

Agriculture

1. **Primary activities** include all those connected with extraction and production of natural resources.
2. **Secondary activities** are concerned with the processing of these resources.
3. Agriculture is a primary activity. It includes growing crops, fruits, vegetables, flowers and rearing of livestock.
4. The land on which the crops are grown is known as **arable land**
5. **Sericulture** commercial rearing of **silk worms**. It may supplement the income of the farmer.
6. Agriculture The science and art of cultivation on the soil, raising crops and rearing livestock. It is also called farming
7. **Pisciculture** breeding of fish in specially constructed tanks and ponds
8. **Viticulture** Cultivation of **grapes**.
9. **Horticulture** Growing **vegetables**, flowers and fruits for commercial use.

TYPES OF FARMING

1. These are subsistence farming and commercial farming
2. **Organic Farming** In this type of farming, organic manure and natural pesticides are used instead of chemicals. No genetic modification is done to increase the yield of the crop.
3. **Intensive subsistence agriculture** the farmer cultivates a small plot of land using simple tools and more labour.
4. **Primitive subsistence agriculture** includes shifting cultivation and nomadic herding.
5. **Shifting cultivation** is known by different names in different parts of the world **Jhumming North-East India Milpa-Mexico Roca- Brazil. Ladang- Malaysia**
6. Shifting cultivation is practised in the **thickly forested areas of Amazon basin, tropical Africa, parts of Southeast Asia and Northeast India.**
7. **Nomadic herding** is practised in the semi-arid and arid regions of Sahara, Central Asia and some parts of India, like Rajasthan and Jammu and Kashmir.
8. Herdsmen move from place to place with their animals for fodder and water,
9. In **commercial grain** farming crops are grown for commercial purpose. Wheat and maize are common commercially grown grains.

Major areas

1. Temperate grasslands of North America
2. Europe and Asia.
3. Severe winters restrict the growing season and only a single crop can be grown.
4. **Mixed farming** the land is used for growing food and fodder crops and rearing livestock.
5. Practised in **Europe, eastern USA, Argentina, southeast Australia, New Zealand and South Africa.**
6. **Plantations** are a type of commercial farming where single crop of tea, coffee, sugarcane, cashew, rubber, banana or cotton are grown.
7. Found in the tropical regions of the world. Rubber in Malaysia, coffee in Brazil, tea in India and Sri Lanka are some examples.
8. **Rice**: Rice is the major food crop of the world.
9. Diet of the tropical and sub-tropical regions.
10. Needs high temperature, high humidity and rainfall
11. Grows best in alluvial clayey soil, which can retain water
12. China leads in the production of rice followed by India, Japan, Sri Lanka and Egypt
13. **Wheat** requires moderate temperature and rainfall during growing season and bright sunshine at the time of harvest.
14. Thrives best in well drained loamy soil
15. Grown extensively in USA, Canada, Argentina, Russia, Ukraine, Australia and India. In India it is grown in winter.
16. Hardy crop that needs low rainfall
17. High to Moderate temperature and adequate rainfall.
18. Juwan, bare and rage are grown in India. Other countries are Nigeria, China and Niger.
19. **Do you know? Maize is also known as corn. Various colourful varieties of maize are found across the world.**
20. **Maize**: Maize requires moderate temperature, rainfall and lots of sunshine.
21. Well-drained fertile soils. Maize is grown in North America, Brazil, China, Russia, Canada, India, and Mexico.
22. **Cotton**: Cotton requires high temperature, light rainfall, two hundred and ten frost-free days and bright sunshine for its growth.
23. Grows best on black and alluvial soils.
24. China, USA, India, Pakistan, Brazil and Egypt are the leading producers of cotton
25. **Jute**: Jute was also known as the 'Golden Fibre'.
26. Grows well on alluvial soil
27. Requires high temperature
28. Heavy rainfall and humid climate.

29. Grown in the tropical areas.
30. India and Bangladesh are the leading producers of jute.
31. **Coffee**: Coffee requires warm and wet climate and well drained loamy soil.
32. Hill slopes are more suitable for growth of this crop.
33. Brazil is the leading producer followed by Columbia and India.
34. **Tea**: Tea is a beverage crop grown on plantations.
35. Requires cool climate and well distributed high rainfall throughout the year for the growth of its tender leaves.
36. It needs well-drained loamy soils and gentle slopes.
37. Labour in large number is required to pick the leaves. Kenya, India, China, Sri Lanka produce the best quality tea in the world.

AGRICULTURAL DEVELOPMENT

Primitive Subsistence Farming

1. It is **jhumming** in north-eastern states like Assam, Meghalaya, Mizoram and Nagaland
2. **Pamlou** in Manipur
3. **Dipa** in Bastar district of Chattishgarh, and in Andaman and Nicobar Islands.

4. **'Milpa'** in Mexico and Central America
5. **'Conuco'** in Venezuela
6. **'Masole'** in Central Africa
7. **'Ladang'** in Indonesia
8. **'Ray'** in Vietnam
9. **'Bewar' or 'Dahiya'** in Madhya Pradesh,
10. **'Podu' or 'Penda'** in Andhra Pradesh
11. **'Pama Dabi' or 'Koman'** or 'Bringa' in Orissa
12. **'Kumari'** in Western Ghats
13. **'Valre' or 'Waltre'** in South-eastern Rajasthan
14. **'Khil'** in the Himalayan belt
15. **'Kuruwa'** in Jharkhand
16. **'Jhumming'** in the North-eastern region

Intensive Subsistence Farming

1. Practised in areas of high population pressure on land
2. Labour-intensive farming

Commercial Farming

1. Use of higher doses of modern inputs, e.g. high yielding variety (HYV) seed
2. Chemical fertilisers,
3. Rice is a commercial crop in Haryana and Punjab
4. In Orissa, it is a subsistence crop
5. Plantation is also a type of commercial farming
6. A single crop is grown on a large area
7. Plantation has an interface of agriculture and industry
8. Cover large tracts of land
9. Using capital intensive inputs
10. With the help of migrant labourers.
11. Tea, coffee, rubber, sugarcane, banana, etc... Are important plantation crops
12. Tea in Assam and North Bengal
13. Coffee in Karnataka are some of the important plantation crops
14. Production is mainly for market
15. A well-developed network of transport and communication connecting the plantation areas, processing industries and markets plays an important role

CROPPING PATTERN

1. India has three cropping seasons — *Rabi, kharif and zaid*
2. **Rabi crops** are sown in winter from October to December
3. Harvested in summer from April to June
4. Important Rabi crops are wheat, barley, peas, gram and mustard
5. **Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttaranchal and Uttar Pradesh** are important for the production of wheat and other Rabi crops.
6. Availability of precipitation during winter months due to the western temperate cyclones helps in the success of these crops
7. Success of the green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor
8. **Kharif crops** are grown with the onset of monsoon
9. Harvested in September-October
10. Paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean
11. Rice-growing regions are Assam, West Bengal, coastal regions of Orissa, Andhra Pradesh, Tamil Nadu, Kerala and Maharashtra, particularly the (Konkan coast) along with Uttar Pradesh and Bihar
12. Paddy has also become an important crop of Punjab and Haryana
13. Assam, West Bengal and Orissa, **three crops of paddy** are grown in a year
 - a. **Aus, Aman and Boro.**

Zaid season

1. Between the Rabi and the kharif seasons
2. Short season during the summer
3. Watermelon, muskmelon, cucumber
4. Vegetables and fodder crops
5. Sugarcane takes almost a year to grow.

Major Crops

Rice, wheat, millets, pulses, tea, coffee, sugarcane, oil seeds, cotton and jute, etc.

Rice

1. Staple food crop of a majority of the people in India
2. Second largest producer of rice in the world after China
3. Kharif crop which requires high temperature, (above 25°C) and high humidity with annual rainfall above 100 cm
4. Grown in the plains of north and north-eastern India, coastal areas and the deltaic regions.

Wheat

1. Second most important cereal crop
2. Second most important cereal crop
3. Rabi crop requires a cool growing season
4. Bright sunshine at the time of ripening
5. Requires 50 to 75 cm of annual rainfall evenly distributed over the growing season
6. Two important wheat-growing zones
7. The Ganga-Satluj plains in the northwest
8. Black soil region of the Deccan
9. Major wheat-producing states are Punjab
10. Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh

Millets

1. Jowar, bajra and ragi are the important millets grown in India
2. Known as coarse grains
3. They have very high nutritional value
4. Ragi is very rich in iron, calcium, other micro nutrients and roughage
5. Jowar is the third most important food crop with respect to area and production.
6. Rain-fed crop mostly grown in the moist areas which hardly needs irrigation.
7. Maharashtra is the largest producer of jowar followed by Karnataka, Andhra Pradesh and Madhya Pradesh
8. Bajra grows well on sandy soils and shallow black soil
9. Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Maharashtra, Gujarat and Haryana
10. Grows well on red, black, sandy, loamy and shallow black soils
11. Karnataka is the largest producer of ragi followed by Tamil Nadu.
12. Himachal Pradesh, Uttaranchal, Sikkim, Jharkhand and Arunachal Pradesh are also important for the production of ragi.

Maize:

1. Used both as food and fodder.
2. A kharif crop
3. Temperature between 21°C to 27°C
4. Grows well in old alluvial soil.
5. States like Bihar maize is grown in Rabi season also
6. Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh and Madhya Pradesh

Pulses

1. India is the **largest producer** as well as the consumer of pulses in the world.
2. Major pulses that are grown in India are tur (arhar), urad, moong, masur, peas and gram.
3. Pulses need less moisture and survive even in dry conditions.
4. Being leguminous crops
5. All these crops except arhar help in restoring soil fertility by fixing nitrogen from the air
6. Mostly grown in rotation with other crops
7. Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka
8. Food Crops other than Grains

Sugarcane

1. It is a tropical as well as a subtropical crop
2. It grows well in hot and humid climate with a temperature of 21°C to 27°C
3. Annual rainfall between 75cm and 100cm
4. Grown on a variety of soils and needs manual labour from sowing to harvesting.
5. India is the **second largest producer** of sugarcane only after Brazil
6. The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana

Oil Seeds

1. **Largest producer** of oilseeds in the world
2. Different oil seeds are grown covering approximately 12 per cent of the total cropped area of the country
3. Main oil-seeds produced in India are groundnut, mustard, and coconut, sesamum (til), soyabean, castor seeds, cotton seeds, linseed and sunflower
4. Edible and used as cooking mediums
5. Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country
6. Andhra Pradesh is the largest producer of groundnut followed by Tamil Nadu, Karnataka, Gujarat and Maharashtra
7. Linseed and mustard are Rabi crops
8. Sesamum is a kharif crop in north and Rabi crop in south India
9. Castor seed is grown both as Rabi and kharif crop

Tea

1. Tea cultivation is an example of **plantation agriculture**

2. The tea plant grows well in tropical and sub-tropical climates endowed with deep and fertile well-drained soil
3. Grows well in tropical and sub-tropical climates endowed with deep and fertile well-drained soil
4. Rich in humus and organic matter
5. Tea bushes require warm and moist frost-free climate all through the year
6. Processed within the tea garden to restore its freshness
7. States are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala
8. Himachal Pradesh, Uttaranchal, Meghalaya, Andhra Pradesh and Tripura are also tea-producing states in the country.
9. India is the leading producer as well as exporter of tea in the world

Coffee

1. **Four per cent of the world's** coffee production
2. Indian coffee is known in the world for its good quality
3. The **Arabica variety initially brought from Yemen** is produced in the country
4. Cultivation was introduced on the **Baba Budan Hills**
5. Cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu

Horticulture Crops:

1. India is the largest producer of fruits and vegetables in the world
2. India is a producer of tropical as well as temperate fruits
3. Mangoes of Maharashtra, Andhra Pradesh, Uttar Pradesh and West Bengal,
4. Oranges of Nagpur and Cherrapunjee (Meghalaya)
5. Bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu
6. Lichi and guava of Uttar Pradesh and Bihar
7. Pineapples of Meghalaya
8. Grapes of Andhra Pradesh and Maharashtra
9. Apples, pears, apricots and walnuts of Jammu and Kashmir and Himachal Pradesh
10. India produces about 13 per cent of the world's vegetables.
11. Producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato

Non-Food Crops

Rubber:

1. It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas
2. Moist and humid climate with rainfall of more than 200 cm. and temperature above 25°C.

3. Mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya
4. India ranks **fifth among the world's** natural rubber producers

Fibre Crops

1. Cotton, jute, hemp and natural silk are the four major fibre crops grown in India
2. Obtained from cocoons of the silkworms fed on green leaves specially mulberry
3. **Rearing of silk worms** for the production of silk fibre is known as **sericulture**

Cotton:

1. India is believed to be the original home of the cotton plant
2. Cotton is one of the main raw materials for cotton textile industry
3. India is the third-largest producer of cotton in the world
4. Grows well in drier parts of the black cotton soil of the Deccan plateau. It requires high temperature, light rainfall
5. Kharif crop and requires 6 to 8 months to mature
6. Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh

Jute

1. Golden fibre.
2. Grows well on well-drained fertile soils in the flood plains where soils are renewed every year.
3. High temperature is required during the time of growth
4. West Bengal, Bihar, Assam, Orissa and Meghalaya are the major jute producing states
5. It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts.
6. Due to its high cost
7. It is losing market to synthetic fibres and packing materials, particularly the nylon

Technological and Institutional Reforms

1. The Green Revolution based on the use of package technology
2. **White Revolution (Operation Flood)** were some of the strategies initiated to improve the lot of Indian agriculture.
3. In the 1980s and 1990s, a comprehensive land development programme was initiated,
4. Included both institutional and technical reforms
5. Provision for crop insurance against drought, flood, cyclone, fire and disease, establishment of Grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest

6. Kissan Credit Card (KCC)

7. Personal Accident Insurance Scheme (PAIS)
8. Special weather bulletins

Agricultural

1. **Vinobha Bhave** undertook padyatrato spread Gandhiji's message covered almost the entire country
2. **Land to be distributed** among 80 land-less villagers. This act was known as '**Bhoodan**'.
3. **Villages offered to distribute** some villages among the landless. It was known as **Gramdan**.
4. This Bhoodan-Gramdan movement initiated by Vinobha Bhave is also known as the Blood-less Revolution.

Contribution of agriculture to the national economy, employment and output

1. Registered a declining trend from 1951 onwards
2. Its share in providing employment and livelihood to the population continues to be as high as 63 per cent in 2001
3. Government of India made concerted efforts to modernise agriculture
4. Establishment of **Indian Council of Agricultural Research (ICAR)**
5. Agricultural universities, veterinary services and animal breeding centres
6. Horticulture development
7. research and development in the field of meteorology and weather forecast

FOODSECURITY

1. National food security system
2. Consists of two components
3. (a) buffer stock
4. (b) Public distribution system (PDS).
5. Food Corporation of India (FCI) is responsible for procuring and stocking food grains
6. Distribution is ensured by public distribution system (PDS)
7. The FCI procures food grains from the farmers at the government announced minimum support price (MSP)
8. Provide subsidies on agriculture inputs such as fertilizers, power and water
9. Excessive and imprudent use of fertilizers and water has led to waterlogging, salinity and depletion of essential micronutrients in the soil
10. The high MSP, subsidies in input and committed FCI purchases have distorted the cropping pattern
11. Wheat and paddy crops are being grown more for the MSP they get
12. Punjab and Haryana are foremost examples
13. Serious imbalance in inter-crop parities.

14. Each district and block can be made self-sufficient in food grain production if government provides proper agricultural infrastructure

15. Credit linkages and also encourages the use of latest techniques.
16. Food crop with a better growth potential in that particular area must be encouraged.
17. Creation of necessary infrastructure like irrigation facilities, availability of electricity
18. There has been a gradual shift from cultivation of food crops to cultivation of fruits, vegetables, oil-seeds and industrial crops
19. Led to the reduction in net sown area under cereals and pulses

Impact of Globalisation on Agriculture

1. Despite being an important producer of rice, cotton, rubber, tea, coffee, jute and spices our agricultural products are not able to compete with the developed countries
2. Because of the highly subsidised agriculture in those countries
3. Proper thrust should be given to the improvement of the condition of marginal and small farmers
4. It has caused land degradation due to overuse of chemicals, drying aquifers and vanishing biodiversity
5. The keyword today is “gene revolution”. This includes genetic engineering.
6. Genetic engineering is recognised as a powerful supplement in inventing new hybrid varieties of seeds

Soil

1. Soil is the mixture of rock debris and organic materials which develop on the earth’s surface.

2. The major factors affecting the formation of soil are relief, parent material, climate, vegetation and other life-forms and time
3. Components of the soil are mineral particles, humus, water and air.
4. 'Horizon A' is the topmost zone, where organic materials have got incorporated with the mineral matter, nutrients and water,
5. 'Horizon B' is a transition zone between the 'horizon A' and 'horizon C', and contains matter derived from below as well as from above. It has some organic matter in it,
6. 'Horizon C' is composed of the loose parent material. This layer is the first stage in the soil formation process and eventually forms the above two layers
7. This arrangement of layers is known as the soil profile
8. Underneath these three horizons is the rock which is also known as the parent rock or the bedrock

CLASSIFICATION OF SOILS

1. In ancient times, soils used to be classified into two main groups – Urvara and Usara
2. Fertile and sterile
3. In the 16th century A.D., soils were classified on the basis of their inherent characteristics and external features such as texture, colour, slope of land and moisture content in the soil
4. In the 16th century A.D., soils were classified on the basis of their inherent characteristics and external features such as texture, colour, slope of land and moisture content in the soil
5. Sandy, clayey, silty and loam, etc.
6. On the basis of colour -Red, yellow, black, ET

Soil Survey of India

1. Established in 1956, The National Bureau of Soil Survey and the Land Use Planning an Institute under the control of the Indian Council of Agricultural Research (ICAR)
2. The ICAR has classified the Indian soils on the basis of their nature and character as per the United States Department of Agriculture (USDA) Soil Taxonomy

- (i) Inceptisols
- (ii) Entisols
- (iii) Alfisols
- (iii) Alfisols
- (iv) Vertisols
- (vi) Ultisols
- (vi) Mollisols

ICAR classification on the basis of genesis, colour, composition and location,

- (i) Alluvial soils
- (ii) Black soils
- (ii) Black soils
- (iv) Laterite soils
- (v) Arid soils
- (vi) Saline soils
- (vii) Peaty soils
- (viii) Forest soils

Alluvial Soils

1. Widespread in the northern plains and the river valleys
2. 40 per cent of the total area of the country
3. Depositional soils
4. Transported and deposited by rivers and streams
5. Transported and deposited by rivers and streams
6. Peninsular region, they are found in deltas of the east coast and in the river valleys
7. Vary in nature from sandy loam to clay
8. Rich in potash but poor in phosphorous
9. Upper and Middle Ganga plain, two different types of alluvial soils have developed

Khadarand Bhangar.

1. Khadar is the new alluvium and is deposited by floods annually, which enriches the soil by depositing fine silts
2. Bhangar represents a system of older alluvium, deposited away from the flood plains
3. Khadarand Bhangarsoils contain calcareous concretions (Kankars)
4. More loamy and clayey in the lower and middle Ganga plain and the Brahmaputra valley
5. More loamy and clayey in the lower and middle Ganga plain and the Brahmaputra valley
6. Colour of the alluvial soils varies from the light grey to ash grey
7. Shades depend on the depth of the deposition, the texture of the materials, time taken for attaining maturity
8. Alluvial soils are intensively cultivated.

Black Soil

1. Includes parts of Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh and some parts of Tamil Nadu.
2. Western part of the Deccan Plateau
3. And the north western part of the Deccan Plateau,

4. Western part of the Deccan Plateau,
5. Also known as the 'Regur Soil' or the 'Black Cotton Soil
6. Generally clayey, deep and impermeable.
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8. There occurs a kind of 'self-ploughing'
9. The black soil retains the moisture for a very long time
10. Helps the crops, especially, the rain fed ones, to sustain even during the dry season
11. Chemically, the black soils are rich in lime and also contain potash
12. Lack in phosphorous, nitrogen and organic matter.
13. Soil ranges from deep black to grey

Red and Yellow Soil

1. Red soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern part of the Deccan Plateau
2. Along the piedmont zone of the Western Ghat, long stretch of area is occupied by red loamy soil
3. Yellow and red soils are also found in parts of Orissa and Chhattisgarh and in the southern parts of the middle Ganga plain
4. Develops a reddish colour due to a wide diffusion of iron in crystalline and metamorphic rocks
5. Fine-grained red and yellow soils are normally fertile
6. Coarse-grained soils found in dry upland areas are poor in fertility
7. Generally poor in nitrogen, phosphorous and humus

Laterite Soil

1. Derived from the Latin word 'Later' which means brick
2. Develop in areas with high temperature and high rainfall
3. Result of intense leaching due to tropical rains
4. With rain, lime and silica are leached away, and soils rich in iron oxide and aluminium compound are left behind
5. Humus content of the soil is removed fast by bacteria that thrives well in high temperature.
6. While iron oxide and potash are in excess
7. Not suitable for cultivation
8. Application of manures and fertilisers are required for making the soils fertile for cultivation
9. Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for tree crops like cashewnut
10. Laterite soils are widely cut as bricks for use in house construction
11. Mainly developed in the higher areas of the peninsular plateau

12. Commonly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and the hilly areas of Orissa and Assam

Arid Soils

1. Arid soils range from red to brown in colour
2. Generally sandy in structure and saline in nature.
3. The salt content is so high that common salt is obtained by evaporating the saline water
4. Due to the dry climate, high temperature and accelerated evaporation, they lack moisture and humus
5. Nitrogen is insufficient and the phosphate
6. Content is normal
7. Lower horizons of the soil are occupied by 'kankar' layers because of the increasing calcium content downwards
8. The 'Kankar' layer formation in the bottom horizons restricts the infiltration of water,
9. The soil moisture is readily available for a sustainable plant growth
10. Characteristically developed in western Rajasthan, which exhibit characteristic arid topography
11. Soils are poor and contain little humus and organic matter

Saline Soils

1. Also known as Usara soils
2. Saline soils contain a larger proportion of sodium
3. Potassium and magnesium, and thus, they are infertile,
4. Do not support any vegetative growth
5. More salts, largely because of dry climate and poor drainage
6. Occur in arid and semi-arid regions, and in waterlogged and swampy areas
7. Structure ranges from sandy to loamy
8. Lack in nitrogen and calcium
9. Saline soils are more widespread in western Gujarat, deltas of the eastern coast and in Sunderban areas of West Bengal
10. Rann of Kutch, the Southwest Monsoon brings salt particles and deposits there as a crust
11. Seawater intrusions in the deltas promote the occurrence of saline soils.
12. Areas of intensive cultivation with excessive use of irrigation, especially in areas of green revolution, the fertile alluvial soils are becoming saline
13. Excessive irrigation with dry climatic conditions promotes capillary action, which results in the deposition of salt on the top layer of the soil.
14. Punjab and Haryana, farmers are advised to add gypsum to solve the problem of salinity in the soil

Peaty Soils

1. Found in the areas of heavy rainfall and high humidity
2. Organic matter in these soils may go even up to 40-50 per cent
3. Soils are normally heavy and black in colour
4. Occurs widely in the northern part of Bihar, southern part of Uttaranchal and the coastal areas of West Bengal, Orissa and Tamil Nadu

Forest Soils

1. Formed in the forest areas where sufficient rainfall is available
2. They are loamy and silty on valley sides
3. Coarse-grained in the upper slopes
4. In the snow-bound areas of the Himalayas, they experience denudation
5. Acidic with low humus content
6. Soils found in the lower valleys are fertile

SOIL DEGRADATION

1. Decline in soil fertility, when the nutritional status declines and depth of the soil goes down due to erosion and misuse
2. Soil degradation is the main factor leading to the depleting soil resource base in India
3. In the soil. Peaty Soils they are found in the areas of heavy rainfall and high humidity,
4. Where there is a good growth of vegetation. Thus, large quantity of dead organic matter accumulates in these areas, and this gives a rich humus and organic content to the soil.
5. Organic matter in these soils may go even up to 40-50 per cent. These soils are normally heavy and black in colour. At many places, they are alkaline also.
6. It occurs widely in the northern part of Bihar, southern part of Uttaranchal and the coastal areas of West Bengal, Orissa and Tamil Nadu.
7. Forest Soils As the name suggests, forest soils are formed in the forest areas where sufficient rainfall is available. The soils vary in structure and texture depending on the mountain environment where they are formed.
8. They are loamy and silty on valley sides and coarse-grained in the upper slopes. In the snow-bound areas of the Himalayas, they experience denudation, and are acidic with low humus content.
9. The soils found in the lower valleys are fertile. It is evident from the foregoing discussions that soils, their texture, quality and nature are vital for the germination and growth of plant and vegetation including crops.
10. Soils are living systems. Like any other organism, they too develop and decay, get degraded, respond to proper treatment if administered in time.
11. These have serious repercussions on other components of the system of which they themselves are important parts.

SOIL DEGRADATION IN BROAD SENSE

1. In a broad sense, soil degradation can be defined as the decline in soil fertility,
2. When the nutritional status declines and depth of the soil goes down due to erosion and misuse.
3. Soil degradation is the main factor leading to the depleting soil resource base in India. The degree of soil degradation varies from place to place according to the topography, wind velocity and amount of the rainfall. Destruction of the soil cover is described as soil erosion.
4. The soil forming processes and the erosional processes of running water and wind go on simultaneously
5. There is a balance between these two processes.
6. Sometimes, such a balance is disturbed by natural or human factors, leading to a greater rate of removal of soil

Wind erosion

1. Wind erosion is significant in arid and semi-arid regions
2. In regions with heavy rainfall and steep slopes, erosion by running water is more significant
3. Sheet erosion takes place on level lands after a heavy shower and the soil removal is not easily noticeable.
4. Harmful since it removes the finer and more fertile top soil.

Gully erosion

1. Gully erosion is common on steep slopes. Gullies deepen with rainfall, cut the agricultural lands into small fragments and make them unfit for cultivation
2. A region with a large number of deep gullies or ravines is called a badland topography

Ravines

1. Ravines are widespread, in the Chambal basin.
2. The country is losing about 8,000 hectares of land to ravines every year

Others

1. Eroded materials are carried down to rivers and they lower down their carrying capacity, and cause frequent floods and damage to agricultural lands
2. Deforestation is one of the major causes of soil erosion
3. Plants keep soils bound in locks of roots
4. They also add humus to the soil by shedding leaves and twigs
5. Their effect on soil erosion are more in hilly parts of the country
6. A fairly large area of arable land in the irrigated zones of India is becoming saline because of over irrigation
7. The salt lodged in the lower profiles of the soil comes up to the surface and destroys its fertility

8. This problem is common in all the command areas of the river valley projects, which were the first beneficiaries of the Green Revolution
9. About half of the total land of India is under some degree of degradation.

Ways to curb soil erosion

1. The first step in any rational solution is to check open cultivable lands on slopes from farming
2. And with a slope gradient of 15 - 25 per cent should not be used
3. Terraces should carefully be made.
4. Should be regulated and controlled by educating villagers about the consequences. Contour bonding, Contour terracing
5. Prevent gully erosion and control their formation
6. Constructing a series of check dams.
7. Special attention should be made to control headward extension of gullies
8. In arid and semi-arid areas, protect cultivable lands from encroachment by sand dunes through developing shelter belts of trees and agro-forestry.
9. Lands not suitable for cultivation should be converted into pastures for grazing.
10. Central Soil Conservation Board, set up by the Government of India, has prepared a number of plans for soil conservation in different parts of the country
11. Land use maps should be prepared and lands should be put to right uses

Primary Activities

People engaged in primary activities are called red collar workers due to the outdoor nature of their work.

Economic activities -Human activities which generate income

HUNTING AND GATHERING

Gathering is practised

1. High latitude zones which include northern Canada, northern Eurasia and southern Chile
2. Low latitude zones such as the Amazon Basin, tropical Africa, Northern fringe of Australia and the interior parts of Southeast Asia
3. The name of the part of the chewing gum after the flavour is gone? It is called Chicle — it is made from the milky juice of zapota tree.

PASTORALISM

1. Domestication of animals
2. People living in different climatic conditions selected and domesticated animals found in those regions

Nomadic Herding

1. Nomadic herding or pastoral nomadism is a primitive subsistence activity, in which the herders rely on animals for food, clothing, shelter, tools and transport.
2. They move from one place to another along with their livestock, depending on the amount and quality of pastures and water.
3. Each nomadic community occupies a well-identified territory as a matter of tradition.
4. In tropical Africa, cattle are the most important livestock
5. While in Sahara and Asiatic deserts, sheep, goats and camel are reared
6. In the Arctic and sub-Arctic areas, reindeer are the most important animals.
7. Pastoral nomadism is associated with three important regions
8. The core region extends from the Atlantic shores of North Africa eastwards across the Arabian peninsula into Mongolia and Central China.
9. The second region extends over the tundra region of Eurasia
10. The second region extends over the tundra region of Eurasia

Transhumance

1. The process of migration from plain areas to pastures on mountains during summers and again from mountain pastures to plain areas during winters
2. In mountain regions, such as Himalayas, Gujjars, Bakarwals, Gaddis and Bhotiyas migrate from plains to the mountains in summers and to the plains from the high altitude pastures in winters.

Commercial Livestock Rearing

1. Commercial livestock rearing is more organised and capital intensive
2. Commercial livestock ranching is essentially associated with western cultures and is practised on permanent ranches.
3. These ranches cover large areas and are divided into a number of parcels, which are fenced to regulate the grazing.
4. When the grass of one parcel is grazed, animals are moved to another parcel.
5. This is a specialised activity in which only one type of animal is reared
6. Important animals include sheep, cattle, goats and horses
7. Products such as meat, wool, hides and skin are processed and packed scientifically and exported to different world markets. Rearing of animals in ran
8. New Zealand, Australia, Argentina, Uruguay and United States of America are important countries where commercial livestock rearing is practised

AGRICULTURE

Subsistence Agriculture

In which the farming areas consume all, or nearly so, of the products locally grown. It can be grouped in two categories

1. Primitive Subsistence Agriculture
2. Intensive Subsistence Agriculture

Primitive Subsistence Agriculture

1. Widely practised by many tribes in the tropics, especially in Africa, south and Central America and south East Asia
2. The vegetation is usually cleared by fire, and the ashes add to the fertility of the soil.
3. Shifting cultivation is thus, also called slash and burn agriculture
4. One of the major problems of shifting cultivation is that the cycle of jhum becomes less and less due to loss of fertility in different parcels.

It is also known as

Milpa in Central America and Mexico

Ladang in Indonesia and Malaysia

Intensive Subsistence Agriculture

1. Largely found in densely populated regions of monsoon Asia
2. There are two types of intensive subsistence agriculture
3. Intensive subsistence agriculture dominated by wet paddy cultivation
4. This type of agriculture is characterised by dominance of the rice crop.
5. Land holdings are very small due to the high density of population.
6. Farmers work with the help of family labour leading to intensive use of land.
7. Use of machinery is limited and most of the agricultural operations are done by manual labour
8. Farm yard manure is used to maintain the fertility of the soil.
9. The yield per unit area is high but per labour productivity is low
10. Intensive subsistence agriculture dominated by crops other than paddy:
11. Wheat, soyabean, barley and sorghum are grown in northern China, Manchuria, North Korea and North Japan
12. In India wheat is grown in western parts of the Indo-Gangetic plains
13. Millets are grown in dry parts of western and southern India.

Plantation Agriculture

1. Introduced by the Europeans in colonies situated in the tropics
2. Some of the important plantation crops are tea, coffee, cocoa, rubber, cotton, oil palm, sugarcane, bananas and pineapples

Characteristic features

1. Large estates or plantations
2. Large capital investment,
3. Managerial and technical support
4. Scientific methods of cultivation
5. Single crop specialisation
6. Cheap labour
7. A good system of transportation

Background

1. The French established cocoa and coffee plantations in West Africa.
2. The British set up large tea gardens in India and Sri Lanka
3. Rubber plantations in Malaysia and sugarcane and banana plantations in West Indies.
4. Spanish and Americans invested heavily in
5. Coconut and sugarcane plantations in the Philippines
6. Some coffee fazendas (large plantations) in Brazil are still managed by Europeans

Extensive Commercial Grain Cultivation

1. Commercial grain cultivation is practised in the interior parts of semi-arid lands of the midlatitudes
2. Wheat is the principal crop
3. Other crops like corn, barley, oats and rye are also grown.
4. The size of the farm is very large, therefore entire operations of cultivation from ploughing to harvesting are mechanised
5. There is low yield per acre but high yield per person.

This type of agriculture is best developed

1. Eurasian steppes
2. The Canadian and American Prairies
3. The Canadian and American Prairies
4. The Velds of South Africa
5. The Australian Downs
6. The Canterbury Plains of New Zealand

Mixed Farming

1. Found in the highly developed parts of the world, e.g. North-western Europe, Eastern North America, parts of Eurasia and the temperate latitudes of Southern continents
2. Mixed farms are moderate in size and usually the crops associated with it are
3. Wheat, barley, oats, rye, maize, fodder and root crops
4. Fodder crops are an important component of mixed farming
5. Crop rotation and intercropping play an important role in maintaining soil fertility
6. Equal emphasis is laid on crop cultivation and animal husbandry

7. Animals like cattle, sheep, pigs and poultry provide the main income along with crops
8. Mixed farming is characterised by high capital expenditure on farm machinery
9. Building, extensive use of chemical fertilisers and green manures and also by the skill and expertise of the farmers

Dairy Farming

1. Dairy is the most advanced and efficient type of rearing of milch animals.
2. It is highly capital intensive
3. Animal sheds, storage facilities for fodder, feeding and milching machines add to the cost of dairy farming.
4. Special emphasis is laid on cattle breeding, health care and veterinary services.
5. There is no off season during the year as in the case of crop raising
6. It is practised mainly near urban and industrial centres which provide neighbourhood market for fresh milk and dairy products.
7. The development of transportation, refrigeration, pasteurisation and other preservation processes have increased the duration of storage of various dairy products.

There are three main regions of commercial dairy farming

1. The largest is North Western Europe
2. Second is Canada
3. The third belt includes South Eastern Australia, New Zealand and Tasmania

Mediterranean Agriculture

1. Mediterranean agriculture is highly specialised commercial agriculture
2. It is practised in the countries on either side of the Mediterranean
3. In North Africa from Tunisia to Atlantic coast
4. Southern California
5. Central Chile, south western parts of South Africa and south and south western parts of Australia.
6. This region is an important supplier of citrus fruits.
7. Viticulture or grape cultivation is a speciality of the Mediterranean region.
8. The inferior grapes are dried into raisins and currants
9. This region also produces olives and figs.
10. The advantage of Mediterranean agriculture is that more valuable crops such as fruits and vegetables are grown in winters when there is great demand in European and North American markets.

Market Gardening and Horticulture

1. Market gardening and horticulture specialise in the cultivation of high value crops
2. Vegetables, fruits and flowers, solely for the urban markets.
3. Farms are small
4. Located where there is good transportation
5. Links with the urban centre

6. High income group of consumers is located.
7. It is both labour and capital intensive and lays emphasis on the use of irrigation, HYV seeds, fertilisers, insecticides, greenhouses and artificial heating in colder regions.
8. This type of agriculture is well developed in densely populated industrial districts of
9. North West Europe
10. North eastern United States of America
11. Mediterranean regions
12. The Netherlands specialises in growing flowers and horticultural crops especially tulips, which are flown to all major cities of Europe

Truck farming

1. The regions where farmers specialise in vegetables only,
2. This requires heavy capital investment in terms of building, machinery for various operations,
3. Veterinary services and heating and lighting.
4. One of the important features of poultry farming and cattle rearing is breed selection and scientific breeding.

Co-operative Farming

1. Co-operative societies help farmers, to procure all important inputs of farming,
2. Sell the products at the most favourable terms and help in processing of quality products at cheaper rates.

Co-operative movement

1. Has been successful in many western European countries
2. Denmark, Netherlands, Belgium, Sweden, Italy etc.
3. In Denmark, the movement has been so successful that practically every farmer is a member of a co- operative.

Collective Farming

1. Based on social ownership of the means of production and collective labour.
2. Collective farming or the model of Kolkhoz was introduced in erstwhile Soviet Union to improve upon the inefficiency of the previous methods of agriculture and to boost agricultural production for self- sufficiency.
3. The farmers pool in all their resources like land, livestock and labour.
4. Yearly targets are set by the government and the produce is also sold to the state at fixed prices.
5. Produce in excess of the fixed amount is distributed among the members or sold in the market.
6. The farmers have to pay taxes on the farm produces, hired machinery
7. This type of farming was introduced in former Soviet Union under the socialist regime which was adopted by the socialist countries
8. After its collapse, these have already been modified.