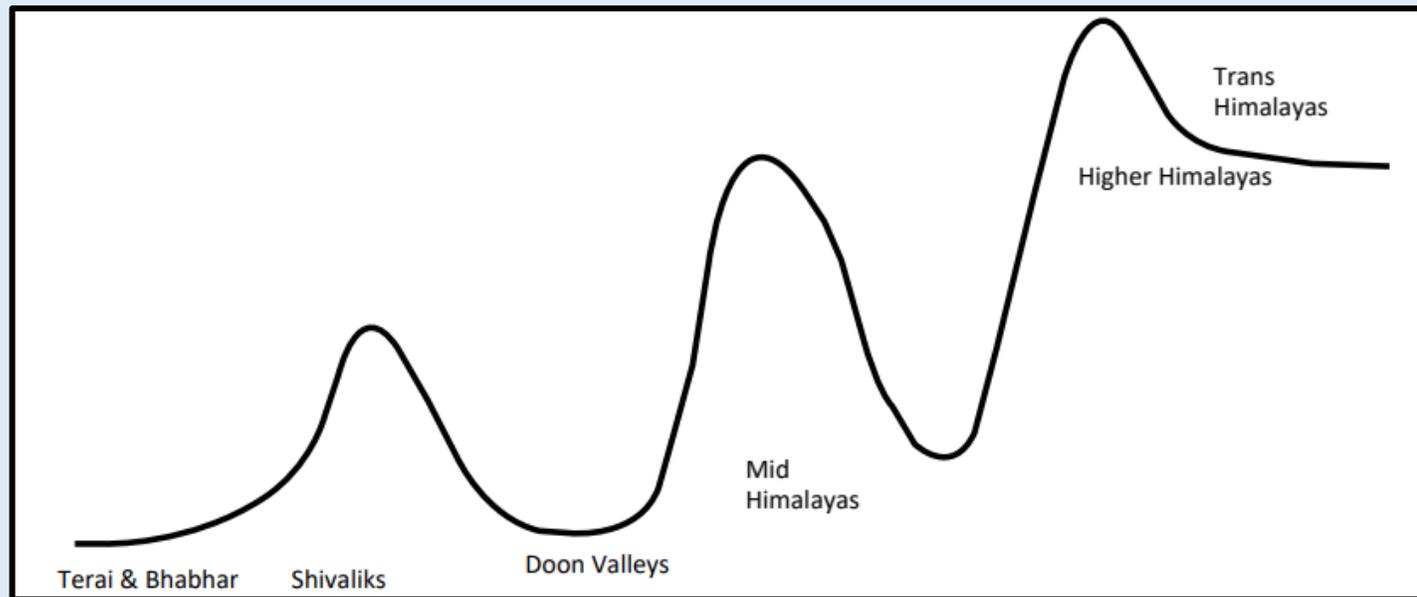
PHYSIOGRAPHY(Cont..)



- **Montane Regions Sub-Himalaya:** Called the Sub-Himalaya because it possesses the least Himalayan features. It consists of two zones, the Shivaliks, the youngest of the Himalayan ranges and the Doon (flat longitudinal structural valleys) to the north of the Shivaliks. The Shivaliks extend in a narrow varying width of 6 to 30 km, with altitudes of 300– 1,000 m amsl.
- **Mid Himalaya:** This zone extends in a varying width of 60 – 90 km in an abrupt rise in elevation between 1,000 m and 3,000 m amsl. It contains two types of physiographic subunits: the Himachal ranges and the Himachal valleys and lake basins.
- **Greater Himalaya:** This zone has a varying width of 40–60 km. The altitude varies between 3000 and 7,000 m amsl. Except for the lower valleys, this zone is perpetually covered with snow and hence it is called Himadri. The region covers glacial landforms above 3,000 m amsl.

PHYSIOGRAPHY(Cont..)

- **Trans-Himalaya:** Also known as the Tethys Himalaya and the Indo - Tibet plateau, the region is in the rain shadow region of the Greater Himalaya and is therefore a cold desert; the region is within the watersheds of Ganga and Sharda.



Physiographic Zones of Uttarakhand

LAND-USE PATTERN



- Owing to its largely mountainous regions, the state is endowed with unique ecosystems. The northern region of the state is part of the great Himalayan range, covered with snow and glaciers.
- Two of the Indian sub-continent's major rivers – the Ganges and the Yamuna – also originate from the glaciers of Uttarakhand.
- Forest Cover Based on the ISFR report 2021, the Forest Cover in the State is 24,305.00 sq km which is 45.44 % of the State's geographical area. In terms of forest canopy density classes, the State has 5,055.00 sq km under Very Dense Forest (VDF), 12,768.00 sq km under Moderately Dense Forest (MDF) and 6,482.00 sq km under Open Forest (OF). Forest Cover in the State has increased by 1.96 sq km as compared to the previous assessment reported in ISFR 2017.

AGRO-CLIMATIC ZONES

- The state has two distinct climatic regions: the predominant hilly terrain and the small plain region.
- The climatic conditions of the plains are very similar to those in the Gangetic plain, i.e. tropical conditions. Summers are relatively hot and winters are chilly, with temperatures going below 0°C.
- The lowest temperature recorded is -3.0°C at Mukteshwar and the highest is 43.2°C at Pantnagar.
- The average rainfall in the state varies from 92 cm, in Srinagar (Garhwal), to 250 cm in Nainital. The amount of rainfall is generally high in low mountainous regions such as Nainital and Dehradun and it gradually decreases with increasing elevation.
- About three-fourths of the total rainfall is confined to the monsoon season and remaining one-fourth occurs in other seasons due to the western disturbances and local orographic effects. The monsoonal activities generally start in the later part of June and pick up in July/August.

BIODIVERSITY BASED AGRICULTURE IN UTTARAKHAND

- Uttarakhand is a state with unique traditions and cultures. The agricultural practices and a major part of its culture and traditions are generally related to each other. There have been many soil and water conservation traditional mechanism like the establishment of 'Chaal', Khal system and forest litter mulching. The society has been vigilant and cautious of its heritage and the age old relations with their environment despite the variable climatic conditions in various parts of the state.



Age old Practice of Mixed Cropping: **BARANAJA**



- An ethnic system of conservation: It is the traditional system of agricultural practice being practiced, in hills of Uttarakhand.
- Baranaja means twelve food crops grown together with finger millet as the main crop. The crop combinations also vary from farmer to farmer as well as with altitude, moisture regime and aspect of the area.
- This system is unique in providing food and nutritional security to the people and society. Moreover, such system gives the maximum output per unit area of land in the diverse climatic and rainfall conditions, including natural resistance to diseases and pathogens.

BARANAJA(cont..)

- The latest modern farming is moderately replacing the baranaja cultivation technique with the monocultures of white-seeded Soybean and a shift to olericulture with the use of chemicals.
- In the past, there have been many instances of introduction of unconventional horticultural and agricultural crops like Soybean, Apple, Tomato, and sweet pea, which met with different fates due to the lack of follow-up programs for the management of crops and their proper marketing. Whereas in few parts of the state traditional cropping system of mixed cropping and rotational cropping continues to survive with traditional skills of soil and moisture conservation.

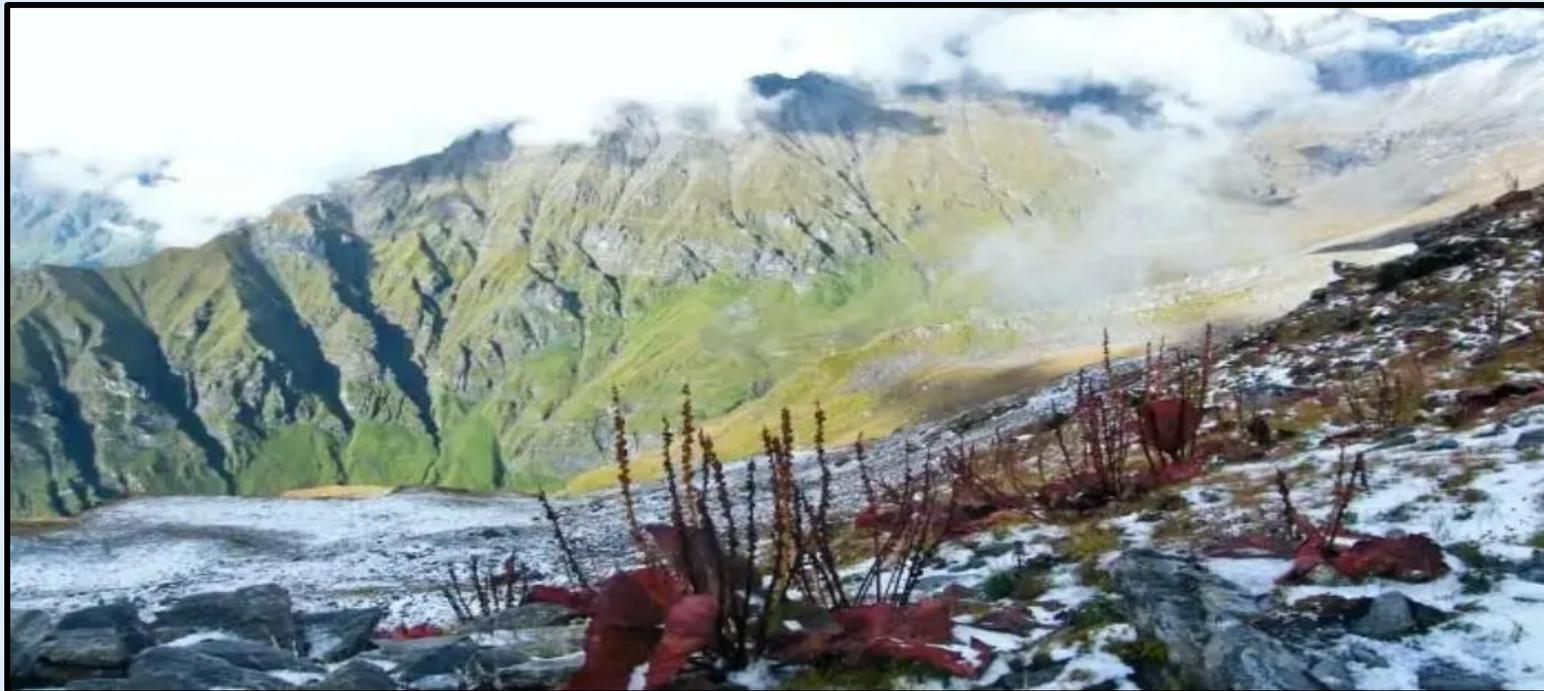
Jim Corbett National Park

- Estd- 1936
- Area-520.82 sq km
- Situated in Nainital and Pauri.
- The oldest national park in India, Jim Corbett National Park, was founded in 1936 as Hailey National Park to protect the endangered Tiger.
- Habitat- Dense deciduous forest; Upper Gangetic Plains moist deciduous forests. Himalayan sub-tropical pine forest Biographic zone: Shivalik, Himalayan zone.
- Animals- Tiger, Asian Elephant, Leopard, Jungle Cat, Leopard Cat, Barking Deer, Sambar, Hog Deer, Spotted Deer, Sloth Bear, Himalayan Black Bear, Grey Mongoose, Yellow-throated Marten, Himalayan Goral, Indian Python.
- Plants- Sal, Haldu, Rohini, Jamun, Silver Oak, Eucalyptus, Kachnar, Semal, Dhak.



NANDA DEVI NATIONAL PARK

- Situated in Chamoli
- Area- 624 sq km
- Estd in 1982
- Animals- Himalayan bear, snow leopard, musk deer, monal, bharal



GOVIND NATIONAL PARK

- Situated- Purola Tehsil of Uttarkashi district.
- The Park is home to a number of endangered species and is also known as Govind Pashu Vihar.
- Area- 472 sq km
- Habitat -Western Himalayan subalpine coniferous forests and Western Himalayan alpine shrub and meadows
- Animals- Snow Leopard, Asian Black Bear, Brown Bear, Leopard, Musk Deer, Bharal, Himalayan Tahr, Serow, Porcupine, European Otter, Goral, Himalayan Field Rat, Hodgson's Giant Flying Squirrel, Wild Boar; Golden Eagle, Himalayan Monal,
- Plants- Chir Pine, Deodar cedar, Silver Fir, Spruce, Oak, Maple, Walnut, Horse Chestnut, Hazel and Rhododendron.

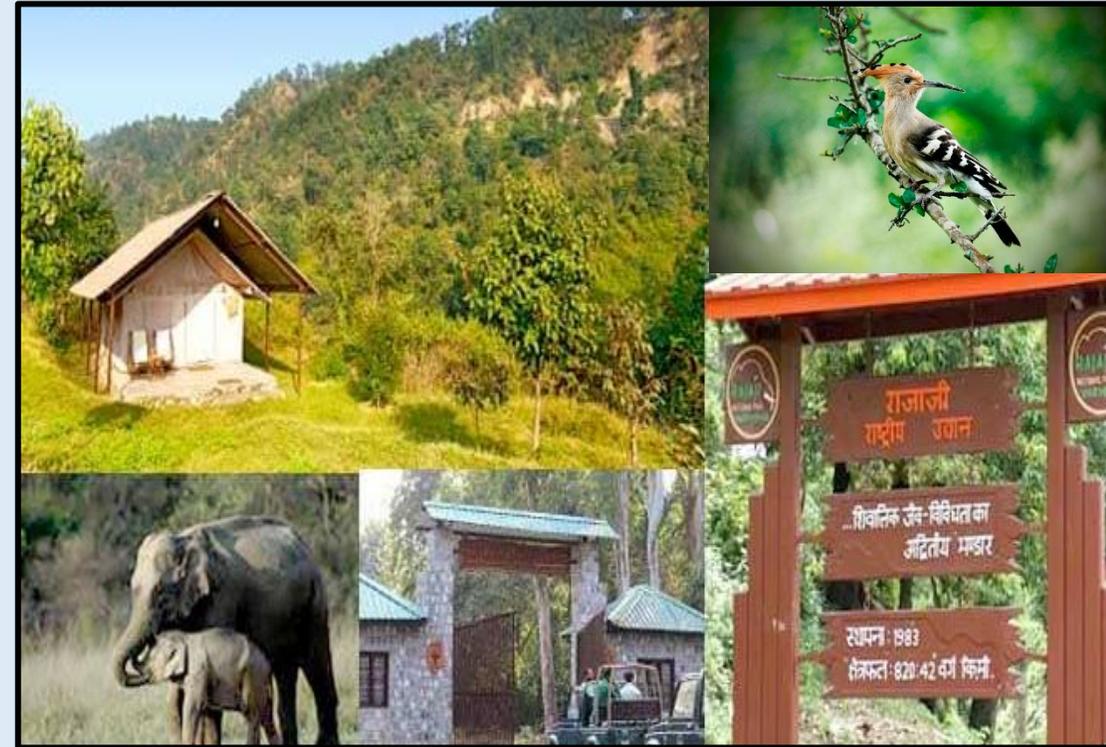
VALLEY OF FLOWERS NATIONAL PARK

- Between Nar and Gandh mountains
- 87-square-kilometer expanse in Uttarakhand's Chamoli District
- UNESCO World Heritage Site in 1982
- Pushpwati river flows from the valley
- Frank Smyth discovered in 1931
- Habitat -Valley bottom, river bed, small forests, meadows, eroded, scrubby and stable slopes, moraine, plateau, bogs, stone desert and caves. Biographic zone: Himalayan zone
- Animals Himalayan Black Bear, Red Fox, Himalayan Weasel, Himalayan Yellow-throated Marten, Himalayan Goral, Himalayan Musk Deer, Snow Leopard, Himalayan vulture.
- Plants- Himalayan Maple, Blue Himalayan Poppy, Brahmakamal.



RAJAJI NATIONAL PARK

- Well-known for its elephant habitat. The park is part of the Rajaji Tiger Reserve, which is much larger.
- Estb in 1983
- Dehradun, Pauri and Haridwar
- 820 sq km
- Biographic zone: Shivalik Ranges, Indo-Gangetic Plains
- Animals- Asian Elephant, Tiger, Goral, Spotted Deer, Sambar, Barking Deer, Wild Boar, Sloth Bear.



GANGOTRI NATIONAL PARK

- One of India's most prominent high-altitude Wildlife Sanctuaries, and is home to the '**Gaumukh**' glacier, the source of the Ganga River.
- The Gangotri glacier, located in the park's heart, feeds the Bhagirathi River.
- Estd in **1989**
- Uttarkashi
- **Habitat**- Moist Deodar forest; Western mixed coniferous forest; Himalayan temperate parkland pastures Low-level Blue Pine forest; Dry temperate Deodar forest; Alpine pasture
- **Animals**- Snow Leopard, Leopard, Himalaya Black Bear, Brown Bear, Musk Deer, Bharal, Monal Pheasant, Indian Cobra.
- **Plants**- Deodar, Chir Pine, Rhododendrons, Oak.

GOVIND WILDLIFE SANCTUARY

- Estd in 1955
- Situated in Uttarkashi
- Area- 485 sq km.
- Habitat- Western Himalayan subalpine coniferous forests .
- Animals- Snow Leopard, Asian Black Bear, Brown Bear, Leopard, Musk Deer, Bharal, Himalayan Tahr, Serow, Porcupine, Himalayan Monal, Cheer Pheasant.
- Plants- Chir Pine, Deodar Cedar, Oak, Silver Fir, Spruce, Yew, Maple, Walnut, Horse Chestnut, Hazel and Rhododendron.

ASKOT WILDLIFE SANCTUARY

- ‘Askot’ comes from the word ‘Assi Kot,’ which means ‘Eighty Forts,’ many of which are found in Nepal.
- “India’s Green Paradise.”
- Estd -1986
- Area- 600 sq km
- Pithoragarh
- Habitat Sub-tropical forest, Himalaya temperate forest.
- Animals- Leopard, Musk Deer, Goral, Himalayan Brown Bear, Tiger, Jungle Cat, Barking Deer.
- Plants Oak, Rhododendron, pine, deodar, Cedar

BINSAR WILDLIFE SANCTUARY

- Established in 1988 for the conservation and protection of the Central Himalayan region's declining broad leaf oak forests.
- The Chand Kings ruled over Kumaon from the 11th to the 18th centuries AD, and Binsar was their summer capital.
- 47 sq km.
- Habitat -Western Himalayan sub-alpine coniferous forests.
- Animals-Leopard,Jungle Cat, Wild Boar, Grey Langur, Red Giant Flying Squirrel, Barking Deer;Monal
- Plants-Oak, Rhododendron, pine, deodar,Cedar.

KEDARNATH WILDLIFE SANCTUARY

- Kedarnath Musk Deer Sanctuary.
- Situated in Chamoli and Rudraprayag. It is named after the famous Hindu temple of Kedarnath.
- Estd in 1972
- 957 sq km
- Habitat Coniferous, sub-alpine and alpine forests; alpine grasslands
- Animal- Leopard Cat, Indian Leopard, Snow Leopard, Wild Boar, Himalayan Musk Deer, Barking Deer, Giant Flying Squirrel.
- Plants- Oak, Rhododendron

MUSSOORIE WILDLIFE SANCTUARY

- Dehradun
- 1993
- 11 sq kms
- Habitat- Moist temperate forest; Deodar and Oak forest
- Biographic zone: Himalayan zone.
- Animals- Leopard, Pine Marten, Red Fox, Grey Langur, Rhesus Macaque, Red Giant Flying Squirrel, Barking Deer; Mountain Quail, Red-billed Blue Magpie.
- Plants- Sal, Oak, Rhododendron

NANDHAUR WILD LIFE SANCTUARY

- Nainital US Nagar and Champawat
- Estd 2012
- Area- 270 sq km
- Habitat Sub-tropical forest; coniferous mixed forest
- Biographic zone: Shivalik and Himalayan mountains .
- Animals- Leopard, Sambar, Spotted Deer, Barking Deer, Wild Boar, Goral, Porcupine, Asian Elephant, Tiger.
- Plants- Sal, Pine, Oak, Rhododendron.

SONA NADI WILDLIFE SANCTUARY

- Estd in 1987
- Situated in Pauri Garhwal
- Area- 301 sq km
- Animals- Elephant, guldaar, cheetal, sambhar, wild boar

CONSERVATION RESERVES

Asan Wetland Conservation Reserve

- 440 sq km.
- Dehradun in 2005.

Jhilmil Conservation Reserve

- 3786 sq km
- Estd in 2005 in Haridwar

Pawalgarh Conservation Reserve

- 5824 sq km
- Estd in 2012 in Nainital.

Naina Devi Himalayan Bird Conservation Reserve

- Nainital in 2015
- 111 sq km



Nanda Devi Biosphere Reserve

- Located in the himalayan mountains in the northern part of india in uttarakhand.
- Includes nanda devi national park and valley of flowers national park.
- Nanda devi biosphere reserve is a unesco recognised biosphere reserve under man & biosphere programme.
- The snow-clad peaks, along with the presence of over 30 glaciers and rare and endangered species of animals and birds, [deep](#) and vast valleys, meadows and rivers, makes the nanda devi biosphere reserve unique.
- Area- 6,407.03 sq km
- UNESCO world heritage site inscribed in 1988 and expanded and renamed in 2005
- The reserve is home to a wide variety of flora and fauna, including several endangered species such as the snow leopard, asiatic black bear, himalayan musk deer, and blue sheep.

Asan Wetland Reserve

- The 444-hectare stretch of the Asan River with the Yamuna River in Dehradun.
- The damming of the River by the Asan Barrage in 1967 resulted in siltation above the dam wall, which helped to create some of the Site's bird-friendly habitats.
- These habitats support 330 species of birds including the critically endangered red-headed vulture , white-rumped vulture and Baer's pochard. Asan Conservation Reserve, home to many rare and endangered species and a significant wintering ground for migratory birds has been declared as a Ramsar site.
- In 2020, It is declared as the first Ramsar site of Uttarakhand .
- This biodiverse ecosystem located at the confluence of Asan and Yamuna Rivers was declared as a Conservation Reserve in 2005 under Section 36A of Wildlife (Protection) Act, 1972.

Note:

A Ramsar site is a wetland site designated to be of international importance under the Ramsar Convention, they are nationally protected area and are legally protected under the national law. The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat is an international treaty for the conservation and sustainable use of wetlands. It is also known as the Convention on Wetlands and was named after the city of Ramsar in Iran, where the Convention was signed in 1971, and came in force from 1975.

FOREST MOVEMENTS

RAWAI ANDOLAN

- ❑ Narendra shah in Tehri
- ❑ Farmers land was included in Forest land.
- ❑ Azaad panchayat constituted
- ❑ Tilari andolan. 30 may 1930- Shaheed Diwas.

Chipko Andolan

- ❑ Chamoli 1974 against cutting of forests.
- ❑ Gaura devi, sundar lal bahuguna and chandi prasad bhatt

Pani Rakho Andolan

- ❑ Pauri garhwal
- ❑ Sachchidanand bharti –Dudhtoli lok vikas sansthan



FOREST MOVEMENTS(Cont..)

MAITI Andolan

- Kalyan singh rawat
- Excursion to Bedini bugyal from gwaldam inter college
- Pledge to look after the plant in marriage.

THANK YOU.