

### AGRICULTURE

#### Primitive subsistence farming

1. Practised on small patches of land
2. practiced with primitive tools like hoes and digging sticks and family/community labour
3. depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions to the crops grown
4. It is also called slash and burn agriculture where farmers clear a patch of land and produce cereals and other food crops to sustain their family. When the soil fertility decreases, the farmers shift and clear a fresh patch of land for cultivation. This type of shifting allows nature to replenish the fertility of the soil through natural processes.
5. Land productivity in this type of agriculture is low
6. Farmer does not use fertilisers or other modern inputs
7. Known as **milpa in mexico, dahiya/bewar in madhya pradesh, podu/penda in andhra pradesh, roca in brazil**

### CROPPING PATTERNS

Rabi	kharif	zaid
1. sown in winter from october to december	1. sown with the onset of monsoon	1. short season between rabi and kharif
2. harvested in summer from april to june	2. harvested in september to october	2. sown during summer months

### CROPPING PATTERNS (cont)

3. important crops: wheat, barley, peas, gram and mustard
3. important crops: paddy, maize, jowar, bajra, tur, moong, urad, cotton, jute, groundnut, soyabean
3. crops: watermelon, muskmelon, cucumber and fodder crops
4. states: punjab, haryana, himachal pradesh, jammu and kashmir, uttarakhand, and uttar pradesh
4. states(for rice): assam, west bengal, odisha, andhra pradesh, telangana, tamil nadu, kerala and maharashtra, bihar, uttar pradesh
5. availability of precipitation during winter months due to western temperate cyclones helps in the success of these crops
5. paddy has also become an important crop and 3 crops of paddy are grown in a year - aus, aman and boro
6. success of green revolution in punjab, haryana, western uttar pradesh and parts of rajasthan has also been an important factor in the growth of these crops

### NON FOOD CROPS

#### COTTON

1. main raw materials for the cotton textile industry
2. in 2017 india was the 2nd largest producer of cotton after china
3. grows well in drier part of black cotton soil of the deccan plateau
4. requires high temperature, light rainfall or irrigation, 210 frost free days and bright sunshine for its growth
5. kharif crop and requires 6-8 months to mature
6. states: maharashtra, gujarat, madhya pradesh, karnataka, andhra pradesh, telangana, tamil nadu, punjab, haryana and uttar pradesh

### MAJOR CROPS

#### COFFEE

1. indian coffee is known for its good quality
2. arabica variety was initially brought over from yemen
3. initially its cultivation was introduced in the baba budan hills and even today its cultivation is confined to the nilgiri in karnataka, kerala and tamil nadu

### MAJOR CROPS

#### TEA

1. example of plantation agriculture
2. important beverage crop
3. grows in tropical as well as sub tropical climates
4. needs deep and fertile well drained soil, rich in humus and organic matter
5. tea bushes require warm and moist free climate all year
6. needs frequent showers evenly distributed to ensure continuous growth of tender leaves

### MAJOR CROPS (cont)

7. labour intensive industry
8. requires abundant, cheap and skilled labour
9. processed within the tea gardens to restore its freshness
10. states: assam, hills of darjeeling, jalpaiguri districts, west bengal, tamil nadu and kerala, himachal pradesh, uttarakhand, meghalaya, andhra pradesh and tripura.
11. in 2018 india was the second largest producer of tea after china

### AGRICULTURE

#### Commercial farming

1. Uses higher doses of modern inputs (HYV seeds, chemical fertilisers, insecticides, pesticides, etc) in order to obtain higher productivity
2. Degree of commercialisation of agriculture varies from one region to another. ex: rice is a commercial crop in haryana and punjab but in odisha is a subsistence crop.
3. Plantation is also a type of commercial farming where a single crop is grown on a large area. The plantation has an interface of agriculture and industry. They cover large tracts of land using capital intensive inputs with the help of migrant labourers. All the produce is used as raw material in industries. ex: tea, coffee, sugarcane, banana.
4. Since the production is mainly for market, a well developed network of transport and communication connecting the plantation areas, processing industries and markets plays an important role in the development of plantations.

### BHOODAN GRAMDAN

1. aka blood less revolution initiated by vinoba bhave
2. landless villagers demanded some land for their economic well being
3. vinoba bhave assured them that he would talk to the government of india regarding provision of land for them if they undertook cooperative farming
4. suddenly shri ram chandra reddy stood up and offered 80 acres of land to be distributed among the 80 landless villagers
5. this act was known as bhoodan
6. later he travelled and introduced his ideas widely
7. zamindars, owners of many villages offered to distribute some villages among the landless
8. it was known as gramdan
9. however many land owners chose to provide some part of their land to the poor farmers due to the fear of the land ceiling act

### NON FOOD CROPS

#### JUTE

1. also known as the golden fibre
2. grows well on well drained fertile soil in the flood plains where soils are renewed every year
3. high temperature is required
4. states: west bengal, bihar, assam, odisha and meghalaya
5. used to make gunny bags, mats, ropes, yarn, carpets and other artefacts
6. its losing market to synthetic fibres especially nylon

### NON FOOD CROPS

#### RUBBER

1. equatorial crop but under special conditions
2. tropical and sub tropical crop
3. requires moist and humid climate with rainfall of 200cm and temperature above 25°C
4. important industrial raw material
5. states: kerala, tamil nadu, karnataka, andaman and nicobar islands and garo hills of meghalaya

### MAJOR CROPS

#### MILLETS

1. jowar, ragi, bajra are main millets grown in india
2. they are known as coarse grains but they have high nutritional value
3. ragi is rich in iron, calcium and other micro nutrients and roughage
4. jowar is the 3rd most important crop with respect to area and production
5. it is a rain fed crop mostly grown in moist areas which hardly need irrigation
6. most jowar producing states are maharashtra, karnataka, andhra pradesh and madhya pradesh
7. bajra grows well on sandy soils and shallow black soil
8. major bajra producing states: rajasthan, uttar pradesh, maharashtra, gujarat and haryana
9. ragi is a crop of dry regions and grows well on red, black, sandy, loamy and shallow black soils
10. major ragi producing states are: karnataka, jharkhand, tamil nadu, himachal pradesh, uttarakhand, sikkim, arunachal pradesh



### MAJOR CROPS

#### WHEAT

1. second most important cereal crop
2. main food crop in north and northwestern part of the country
3. rabi crop
4. requires cool growing season and bright sunshine at time of ripening
5. requires 50-75 cm of annual rainfall evenly distributed
6. grows in ganga satluj plains and black soil region of deccan
7. states: punjab, haryana, uttar pradesh, madhya pradesh, bihar, rajasthan

### MAJOR CROPS

#### RICE

1. staple food in our country
2. india is second largest producer after china
3. it is a kharif crop
4. requires high temperature above 25°C and high humidity
5. annual rainfall of 100cm
6. in areas of less rainfall it grows with the help of irrigation
7. grown in plains of north and north--eastern india, coastal areas, deltaic regions
8. development of dense network of canal irrigation and tubewells have made it possible to grow rice in areas of less rainfall

### AGRICULTURE

#### Intensive subsistence farming

1. practiced in areas of high population pressure on land
2. labour intensive farming
3. high doses of biochemical inputs and irrigation are used to obtain higher production

### AGRICULTURE (cont)

4. Through the right of inheritance, the division of land among successive generations has rendered land holding size uneconomical, the farmers continue to take maximum output from the limited land in the absence of alternate source of livelihood. Thus there is enormous pressure on land.

### MAJOR CROPS

#### SUGARCANE

1. tropical as well as subtropical crop
2. grows well in hot and humid climate
3. temperature of 21-27°C
4. annual rainfall of 75cm and 100cm
5. irrigation is required in regions of low rainfall
6. it can be grown in a variety of soils and needs manual labour from sowing to harvesting
7. india is second largest producer after brazil
8. it is the main source of sugar, gur, khandsari and molasses
9. states: uttar pradesh, andhra pradesh, bihar, maharashtra, karnataka, telangana, punjab, haryana, tamil nadu

### MAJOR CROPS

#### OIL SEEDS

1. in 2018 india was second largest producer after china for groundnuts
2. india was 3rd largest producer in rapeseed production after canada and china
3. different oil seeds are grown covering around 12% of the total cropped area of the country
4. main oil seeds: groundnut, mustard, coconut, sesamum, soyabean, castor seeds, cotton seeds, linseed and sunflower

### MAJOR CROPS (cont)

5. most are edible and used as cooking mediums or raw material in the production of soap, cosmetics and ointments.
6. groundnut is a kharif crop and accounts for half of major oilseeds produced
7. gujarat was the largest producer of groundnuts followed by rajasthan and tamil nadu in 2019-2020
8. Linseed and mustard are rabi crops
9. sesamum is a kharif crop in north and rabi crop in south india
10. castor seed is grown as both rabi and kharif crop

### MAJOR CROPS

#### PULSES

1. india is largest producer as well as consumer of pulses
2. major source of protein in a vegetarian diet
3. major pulses: tur, urad, moong, masur, peas and gram
4. pulses need less moisture and survive even in dry conditions
5. they are leguminous crops except tur which help in restoring soil fertility by fixing nitrogen from the air
6. states: madhya pradesh, rajasthan, maharashtra, uttar pradesh and karnataka

### MAJOR CROPS

#### MAIZE

1. crop used as both food and fodder
2. kharif crop
3. grows between 21-27°C
4. grows well in old alluvial soil
5. in some states like bihar, maize is grown in rabi season



### MAJOR CROPS (cont)

6. use of modern inputs such as HYV seeds, fertilisers and irrigation have contributed to the increasing production of maize
7. states: karnataka, uttar pradesh, andhra pradesh, bihar, madhya pradesh, telangana

### NON FOOD CROPS

#### FIBRE CROPS

1. cotton, jute, hemp and natural silk are the main fibre crops
2. the first 3 are derived from crops grown in the soil the latter is obtained from the cocoons of the silkworms fed on green leaves especially the mulberry
3. rearing of silk worms for the production of silk fibre is known as sericulture

### TECHNOLOGICAL AND INSTITUTIONAL REFORMS

1. sustained uses of land without compatible techno-institutional changes have hindered the pace of agricultural development.
2. despite development of irrigation sources most farmers depend on rainfall and natural fertility for agriculture.
3. for a growing population this is a serious challenge
4. agriculture which provides livelihood for more than 60% of its population needs some serious institutional and technological reforms
5. collectivisation, consolidation of holdings, cooperation and abolition of zamindari were given priority to bring about institutional reforms in the country after independence
6. land reform was the main focus of our first five year plan

### TECHNOLOGICAL AND INSTITUTIONAL REFORMS (cont)

7. the right to inheritance had fragmented the land holdings necessitating consolidation of holdings
8. The green revolution based on the use of package technology and the white revolution were some of the strategies
9. but this led to the concentration of development in few selected areas.
10. therefore in the 1980s and 1990s a comprehensive land development programme was initiated which included both institutional and technological reforms.
11. **provision for crop insurance** against drought, flood, cyclone, fire and disease, **grameen banks, cooperative societies and banks for loans** to the farmers at lower interest rates
12. **Kissan credit card, personal accident insurance scheme**, are some other schemes introduced by the government for the benefit of farmers.
13. **special weather bulletins, agriculture programmes** for farmers were introduced on the radio and television
14. the government also announces minimum support price, remunerative and procurement prices for important crops to check the exploitation of farmers by speculators and middle men

