



# TOPICS to be covered

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Agriculture

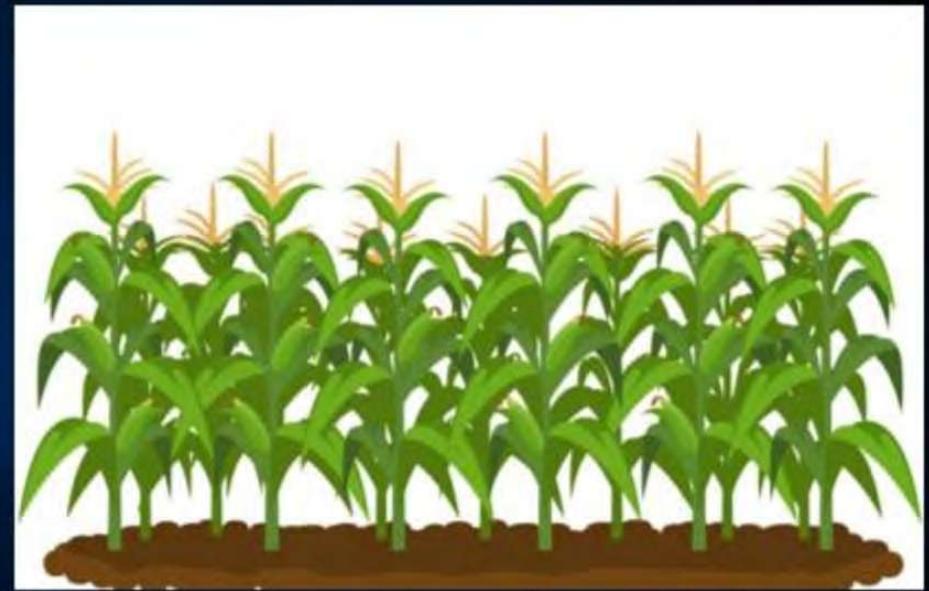
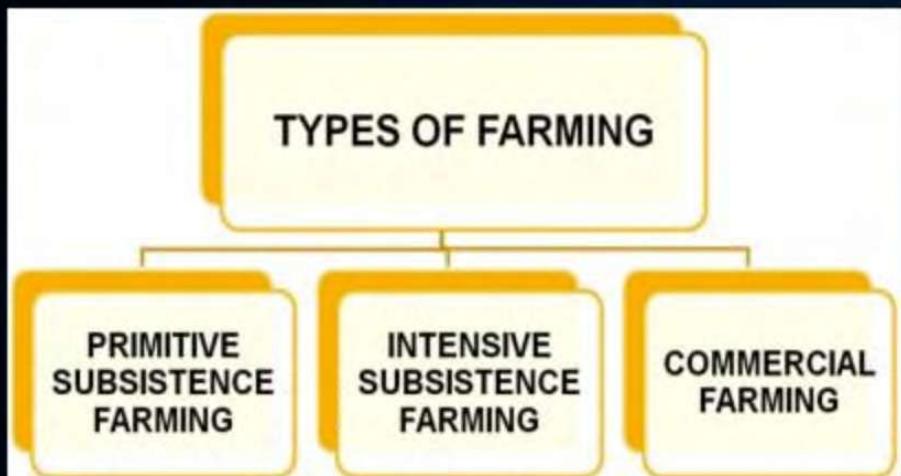


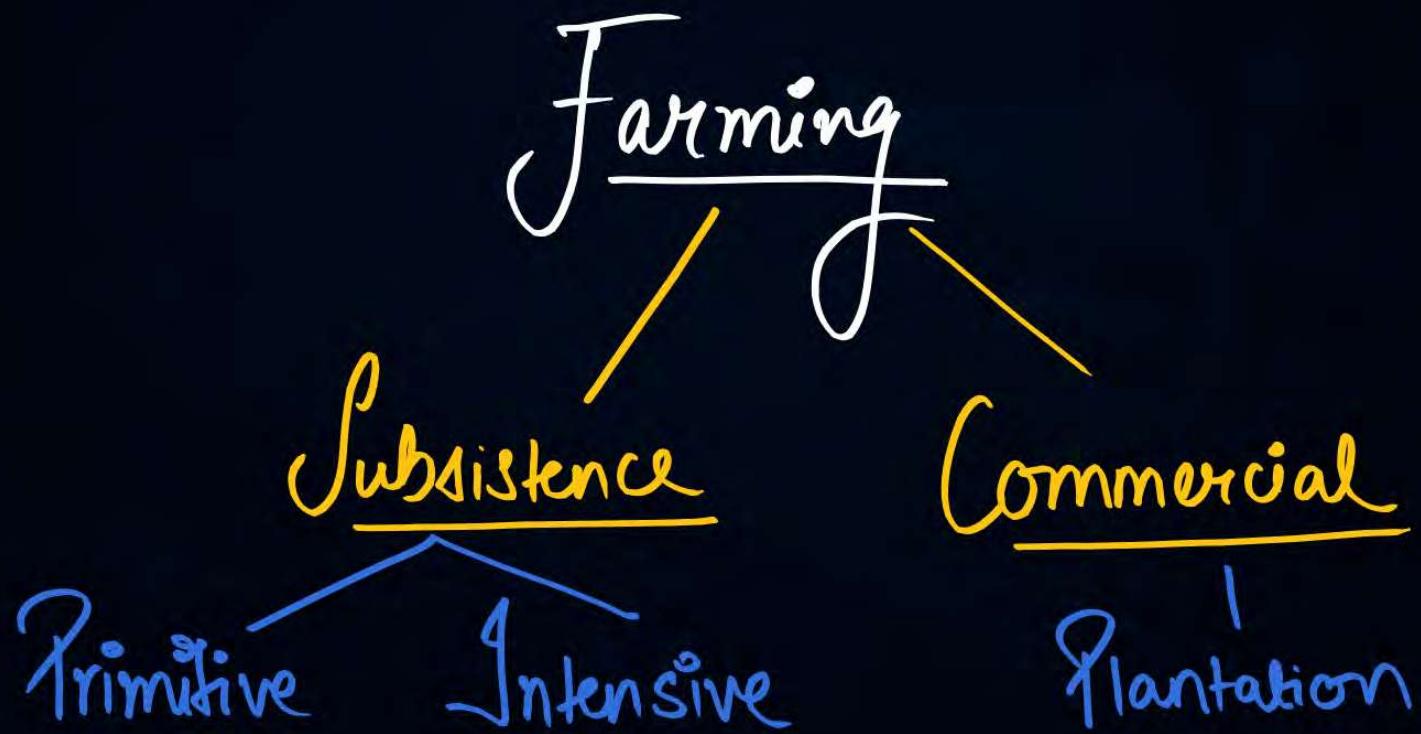
- India is an agriculturally important country.
- Two-thirds of its population is engaged in agricultural activities.
- Agriculture is a primary activity, which produces most of the food that we consume.
- Besides food grains, it also produces raw material for various industries.





## Types of Farming







## Primitive Subsistence Farming-meaning?



- Practised on small patches of land.
- Primitive tools like hoe, dao and digging sticks
- Family/community labour
- Depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions to the crops grown.



- It is a 'slash and burn' agriculture.
- This type of shifting allows nature to replenish the fertility of the soil through natural processes.

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## Shifting cultivation



- ❖ It is known by different names in different parts of the country.
- ❖ It is **jhumming** in north-eastern states like Assam, Meghalaya, Mizoram and Nagaland; **Pamlou** in Manipur, **Dipa** in Bastar district of Chhattishgarh, and in Andaman and Nicobar Islands.
- ❖ '**Milpa**' in Mexico and Central America, '**Conuco**' in Venezuela, '**Roca**' in Brazil, '**Masole**' in Central Africa, '**Ladang**' in Indonesia, '**Ray**' in Vietnam.

- ❖ 'Bewar' or 'Dahiya' in Madhya Pradesh, 'Podu' or 'Penda' in Andhra Pradesh, 'Pama Dabi' or 'Koman' or 'Bringa' in Odisha, 'Kumari' in Western Ghats, 'Valre' or 'Waltre' in South-eastern Rajasthan, 'Khil' in the Himalayan belt, 'Kuruwa' in Jharkhand.



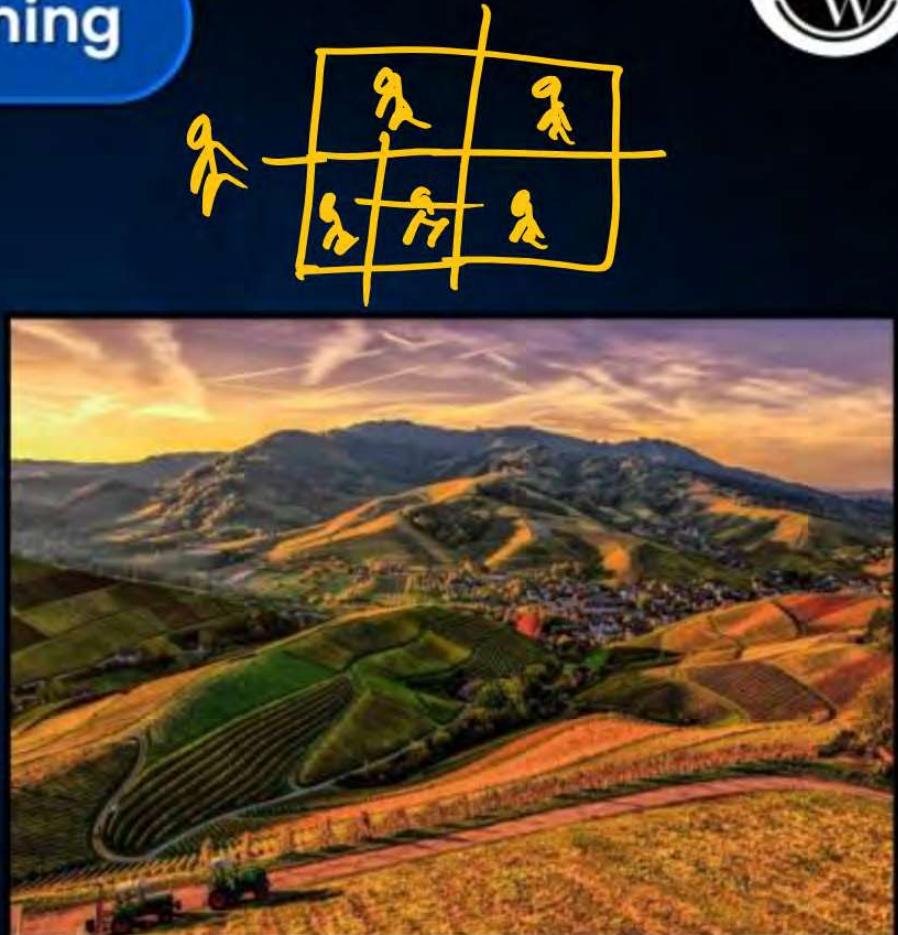


## Intensive Subsistence Farming



- Practised in areas of high population pressure on land.
- It is labour intensive farming.
- High doses of biochemical inputs and irrigation are used.

→ limited land  
(Right of Inheritance)

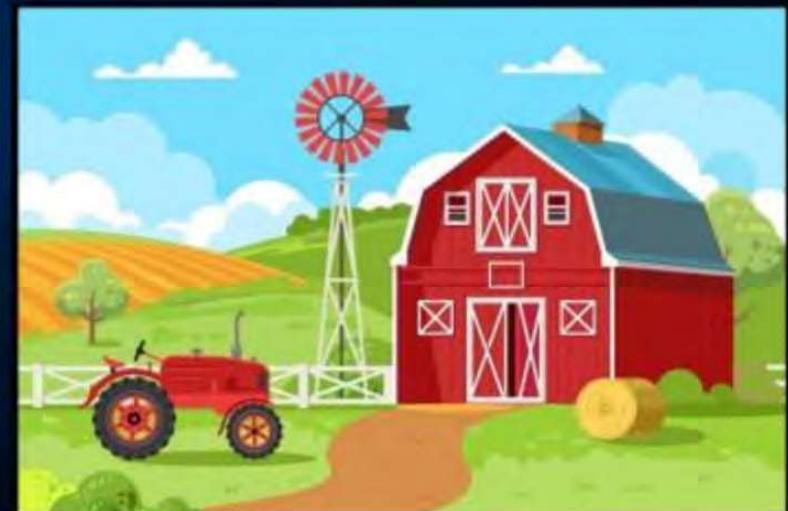




## Commercial Farming

- Involves use of higher doses of modern inputs, e.g. high yielding variety (HYV) seeds, chemical fertilisers, insecticides and pesticides in order to obtain higher productivity. (To earn more profit)
- The degree of commercialisation of agriculture varies from one region to another.

Paddy / Rice





## Plantation



- A single crop is grown on a large area.
- Capital intensive inputs.
- Migrant labourers.
- All the produce is used as raw material in respective industries.
- Tea in Assam and North Bengal coffee in Karnataka.
- A well-developed network of transport and communication is needed.





## Cropping Pattern



	Kharif ✓	Rabi ✓	Zaid
Sowing period	Arrival of monsoon (June - July) ✓	In winter (October - November)	March – April
Harvesting period	September - October ✓	Summer (March - April) ✓	May - June
Crops	Paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean.	Wheat, barley, peas, gram and mustard	Watermelon, muskmelon, cucumber, vegetables and fodder crops, sugarcane
Irrigation	Rainfall	Western temperate cyclones and canals	Private source of irrigation. Ex. Tubewell, lakes and wells.

- In states like Assam, West Bengal and Odisha, three crops of paddy are grown in a year. These are Aus, Aman and Boro.

Sugarcane takes almost a year to grow.





## Major Crops



### ❖ FOOD :

- Grains
- Food Crops other than Grains.

### ❖ NON – FOOD :

- A variety of food and non-food crops are grown in different parts of India, depending upon the variations in soil, climate and cultivation practices.





## Rice



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### Kharif Crop:

- It requires high temperature and high humidity with annual rainfall above 100 cm.
- India is the second largest producer of rice in the world after China.
- It is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions.
- Development of dense network of canal irrigation and tubewells - possible to grow rice in areas of less rainfall (Punjab, Haryana and western Uttar Pradesh and parts of Rajasthan).

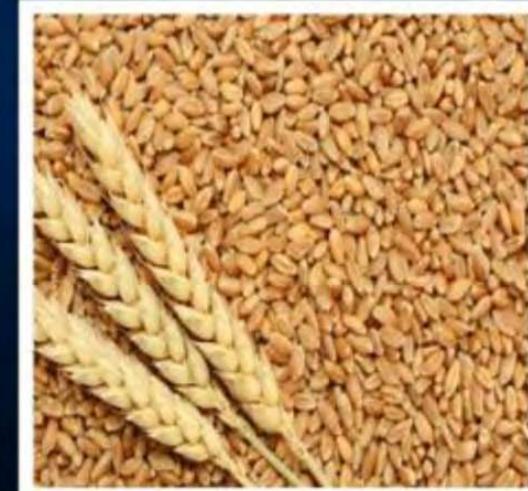




## Wheat

Rabi  
250-75  
Great  
Break

- This is a rabi crop.
- It requires a cool growing season and bright sunshine at the time of ripening.
- It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season.
- The Ganga-Satluj plains in the north-west and black soil region of the Deccan are two main wheat-growing zones in India.
- It is the second most important cereal crop and main food crop, in the north and north-western part of India.





## Millets



- Jowar, Bajra and Ragi are the important millets grown in India.
- These are known as coarse grains and have very high nutritional value.





## Maize

Kya  
21-27  
Old Bihar.

- It is a crop which is used both as food and fodder. It is a kharif crop which requires temperature between 21°C to 27°C and grows well in old alluvial soil.
- In some states like Bihar maize is grown in rabi season also.
- Use of modern inputs such as HYV seeds, fertilisers and irrigation have contributed to the increasing production of maize.
- Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh, Telangana and Madhya Pradesh.





## Pulses



- India is the largest producer as well as the consumer of pulses in the world.
- These are the major source of protein in a vegetarian diet.
- Major pulses that are grown in India are tur (Arhar), urad, moong, masur, peas and gram.
- Pulses need less moisture and survive even in dry conditions.



- Being leguminous crops, all these crops except arhar help in restoring soil fertility by fixing nitrogen from the air.
- Therefore, these are mostly grown in rotation with other crops.
- Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

Nitrogen fixation }  
Leguminous  
Except Arhar





## Sugarcane



- A tropical as well as a subtropical crop.
- It grows well in hot and humid climate with a temperature of  $21^{\circ}\text{C}$  to  $27^{\circ}\text{C}$  and an annual rainfall between 75cm. and 100cm.
- Irrigation is required in the regions of low rainfall. It can be grown on a variety of soils and needs manual labour from sowing to harvesting.
- India is the second largest producer of sugarcane only after Brazil.

→ Climate



- It is the main source of sugar, gur (jaggery), khandsari and molasses.
- The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, Bihar, Punjab and Haryana.





## Oil Seeds



- In 2018 India was the second largest producer of groundnut in the world after China. In rapeseed production India was third largest producer in the world after Canada and China in 2018.
- Main oil-seeds produced in India are groundnut, mustard, coconut, sesamum (til), soyabean, castor seeds, cotton seeds, linseed and sunflower. Most of these are edible and used as cooking mediums.
- However, some of these are also used as raw material in the production of soap, cosmetics and ointments.



- **Groundnut** is a kharif crop and accounts for about half of the major oilseeds produced in the country.
- Gujarat was the largest producer of groundnut followed by Rajasthan and Tamil Nadu in 2019–20. 
- Linseed and mustard are rabi crops Sesamum is a kharif crop in north and rabi crop in south India.
- Castor seed is grown both as rabi and kharif crop.



- Tea cultivation is an example of plantation agriculture.
- It is also an important beverage crop introduced in India initially by the British. Today, most of the tea plantations are owned by Indians.
- The tea plant grows well in tropical and subtropical climates endowed with deep and fertile well-drained soil, rich in humus and organic matter.
- Tea bushes require warm and moist frost-free climate all through the year.



Tea

- Frequent showers evenly distributed over the year ensure continuous growth of tender leaves.
- Tea is a labour-intensive industry. It requires abundant, cheap and skilled labour.
- Tea is processed within the tea garden to restore its freshness.
- Major tea producing states are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala. Apart from these, Himachal Pradesh, Uttarakhand, Meghalaya, Andhra Pradesh and Tripura are also tea-producing states in the country.



In 2018 India was the second largest producer of tea after China.



## Coffee



- Indian coffee is known in the world for its good quality. The Arabica variety initially brought from Yemen is produced in the country.
- This variety is in great demand all over the world.
- Initially its cultivation was introduced on the Baba Budan Hills and even today its cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.





## Horticulture Crops



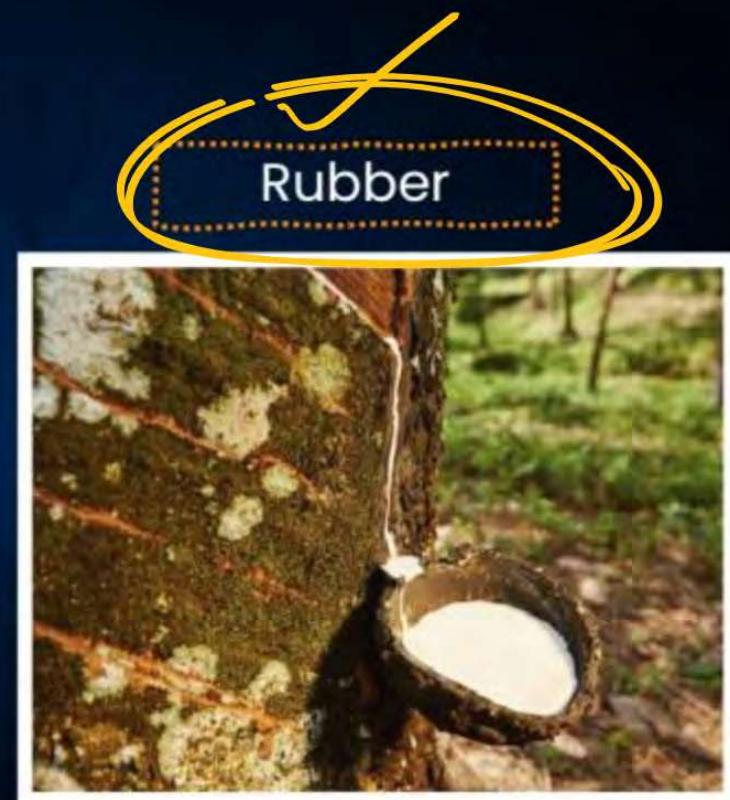
- In 2018, India was the second largest producer of fruits and vegetables in the world after China.
- India is a producer of tropical as well as temperate fruits.
- Mangoes of Maharashtra, Andhra Pradesh, Telangana, Uttar Pradesh and West Bengal, oranges of Nagpur and Cherrapunjee (Meghalaya), bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu, lichi and guava of Uttar Pradesh and Bihar, pineapples of Meghalaya, grapes of Andhra Pradesh, Telangana and Maharashtra, apples/pears, apricots and walnuts of Jammu and Kashmir and Himachal Pradesh are in great demand the world over.





## Non-Food Crops

- It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas.
- It requires moist and humid climate with rainfall of more than 200 cm. and temperature above 25°.
- Rubber is an important industrial raw material.
- It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya.



Rubber



## Fibre Crops



- Cotton, jute, hemp and natural silk are the four major fibre crops grown in India.
- The first three are derived from the crops grown in the soil, the latter is obtained from cocoons of the silkworms fed on green leaves specially mulberry.
- Rearing of silk-worms for the production of silk fibre is known as sericulture





## Cotton



- India is believed to be the original home of the cotton plant.
- Cotton is one of the main raw materials for cotton textile industry.
- In 2017, India was second largest producer of cotton after China.
- Cotton grows well in drier parts of the black cotton soil of the Deccan plateau.
- It requires high temperature, light rainfall or irrigation, 210 frost-free days and bright sun-shine for its growth.



- It is a kharif crop and requires 6 to 8 months to mature.
- Major cotton-producing states are- Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Telangana, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.





## Jute

- It is known as the golden fibre.
- Jute grows well on well-drained fertile soils in the flood plains where soils are renewed every year.
- High temperature is required during the time of growth.
- West Bengal, Bihar, Assam, Odisha and Meghalaya are the major jute producing states.
- It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.



- Why the need for reforms?
- Sustained uses of land without compatible techno-institutional changes have hindered the pace of agricultural development.
- Most of the farmers in large parts of the country still depend upon monsoon and natural fertility in order to carry on their agriculture.
- Agriculture provides livelihood for more than 60 per cent of its population

## Agriculture

Why do we need Reforms?





## Institutional Reforms



- Collectivisation, consolidation of holdings, cooperation and abolition of zamindari, etc.
- 'Land reform' was the main focus of our First Five Year Plan.

Land ceiling ( limited the amount of land one could own )

### ❖ Limitations.

- The Government of India embarked introducing agricultural reforms to improve Indian agriculture in the 1960s and 1970s.
- The Green Revolution and the White Revolution (Operation Flood).
- Concentration of development in few selected areas.



- In the 1980s and 1990s, a comprehensive land development programme was initiated-included both institutional and technical reforms.
- Provision for crop insurance against drought, flood, cyclone, fire and disease. ①
- Establishment of Grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest. ②
- Kisan Credit Card (KCC). ③
- Personal Accident Insurance Scheme (PAIS). ④
- Special weather bulletins and agricultural programmes for farmers were introduced on the radio and television. ⑤
- Minimum support price. ⑥



## Bhoodan - Gramdan



- Mahatma Gandhi declared Vinoba Bhave as his spiritual heir. He also participated in Satyagraha as one of the foremost satyagrahis.
- He was one of the votaries of Gandhi's concept of gram swarajya. After Gandhiji's martyrdom, Vinoba Bhave undertook padyatra to spread Gandhiji's message covered almost the entire country.
- Once, when he was delivering a lecture at Pochampalli in Andhra Pradesh, some poor landless villagers demanded some land for their economic well-being. Vinoba Bhave could not promise it to them immediately but assured them to talk to the Government of India regarding provision of land for them if they undertook cooperative farming.

- Suddenly, Shri Ram Chandra Reddy stood up and offered 80 acres of land to be distributed among 80 land-less villagers. This act was known as 'Bhoodan'.
- Later he travelled and introduced his ideas widely all over India. Some zamindars, owners of many villages offered to distribute some villages among the landless. It was known as Gramdan.
- However, many land-owners chose to provide some part of their land to the poor farmers due to the fear of land ceiling act. This Bhoodan-Gramdan movement initiated by Vinoba Bhave is also known as the Blood-less Revolution.

