



UGC-NET

Sociology

NATIONAL TESTING AGENCY (NTA)

PAPER – 2 || VOLUME – 3

**Environment, Society, Family, Marriage, Kinship,
Science & Technology, Society, Culture and Symbolic
Transformations**



UGC NET PAPER – 2

SOCIOLOGY

S.NO.	CONTENT	PAGE NO.
UNIT – 7 ENVIRONMENT AND SOCIETY		
1.	Social and Cultural Ecology	1
2.	Technological Change, Agriculture and Biodiversity	5
3.	Indigenous knowledge systems	11
4.	Gender and environment	13
5.	Ecological Degradation and Migration	21
6.	Water and social exclusion	24
7.	Disaster and Community Responses	25
8.	Environmental Pollution, Climate Change and Disability	28
9.	Climate Change	51
10.	Environmental Movements	57
UNIT – 8 FAMILY, MARRIAGE AND KINSHIP		
1.	Marriage and Kinship	63
2.	Family	81
3.	Theoretical Approach: Structure and Function, Alliance and Culture	99
4.	Gender and Society	106
UNIT – 9 SCIENCE, TECHNOLOGY AND SOCIETY		
1.	Technology Development	124
2.	Flows and Boundaries	129
3.	Virtual Community	130
4.	Media: Print and Electronic	131
5.	State Policy, Digital Divide and Inclusion	140
6.	Food and Technology	151

UNIT – 10
CULTURE AND SYMBOLIC TRANSFORMATIONS

1.	Cultural Aspects: Various Forms	155
2.	Religious rituals	158
3.	Moral Economy	160
4.	Education	161
5.	Religious Organizations	164
6.	Piety and Spirituality	167
7.	Communalism and Secularism	170
8.	Mobilization	178
9.	Gender, Body and Culture	180
10.	Art and Aesthetics Science	181
11.	Ethics and Morality	182
12.	Pilgrimage	185
13.	Religion and Economy	186
14.	Culture and Environment	187
15.	New Religious Movements	188

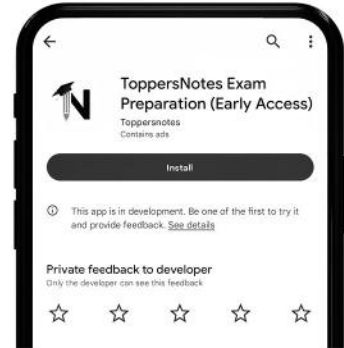
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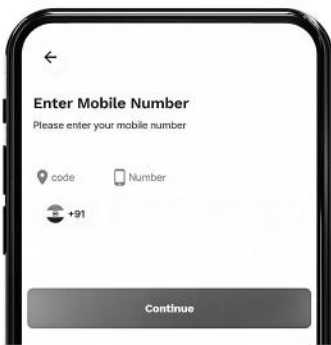
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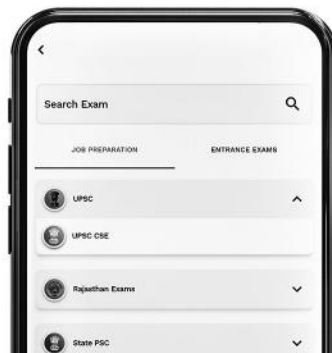
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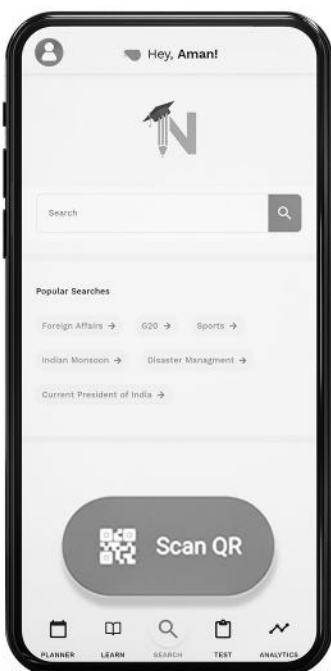
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Social and Cultural Ecology

- Under social and cultural ecology, the relationship between the environment and the society and the different cultures arising out of these interactions is studied.
- It helps in understanding the environment and society in the changing environment. It mainly plays an important role in the study of social ecology, cultural ecology and their various forms, effects of technology change, biodiversity and gender and environment etc.

Social and Cultural Ecology: Diverse Forms

- The study of different cultures arising out of the interrelationship of society and environment is called cultural ecology, that is, cultural ecology is the study of human adaptation to the social and physical environment.
- It is noteworthy that human adaptation refers to both biological and cultural processes, which enable humans to survive and reproduce in a changing environment.
- Thus, the natural environment is a major contributor to society, social organization and other human institutions.
- The various forms of social and cultural ecology can be understood as follows. For example, when the study of political economy is combined with political, it becomes political ecology.
- In the present context, the study of ecology is necessary and indispensable so that the study of society can be completed in a scientific and rational way.
- Society and ecology are complementary and integral parts of each other and in the absence of one the existence of the other is incomplete.
- Therefore, the study of social ecology and cultural ecology is necessary from the point of view of interrelationship.

Social Ecology

- "Social ecology is the science that studies the effect of physical, cultural and social conditions on a community."
- Social ecology is the study of the relationship between different communities and their environment under sociology.
- According to Onborn Nimkoff, "Human ecology explains the relationship between human beings and their environment."

Elements of Social Ecology

Menckenzie has divided the elements of social ecology into four main parts-

- **Environment** - The first element of social ecology is the environment; it is related to all those geographical and cultural factors that affect the structure of the community and the behavior of individuals. For example, climate, temperature, minerals, soil texture, soil fertility, seas and rivers are the geographical elements. On the other hand, religious rules, beliefs, customs, traditions and things used by individuals are cultural elements.
- **Population** - The characteristics of population also play an important role in the formation of society. Under this, the main elements are the size of the population, the density of the population, the health characteristics, the birth rate and the death rate, the homogeneity or diversity in the population, etc.
- **Nature of settlement** - The nature of settlement or domicile means not only the construction of houses, but the conditions around the place of residence, the way of living and the standard of living also have an important relation with human settlement.
- Economic system is of special importance in the ecology of human beings, because some community is dependent on hunting of animals for livelihood, somewhere livelihood

is earned by agriculture, some community is dependent on handicrafts, while some community Economic activities are carried out through the developed division of labor and specialization.

Ideology of Social Ecology

- The ideology of social ecology states that social relationships, primarily wealth and the organization of production, shape the thinking and effort of the environment.
- Different social classes see and understand environmental issues in different ways. Forest Department, which will produce bamboo in large quantities for the industry to get maximum revenue.
- He makes it by using bamboo from the artisan who makes bamboo crates. Will see it differently. In this sense his approach will be different from the artisan approach although both are using bamboo. Their own interests and ideologies create environmental differences.
- In this sense the roots of the environmental crisis can be seen in social inequalities. In this way there is a way to solve environmental problems.
- Change in the relationship between environment and society means Changes in relations between different groups such as men and women, rural and urban people, landlords and labourers.
- Changes in social relations give rise to different knowledge systems and different knowledge systems, which manage the environment smoothly.
- Thus, social ecology studies the interactions, interrelationships, etc., between the social Environment.

Cultural Ecology

- Cultural ecology is the study of human adaptation to the social and physical environment i.e. cultural ecology consists of different cultures resulting from the

interrelationships of society and environment;

- For example, the study of living habits, eating habits, etc. is done. The conditions of landscape related to known activities in cultural conditions, human activities involved in landscape development, cultural and social elements related to land use, living conditions and conditions related to human welfare are studied.
- According to Ravenry, "Culture ecology describes the cause and effect interplay between culture and environment-"
- According to Hackl, "When there is a process of harmony between organisms and the environment in a particular area, then it is called ecology. Cultural geographers have included the study of the interrelationships of human community and the natural environment, the effects of human actions, etc., in ecology".

Development and Idea of Cultural Ecology

- Anthropologist Julian Steward (1902–1972) developed the term cultural ecology. He tried to explain how humans adapt to different types of environments.
- Under his Change in Cultural Theories, Methods of Multilingual Development (1955), cultural ecology represents "the ways of environmental change inspired by culture, etc."
- Steward recognized that human adaptation is a historical heritage inherited by humans and that technologies, practices and knowledge allow people to live in an environment.
- Steward emphasizes on looking at the interrelationships and technological effects of environment and human cultures. He believed that cultural behavior also makes it clear that how much environment and technology influence cultural aspects and its evaluation is only possible.

- Steward's concept of cultural ecology became widespread among anthropologists and archaeologists in the middle of the 20th century.
- Cultural ecology was one of the central principles and driving factors in the development of procedural archeology in the 1960s, as archaeologists understood cultural change through the framework of technology and its effects on environmental adaptation.
- Thus, Steward tried to explain the development of environment and human culture. Also tried to explain how environment affects human culture.

Important facts about cultural ecology

- Cultural ecology is a concept related to the environment.
- Cultural ecology proves to be a helpful factor in maintaining the culture of the society and in being transferred from one generation to another.
- Various types of social and collective ideals are formed from cultural ecology.
- Cultural ecology the human being learns to adapt to the environment.
- Cultural ecology is also important in maintaining human existence in harmony.
- The development of human's social qualities is also considered a product of cultural ecology.
- In fulfillment of biological and social needs of human beings, cultural ecology acts as a complement.

Indian Society: Socio-Cultural Environment

- Indian society and culture are an invaluable treasure of human society. If any culture of the world can be called immortal, it is undoubtedly Indian culture.
- Indian society has established various social cultures by coordinating and adapting with the environment for a long time and

interconnected under cultural ecology, which is still alive in different forms.

- So, the following are the major cultures
 - **Antiquity and Sustainability** - The culture and social system of India is the oldest cultural system in the world. The cultures of Egypt, Syria, Babylonia, Greece, Rome and India are among the oldest cultures in the world. Even after thousands of years have passed, the original culture and social system of India is still alive. Even today we follow Vedic religion. Even today they recite Vedic mantras. Even today marriages take place according to Vedic rituals. The village panchayat, caste system, joint family are still alive today. The echo of the principles of spiritualism, nature worship, religion, truth, non-violence and non-violence still inspires the society.
 - **Tolerance** - Another feature of India's society and culture is its tolerance. In India, generosity, tolerance and love are found towards all religions, castes, races and sects. No harshness or animosity towards anyone. Many foreign cultures came here from time to time and everyone got an opportunity to flourish here. The cultures of both the minority and the majority are common.
 - **Coordination** - Due to the liberal and tolerant nature of Indian society and culture, the coordination of different cultures is found in it. It is noteworthy that some cultures have merged and some are coordinated in other forms.
 - **Spiritualism** - Spiritualism is given importance in Indian society and culture. Material pleasures and indulgences (Lipsad) were never considered the goal of life. The importance of the soul and God was recognized and mental and

spiritual pleasure were considered to be paramount in place of physical happiness.

- **The primacy of religion** - Indian society and culture is religion-oriented. Through religion, an attempt is made to control every behavior of human life. Indian religion is not narrow but a humanistic religion. It believes in the welfare, forgiveness and mercy of all living beings.
- **Adaptability**- Its adaptive nature has a special contribution in making Indian society and culture immortal. It has the ability to change over time. Indian family, caste, religion and institutions keep on adapting with time.
- **Varnashram and Ashram system**- The main features of Indian society include Varnashrama and Ashram system. Four varnas – Brahmin, Kshatriya, Vaishya and Shudra were created for the division of labor in the society. The ancient Indian mystics, considering the age of man to be 100 years, divided him equally into four ashrams - Brahmacharya, Grihastha, Vanaprastha and Sanyas. While the Varnas represent the division of work among individuals, the Ashrams represent their mental and spiritual development.
- **Theory of Karma and Reincarnation**- Karma and reincarnation are given more importance in Indian society. It is believed that good karma yields good results and bad karma yields bad results. In India, the soul of a person is considered immortal. After death, in which vagina he will be born again, it depends on what kind of deeds he has done in the previous life.
- **Purushartha**- Purushartha theory has clarified the four main goals of a person's life. These four goals are Dharma, Artha,

Kama, Moksha, these are considered to be the four Purusharthas.

- **Sanskar**- sanskar refers to the process of purification. In Indian society and culture, physical, mental and moral sophistication of a person has been considered necessary to make a person a social animal, to develop his personality and to make his natural tendencies socially useful.
- **Caste-system** - Caste-system has a prominent place in Indian society and culture. On the basis of which the whole society has been divided into many smaller sub-parties. Caste membership is acquired by birth. Each caste has its own special position in the society.
- **Unity in Diversity** - A unique system of Indian culture is this - Unity in Diversity. There are many variations on the basis of language, religion, caste, geographical environment, population, species, tribe, yet there are visions of unity in them. Unity in diversity is mentioned in many forms in India. Improved means of irrigation have also contributed a lot to agricultural production. Which has improved the economic life of the farmers. With the use of machines, there is less need for the cooperation of other people in agricultural work. Due to which the collective is declining. Now production has increased so much in the fields of agriculture in many countries that the problem of markets has started to arise in front of them. Now instead of intimacy in the relations in rural areas, artificiality has started flourishing.
- **Production System and Social Change**- Production system is also a major technological factor which has changed social relations and social structure from time to time. At present, production has

started with the help of machines in factories on a large scale in urban areas. Now the importance of working by hand has diminished. Now the importance of trained persons to operate machines has increased. The division of labor and specialization has increased. The importance of competition and communication has increased. Huge cities have been established. In the age of machines, life has also become mechanical. The new mode of production has greatly changed the social, economic, political and even cultural life.

- **Control of atomic power and social change** - The use of Jhun Shakti in fulfillment of human objectives is an era-promoting discovery. Like other discoveries of modern science, atomic energy is also used in both creative and destructive forms. Where on the one hand atomic power is used to increase the happiness and prosperity of human beings, on the other hand it is also used as a destroyer of human beings.

Direct and Indirect Effects of Technology

- **Division of labor and specialization of tasks** - As a result of technological change, now production has started in giant factories. Different people are required for different tasks in factories. Individuals are given their jobs on the basis of their qualifications and training. In this way specialization is encouraged along with the division of labour.
- **Formation of labor unions** – Today the artisans have turned into laborers as a result of the factory system. Now working hours, salary (salary or wages), working conditions etc. are fixed. Mill owners exploit the workers for their profit. As a result, workers

started organizing against exploitation and many trade unions were formed.

- **Urbanization** - When production started by factory system, many people from villages started coming to the city in search of work. As a result the population of the cities has increased rapidly. The process of urbanization has accelerated as a result of technology and both of them have converted social life into innumerable dreams.
- **Mobility** – Technological change has contributed to the increase of both local and social mobility. At present, due to new technology, there has been an increase in the means of transport and communication. People have started belonging to different places, groups, classes, occupations which gives them new dimensions of mobility.
- **Changes in Social Relations** – As a result of technology, the nature of social relations has changed a lot. The complexity of the relationship has increased. Today relationships have become essential. There is formality in relationships. The importance of secondary relationships has increased. Technology has promoted functional, indirect and formal relationships.

Indirect Effects of Technology

- **Increase in competition** - New technology has increased the division of labor and specialization, but also increased the competition. Today there is competition in various fields of education, jobs and business. As a result of this increasing competition has made the field of economic relations as well as social relations international.
- **Rise of Different Classes** – Technology has played an important role in changing the social structure by creating various new economic classes. New technology gave opportunity to the resourceful people to

become capitalists and on the other hand millions of people were put into the working class. As a result, the capitalist and working class were created. The class that falls between these two is called the middle class.

- **Rise of unemployment** - Under the new technology, labor-saving machines have been invented. A machine can do as much work in a few hours as a person cannot do in months. As a result, new technology has flattened the cottage industries, which has given rise to poverty.
- **Changes in family life**- Technology change has brought about many important changes in the field of marriage and family. New technology has increased individualism. Due to individualistic and selfish attitude, joint family is turning into nuclear family. New technology has lightened the work of women. Opportunities for women's education and employment have increased. The change in technology has also had an impact on the institution of marriage. Now love-marriages, late-marriages, inter-caste marriages have started taking place.
- **Socio-religious change**- New technology has changed the values, beliefs, ideals etc. of the person and gave him a new outlook towards life. Now a person takes more interest in individualistic life. At the same time, new technology has weakened the orthodox side of religion by increasing the importance of knowledge, logic and reasoning. Today more emphasis is being laid on the liberal and humanistic side of religion.

Weblin's thoughts on technology

- Weblin attributes the change to technology conditions. Like Morgan, Weblin has pointed out that the main source of social change is the development of new technology.
- The nature of culture of each society depends on the technology found within that society. He said that there is always a

conflict between technology and social institutions.

- Bevlins says that invention has been a product of our needs. The basis of institutions and social traditions is the technology found in the society. Technology is born according to the needs of the society and new type of abilities, habits and training are required for the use of new technology. It is noteworthy that the old institutions do not coordinate with the new technology.
- Therefore, there is a conflict in the society between the traditional institutions and the values based on new technology and in this struggle the new values win. Traditional values and ideals begin to disintegrate. The victory of new values is because society adopts new technology for survival or progress, and through this struggle process gradually changes in various aspects of society.
- Weblin's theory is not based only on conflict, but elements of evolutionary theory are present in his ideas. The present technology era has gone through several stages of technological development. The level of technology of the primitive period is completely different from that of the medieval age. As technology developed according to human needs, there were changes in the habits, thoughts, values and social institutions of human beings.
- In short it can be said that man is controlled by his habits. Habits are formed according to the physical environment and technology. Therefore, when there is a change in technology and physical environment, there is also a change in the social structure, which is the main basis of change.

Agriculture and Biodiversity

- Although the term agricultural biodiversity is new, its concept is old. It is the result of careful selection and exploratory development by farmers, herders and fish farmers. It is created by the continuous

maintenance of various biological resources important for food and agriculture by mankind.

- In this way, under agricultural biodiversity, which is also called agro biodiversity, the following are included; Such as varieties of crops, domesticated animals, species of fish, natural resources available in forests, wild areas and aquatic ecosystem etc.

Meaning of Agriculture

- In simple language, agriculture means the process of producing crops. The art, science and techniques of crop production, animal husbandry etc. is called agriculture. In this, the process of producing crops is done by using the land.
- Agriculture is a primary activity whose main objective is to satisfy human needs by utilizing natural resources. Agriculture includes all human activities related to land use. In this, in the process of earning a living, from the arrangement of agricultural sector, crop production, animal husbandry etc. to today's specialized agriculture which is done with super technology.

Features of Indian Agriculture

- **Low productivity level** The production in India is very low as compared to other countries, due to which the technology of production in India is also there.
- **Hidden unemployment** Agriculture is the area to reveal hidden unemployment in India, because the highest hidden unemployment in India is found in rural areas.
- **Dependent on rainfall**, India, has a very high sensitivity to weather. Indian agriculture is predominantly based on monsoon because even today 41% of the total cultivable land is irrigated.
- **Use of Traditional Inputs** Even today, farmers in India are using the same old methods for farming, whereas in today's

time many advanced techniques are available.

- **Subsistence** Even today in India, farmers do only agriculture from subsistence point of view. This means that even today farmers use agriculture for their livelihood and not for business.
- **Relationship between landowners and land cultivators** Even today in India the relationship between landowners and farmers is not good and the landowners are exploiting the farmers. Due to which farmers are moving away from farming.

Types of Indian Agriculture

- **Utera agriculture** This is the traditional method of growing crops, in which the second crop is sown before the first crop is harvested. In other words, it is a type of intensive agriculture (multi-cropping agriculture). Loamy soil is most suitable for this type of agriculture. Paddy is the main crop in this, the rest of the others are grown with it. At present, this agriculture is very beneficial in meeting the food needs of the growing population.
- **Dry agriculture** Dry agriculture is basically associated with fragile, high-risk, less productive agricultural ecosystems. Arid regional agriculture has a special place in the agricultural landscape of India. These are the agricultural areas in the country, where the annual rainfall is less than 75 cm. The extent of this area is found on 3,17,09,000 hectares of land, which comprises 22% of the agricultural area of the country. Its 60 percent part is found in Rajasthan, 20 percent in Gujarat and rest in the states of Punjab, Haryana, Maharashtra, Andhra Pradesh and Karnataka. Rainfall in these areas is found to be less and erratic, due to which these areas are often vulnerable to drought. millet, millet, Maize, cotton,

groundnut, pulses and oilseeds are the main crops of this region. Many programs have been started for proper development of dry agriculture. Under this, programs ranging from scientific management of rain water to land development, plantation, livestock development etc.

- **Wet Agriculture** This agriculture is done in areas having annual rainfall of more than 75 cm. In these areas the need of rain water plants is high during the rainy season. These regions face floods and soil erosion. In these areas those crops are grown which require high amount of water; For example, aquaculture of rice, jute, sugarcane, etc. and fresh water is also done here.
- **Commercial agriculture** This agriculture is a new feature of Indian agriculture. Due to the effect of globalization, farmers in some areas have shifted from intensive subsistence agriculture to commercial agriculture. This is done for commercial purpose. Indian agriculture underwent many changes after independence; As the level of technology increased and as a result of consolidation, the fields became large and organized, which increased the mechanization of agriculture.
- The farmer became so financially prosperous that he could buy chemical fertilizers and good seeds. Arrangements for irrigation, electricity and credit were also made available to him. The yield per hectare and per farmer increased. Therefore, our agriculture came out of the era of primitive livelihood, but even now most of the farmers do not have surplus products to sell. Thus, in most areas of India, intensive agriculture is still done as a livelihood.
- **Plantation Agriculture** This agriculture was started by British companies in the colonial period, in which only cash crops sold in the market are grown. Under this, crops of

rubber, tea, cola, spices, coconut, coffee etc. are grown.

- **Organic Agriculture** Conventional agriculture in India is completely based on chemical fertilizers and pesticides. These toxins get released into our food supply and water sources and harm our livestock, as well as reduce the fertility of the soil. Therefore, efforts for development of eco-friendly technology have become essential for the sustainability of development. One such technology is called organic agriculture. In short, organic farming is that method of farming, which preserves and enhances the environmental balance by restoring it. In order to increase the supply of safe food worldwide, the demand for organically produced foods is increasing. Organic agriculture relies on the use of locally made organic inputs in place of costly inputs. These inputs are cheap and that is why the return on investment on them is high.
- **Covenant agriculture:** Agriculture by the farmers under an agreement, which benefits the producer and the buyer of the produce, is called contract farming. It can have many models according to the terms of the agreement. Generally, it is seen that one side of the contract is the farmer and the other party is the company or institution, which makes an agreement to buy the agricultural product at a fixed price and gives the farmer the best quality seeds, fertilizers, irrigation, loans. etc. is fulfilled. Thus, in this situation the farmer produces not for himself, not even of his own will, but on the instructions of the other party to the covenant. In this situation, the farmers, especially the small and marginal farmers, get all those facilities, which they could not get in the individual situation. Under this, the farmer gets good quality input, credit when needed and the

right price for the product, at the right time without any difficulty.

Other Types of Agriculture

- **Features of agriculture**
 - Shift farming
 - Intensive farming
 - Extensive agriculture
 - Plantation agriculture
 - Subsistence agriculture
 - mixed farming
 - sustainable agriculture
 - mixed crop
 - intercropping
 - Crop circle

India's Harvest Seasons

- India's physical structure, climatic (sub cropped and soil-related variations) are such that it encourages the cultivation of different types of crops.
- In the northern and interior parts of the country, three major crops are known as Kharif, Rabi and Zayed, which are described as follows.
 - **Kharif** These are rainy season crops, which are sown in June-July with the onset of south-west monsoon and are harvested by September-October. It includes tropical crops, under which rice, jowar, millet, maize, jute, groundnut, cotton, flax, tobacco, moong, urad, cowpea etc. are cultivated.
 - **Rabi** These crops are generally sown in October and are harvested in March. The low temperature of this time is helpful for temperate and sub-tropical crops. Irrigation is required in this season. The major crops included under this are wheat, barley, gram, peas, mustard, rye etc.
 - **Zayed** is a short-lived and summer crop, which is sown in the intervening period of Rabi and Kharif i.e. in April and is harvested till June. In this, with the help

of irrigation, the cultivation of vegetables, cantaloupe, cucumber, bitter melon etc. is done. Pulses crops like moong and kulthi are also grown during this time. Although such separate cropping seasons are not found in the southern parts of the country.

- The optimum temperature here is helpful in sowing of any tropical crop throughout the year, for this adequate humidity should be available. Therefore, wherever adequate irrigation facilities are available in this part of the country, the same crop can be grown thrice in an agricultural year.

Indian agricultural season

Agricultural Season major crops

- Kharif (June to September)
- Rabi (October to March)
- Zayed (April to June)

Problems of agriculture

- **Lack of means of irrigation** Indian agriculture depends on monsoon because there is lack of adequate irrigation facilities. According to the Agricultural Census (2011), only 45.7% of the total sown area is irrigated, the remaining 54.3% depends on the monsoon.
- **Lack of Finance** Lack of finance is a major problem in the problems of Indian agriculture. Even today, farmers do not get adequate finance facility at the time of sowing of agriculture, due to which the production of crops is adversely affected.
- **Traditional approach to farming** Even today in India, agriculture is mostly done by traditional method (technique), which mainly includes wooden plow, pata, hoop, shovel etc. Most of the farmers use old techniques in agriculture due to lack of education and knowledge.

- **Small and scattered holdings** the average size of holdings in India is very small as well as scattered far and wide. Population growth is the main reason for the small size of the holdings.
- **Lack of systematic marketing system** The lack of permanent and systematic agricultural marketing for the sale of agricultural crops in India is a major problem of Indian agriculture. Due to lack of system of permanent and systematic agricultural marketing, farmers do not get proper price for their crops.

Meaning of Biodiversity

- The diversity and number of species of flora and fauna found in any given natural area is called biodiversity of that particular place.
- The term biodiversity was used by entomologist E.O. Wilson in a report presented to the American Forum on Biological Diversity in the year 1986.
- In other words, the diversity, heterogeneity and ecological complexity found in the animals present on the earth is called biodiversity.

Types of Biodiversity

- Biodiversity is related to the amount of natural diversity in the biosphere, on the basis of which biodiversity can be divided into the following three types:
 1. **Genetic Biodiversity** That part of the diversity present in any species that arises due to genetic reasons. called genetic biodiversity. Genetic diversity preserves biodiversity. When changes occur in organism groups and ecosystems, then genetic diversity produces such an ability, by which biodiversity is established again.
 2. **Species Biodiversity** when it is at the species level, it is called species biodiversity. The distribution of biodiversity is quite uneven on the ground. Areas where species

diversity is high. It is called the hotspot of biodiversity. Biodiversity is essential for the smooth functioning of the community and for the development of community-level qualities. For the index and evaluation of species biodiversity, knowledge of their number, multiplicity etc. has to be kept.

3. **Ecological Biodiversity** Ecological biodiversity includes the types of ecosystems, natural habitats, differences between processes, etc. Each ecosystem has different modes of water cycle and energy flow. As a result, different regions have different biodiversity. Delimiting ecosystem diversity is difficult and complex, as the boundaries of communities and ecosystems are not fixed.

Importance of Biodiversity

- **Ecological importance** No species can develop or survive without any reason in the ecosystem, that is, each organism helps in the growth of other organisms along with fulfilling its need. Organisms and species receive energy and store them. Produces and breaks down organic matter.
- **Economic importance** Biodiversity also has economic importance, because it is an important resource. An important part of this is crop diversity, which is also called agro-biodiversity. Biodiversity is used to make food items, medicines and cosmetics. Resources such as food crops, animal and forest resources, fish and medicine arise only as a result of biodiversity.
- **Cultural importance** Biodiversity has contributed to the development of human culture, while human communities have also contributed to maintaining natural diversity at the genetic, species and ecological level. Indian civilization preserves nature through local traditions for many centuries. Conservation of nature is an important part

of ancient philosophy. There are holy gardens and deorai in many states in our country, which have been preserved by the tribal people.

Biodiversity Conservation Methods

There are two methods of conservation of biodiversity, in-situ and out-of-place.

- **In-situ protection measures**
 - When fauna and plant species are protected within their natural habitat, then it is called in-situ conservation. This includes the protection of protected areas of representative ecosystems through various means and the maintenance of residential blocks.
 - In-situ conservation mainly includes national parks, wildlife sanctuaries and biosphere reserves and sacred groves and lakes.
- **Ex-situ protection measures**
 - Ex-situ conservation: flora, gardens, zoos, conservation sites and genes, pollen grains, seeds, plant tissue and others. Banks are included. Seeds, gene banks are the simplest way to store the germplasm of wild and agricultural plants in low temperature and cold cells. The genetic resources are conserved in regional gene banks under normal growth conditions. Regional gene banks are specifically used for species and trees produced by homozygous breeding.
 - The genetic resources are conserved in regional gene banks under normal growth conditions. Preservation in the laboratory, especially in liquid nitrogen at -196°C , is particularly useful for crops grown by vegetative reproduction, such as potatoes.
 - In plant species, seeds pollen grains, vegetative propagation parts, corms

bulbous tubers are collected in tissue banks and stored in this type of germline.

Indigenous knowledge systems

- Indigenous or indigenous knowledge refers to the understanding, skill and philosophy knowledge developed by the society, which is developed after a long interaction with their natural environment i.e., long struggle.
- It provides information about the basic aspects of day-to-day life of rural and local people.
- Thus, it is said that this knowledge system is an integral part of a cultural complex, which incorporates language, system of classification, resource use practices, various initiatives of social interaction, rituals and spirituality into this wealth of knowledge.
- In this way a systematic knowledge of systems is obtained from this broad form of knowledge, which is known as knowledge systems. Therefore, each country has its own civilization and culture, on the basis of which knowledge can be obtained about the past, present and future of that country.
- Thus, through indigenous knowledge systems, the countries of the world are studied at the local level in various forms.
- Following are the different systems of such knowledge
 - **Social System** It is the process by which knowledge of the social system of a country can be obtained. Social system refers to the knowledge of customs, traditions, caste, religion, culture, personality etc. of a country. Through this, knowledge of the organs and functioning of Indian society is given.
 - **Cultural System** Under this process, information about the country's civilization and culture is obtained, through which those cultural values and ideals come to life. What is the ideal nature of cultural system and culture in

that country, how culture was born and how did the culture attain its ideals etc.

- **Religious system** That system which is related to religious ideals and shows what kind of religious system is there in a particular country, what kind of religious objectives are there and knowledge of religion meaningful nature etc. is obtained.
- **Economic System** Under this system, the economic activities and working systems of a particular country are studied.

Features of Indigenous Knowledge Systems

- It is a unique way of knowing the indigenous knowledge systems, from which information about the cultural diversity of the world is obtained.
- These knowledge systems provide a basis for sustainable development of countries as appropriate locally.
- Indigenous knowledge includes the experience of local groups, which is also likely to be of consequence elsewhere.
- It is considered proper to transmit this knowledge through imitation or demonstration or orally. At the same time, on writing it, it is found that there is a change in its fundamental properties.
- This knowledge is the result of practical engagement in everyday routine, continuously reinforced by experience and testing.
- This knowledge is the product of many generations along with the arguments of wise men.
- This system of knowledge is expanded with arguments in various forms. Therefore, this system of knowledge is called 'Science of the people'.
- Through this knowledge, comparative study of rituals, symbolism and constructions of

particular individuals, societies is possible with ease and coherence.

- This knowledge includes the study of the arts, practices, etc. of the society, which permeate the society from generation to generation.
- Thus, indigenous knowledge systems play an important role in the study of various cultural aspects of a country.

Ethno Medicines

- In the present time, the medical system has made a lot of progress, due to which new inventions have used such medicines from time to time, which prove to be very beneficial for many diseases, but still not all the people of the society are completely dependent on them. can be.
- They still believe in the medical system which has been going on since ancient times.
- In the ancient system, those home medicines are included, by which the treatment of various diseases has been done since ancient times.
- Following are the types of these major medicines,
 - **Ayurveda** - Ayurveda is the oldest system of medicine. It is treated with natural plants and herbs. India is a country of sages and sages. In ancient times, the work of medicine was done by Rishis and Vaidyas. These people used herbs for this. This method is very popular even today and people still use this method in the field of medicine. Today, various courses have also been arranged for its study.
 - **Home remedies** - Under this, home remedies of medicine come. In this method, an attempt is made to treat with the material available at home. In this those medicines come, which are used in the daily work of the house.

- **Herbs** - In ancient times, herbs were considered as the main medicine for the treatment of various diseases. The herbs obtained from forests etc. are similar to Amrit for various diseases. Even today, medicines made from herbs are used in place of allopathic in many diseases.
- **Churna** - This is the mixture of plants and herbs, by which various diseases are treated. It uses natural resources. Various types of powders which are prepared from indigenous medicines are used in the solution of many problems.

Importance of Indigenous Medicines

The importance of indigenous medicines in India can be expressed by the following facts:

- Indigenous medicines are the ancient medicinal ingredients of India, which are made from the roots and leaves of plants available only in the country.
- Indigenous medicines are cheaper than English medicines. Not much money is spent in the manufacture of indigenous medicines.
- These medicines are considered as natural remedies, which do not have any kind of side effect on the body.
- The abundant availability of indigenous medicines exposes the rich culture and value-based facts of the country.
- In this present era, towards the increasing influence of English medicines, indigenous medicine is being made very useful and effective by manufacturing new form of medicines through new technology.
- In this way, indigenous medicines have had a lot of influence in India since ancient times. At present, the Government of India has created the Ministry of AYUSH to promote such medicines, which are encouraging the development of these medicines.

Gender and environment

- The study of gender and environment is the study of the relationship between gender and environment. In this, the relationship between the two is analyzed.
- The ideology of gender on the cultural and social basis of masculine and feminine means that women all over the world have been in an unprofitable position in almost every sphere of society.
- Gender refers to the parallel and socially unequal divisions in the form of femininity and masculinity. It is also the biological division of men and women.
- The word environment is made up of two words - Surrounding + Envi. Envi means surround and cover means to surround or cover, that is, that which surrounds us, surrounds, envelops, is called environment, which affects men and women in different ways.

Evolution of Gender Environmental Studies

- Keeping in mind the relationship between women and the environment, Esther Boserup wrote a book titled 'Contribution of Women to Economic Development' in the year 1960.
- In the 1980s, policy-makers and governments paid special attention to issues of environmental and gender discrimination and began to tailor policies accordingly.
- Keeping women in mind, changes were made in natural resource and environmental management.
- According to the World Bank in the year 1991, "Women play an essential role in the management of natural resources. These include soil, water, forest, energy etc. and mostly have deep, traditional and contemporary knowledge of the natural world around them.
- At present, women are being encouraged to understand the trend between men and

women in gender-environmental relations, distribution of resources, management.

For example, provision has been made for gender budgeting for the production of women.

Gender and environmental relations or importance

- The environment has a direct and indirect impact on the people living in the society. The environment has a greater impact on men than women. When it comes to rural areas, the village
- There is a direct relationship with nature because the main occupation of the villagers is agriculture, which is entirely dependent on natural resources. The environment has a fair and unfair impact on the villagers. The better the climate, the better the country progresses. The environment also has an indirect impact on women.
- Women engaged in agricultural work work under the environment. Environment refers to the environment available around us, which has a direct impact on ordinary people.
- All natural qualities of man; As birth, growth, health, death, etc., the House is similarly influenced and controlled by the natural environment; Such as other organisms of the environment.
- Since human beings developed the most at physical and mental level and also at technological levels as compared to other animals. This development also affected women, but it had a direct impact on men. The environment and human beings have an unbreakable relationship and both are essential for each other's survival.

Development, Displacement, Disaster and Community Responses

- The number of persons who have been booked for the purpose of providing a new income to the state governments; Development is a continuous, continuous

and dynamic process in the context of any society which affects all aspects of the society.

- These aspects related to development study displacement, rehabilitation, ecological degradation, migration, water and social exclusion and disaster and community activities.
- Development is a process of change through which more and more citizens of a country try to achieve higher physical living standards, healthy and long life as well as to become more and more educated.
- In other words, in order to improve social life, it has been felt from time to time that there is a need for change in various areas of its progress, thereby developing the society, the nation. Such studies began after World War II.
- The main objective of these studies is to assess social, political and economic development. Preliminary research and exploration saplings the idea that if the least developed countries adopt the economic and social system of Western capitalism, they can also make the same progress as the industrialized world.

Development

- Development is a mainstream of change i.e. a process. In general terms, qualitative improvement in social life, health, nutrition, education, housing and age, living conditions, etc., and the fulfillment of human needs are called social development.
- In a broader sense, moving towards the desired goals is development, but the tools and instruments used in them are as important as the goal.
- Mahatma Gandhi has emphasized on the sanctity of both the doable and the means in the context of development. Both change and upgradation of development are incorporated, but change must be meaningful and the purpose of development.

- Democratization, modernization, secularization, social welfare, creation of institutions, social consensus, peaceful coexistence and creation of a decentralized society in non-violence modes. All of them are accepted as development goals.
- Sociologists have distinguished between growth and development. Growth generally refers to the increase in the magnitude of goods and services, while development indicates a qualitative change in capabilities by which activities can be organized more effectively.
- Development reflects structural changes in the forms of relationships, innovative goals, ideas and methods. We often link social justice with development, which means that people who are socially and economically backward get more benefit and sustenance and forms of development than others.
- For example, in the present state of a society, the name of some positive progress is development.

Concepts of Development Sustainable or Sustainable Development

- Development which does not cause any damage to the environment nor imposes any new environmental burden is called sustainable and sustainable development.
- It is also known as ecological development. This concept developed in the context of the problems of environmental degradation arising out of schemes.
- In 1987, the World Commission for Environment and Development defined the concept that "sustainable development refers to development that follows development processes keeping in mind the needs of future generations."
- Sustainable development is also known as sustainable development. The concept of sustainable development developed with a view to protecting resources for future generations.
- The need for sustainable development is evident from the following:

- Industrialization has led to global warming, adverse changes in the world's climate, as well as sea level rise, which is expected to submerge many countries and cities in the sea in the coming years.
- Water pollution, air pollution, land pollution and noise pollution are increasing day by day, if they are not controlled, the consequences will be terrible.
- As per the Report of Environmental Data Services, the security of people and nations, food energy, water and climate depend on these four pillars. The four are closely related to each other and are all on the verge of crossing the danger limit.
- Human beings are exploiting the world's resources so rapidly for their economic and social development that the earth's capacity to sustain life is rapidly decreasing.
- By the year 2030, the world population is expected to exceed 8.3 billion, due to which the demand for food and energy will be 50% more and the demand for clean water will be 30% more at that time.

Economic or human development

- The basic goal of economic growth, though to bring about a long-term increase in real national income or per capita income, is not the only goal.
- Economic development means changes in national income as well as economic structure, providing high standard of living to the people, changing their beliefs and attitudes, husbandry in the production power of the country and all-round development of human beings etc.
- Economist Prof. D. Bright Singh has defined economic growth as "Economic growth is a sign of a multifaceted trend, which not only includes an increase in fundamental income