

AGRICULTURE

Syllabus

> Agriculture: Types of farming, major crops, cropping pattern, technological and institutional reforms; their impact; contribution of Agriculture to national economy-employment and output. Note: Content of pg no. 44-47 of NCERT Textbook is to be deleted.

TOPIC-1 Types of Farming, Cropping Pattern and Major Crops

Quick Review

- > Agriculture is a primary activity, two-thirds of India's population is engaged in agricultural activities.
- > Since agriculture is an age-old economic activity in India, farming varies from subsistence to commercial type.
- > At present, in different parts of India, the following farming systems are practised :
 - **Primitive subsistence farming :** It is practised on small patches of land with the help of primitive tools like hoe, dao and digging sticks. It depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions to the crops grown.
 - **Intensive subsistence farming :** This type of farming is practised in areas of high population pressure on land. It is done where high doses of biochemical inputs and irrigation are used for obtaining higher production.
 - **Commercial farming** : The main characteristic of this type of farming is the use of higher doses of modern inputs *e.g.*, high

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- yielding variety (HYV) seeds, chemical fertilisers, insecticides and pesticides in order to obtain higher productivity.
- > India has three Cropping Seasons Rabi, Kharif and Zaid.
- Kharif: It starts with the onset of the monsoon and continues till the beginning of winter (June-July to September-October). The kharif crops include rice, maize, millet, cotton, jute, groundnut, moong, urad, etc.
- Rabi : It starts with the beginning of winter and continues till the beginning of summer (October-December to April-June). The rabi crops include wheat, barley, gram and oilseeds.
- Zaid : This is a short crop season in between the rabi and the kharif season. Crops like watermelons, muskmelons, cucumber, some vegetables and fodder crops are the major crops.
- > Major crops grown in India are rice, wheat, millets, pulses, tea, coffee, sugarcane, oilseeds, cotton, and jute.
- Jowar, bajra and ragi are the important millets grown in India. Through, these are known as coarse grains, they have very high nutritional value. For example, ragi is very rich in iron, calcium, other micronutrients and roughage.
- 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.
- India is the largest producer of oilseeds in the world. 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.

- Horticulture is the science and art of growing plants (fruits, vegetables, flowers, and any other cultivar). India is the largest producer of fruits and vegetables in the world. India is a producer of tropical as well as temperate fruits.
- India produces about 13 percent of the world's vegetables. It is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.
- > The non-food crops grown in India are rubber, fibre crops, cotton, jute, etc.
- > Cotton, jute, hemp and natural silk are the four major fibre crops grown in India.
- Jute is known as the golden fibre. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.
- > Sericulture, or silk farming, is the cultivation of silkworms to produce silk.

Know the Terms

- Agriculture : Agriculture is the cultivation and breeding of animals, plants and fungi for food, fiber, biofuel, medicinal plants and other products used to sustain and enhance life.
- Primitive Subsistence Farming : Farming on small patch of land with the help of primitive tools such as hoe, dao and digging sticks and family or community labour.
- Intensive Subsistence Farming : Increase in the agricultural production by using scientific methods and better agricultural inputs.
- > Plantation Farming : Plantation agriculture is a form of commercial farming where crops are grown for profit.
- Commercial Farming : Farming in which the farmer grows the crops with the sole aim of selling the produce for commercial purpose.
- > Sericulture : Sericulture, or silk farming, is the rearing of silkworms for the production of raw silk.
- Horticulture : Horticulture is the science and art of growing and caring for plants, especially flowers, fruits, and vegetables.
- Jhumming : Jhum cultivation, also known as the slash and burn agriculture, is the process of growing crops by first clearing the land of trees and vegetation and burning them thereafter.
- Rabi: The rabi crops are sown around mid-November, after the monsoon rains are over, and harvesting begins in April/May. The major rabi crop in India is wheat, followed by barley, mustard, sesame and peas.
- > Kharif : Crops are grown with the onset of monsoon and harvested at the beginning of winters.
- Zaid : A short cropping season in between the Rabi and the Kharif seasons used for growing vegetables and fodder crops.
- Millets : Millets are a group of highly variable small-seeded grasses, widely grown around the world as cereal crops or grains for fodder and human food. Jowar, bajra and ragi are called millets. These are known as coarse grains.
- Crop Rotation : Crop rotation is the practice of growing a series of dissimilar or different types of crops in the same area in sequenced seasons.

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Know the Links

- www.indiastat.com/agriculture/2/stats.aspx
- www.momagri.org/UK/focus-on-issues/Agriculture-in-India-Both-Weak

Yery Short Answer Type Questions

(1 mark each)

- A Q. 1. Name the crop for which India is the largest producer in the world.
- Ans. Fruits and vegetables.
- A Q. 2. By which name is specialized cultivation of fruits and vegetables known?

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[Board Term-I, Set (OEQL2HT) 2016-17]
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Ans. Horticulture. (CBSE Marking Scheme 2016) 1
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Q. 3. Describe 'Jhumming cultivation' in one sentence. [Board Term-I, Set (6HTQGTF) 2016-17]

Ans. Jhumming cultivation is an agricultural system in which plots of land are cultivated temporarily, then abandoned and allowed to revert to their natural vegetation while the cultivator moves on to another plot.

(CBSE Marking Scheme 2016)

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Ans. Plantation agriculture.

Q. 4. By which other name is 'slash and burn' agriculture known? [Board Term-I, KVS-2014]

Ans. Primitive subsistence farming/Jhumming.

- (Any one) 1 Q. 5. In which country the 'slash and burn' agriculture is known as 'Roca'?
- Ans. Brazil.
- □ Q. 6. Hoe, dao, digging sticks are associated with which type of farming ?
- Ans. Primitive subsistence farming. 1
- A Q. 7. Which is the leading coffee producer state in India? [Board Term-I,Set (CB4QHT1 & NLTM8TU) 2016-17]

Ans. Karnataka. 1 (CBSE Marking Scheme 2016)

A Q. 8. Which crop is grown with the onset of monsoons and are harvested in the month of September and October?

Ans. Kharif.

A Q. 9. Which crop is the major crop of rabi?

[Board Term-I, NCT-2014]

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- Ans. Wheat.
- A Q. 10. Name some rabi crops.
- **Ans.** Wheat, barley, peas, gram and mustard.
- A Q. 11. Name the two important wheat growing zones in India.
- Ans. The Ganga-Satluj plains in the north-west and black soil region of the Deccan. 1
- □ Q. 12. In which system of agriculture, a single crop is grown on a large area?

Short Answer Type Questions

□ Q. 1. Which are the two main cropping seasons in India? Mention their growing and harvesting periods.

[Board Term-I, Set-XOKG2SB, 2015]

- Ans. The two main cropping seasons are Rabi and Kharif:
- (i) Rabi crops are sown in winter from October to December and harvested in summer from April to June.
- (ii) Kharif crops are sown with the onset of monsoon in different parts of the country and harvested in September-October. $1\frac{1}{2} + 1\frac{1}{2} = 3$
- Q. 2. What are the growing conditions required for the main staple food crop of India? Mention the main growing regions.

[Board Term-I, Set (WQ7FXWC), 2014]

- Ans. (i) Growing conditions required for rice :
 - (a) High temperature (above 25°C). It is a Kharif crop.
 - (b) High humidity with annual rainfall above 100 cm.
 - (ii) Main growing regions : Northern plains, northeastern India, Costal areas, deltaic plains and river valleys. 2 + 1 = 3
- Q. 3. Explain any two geographical conditions required for the cultivation of pulses. Name any two important pulses producing states.

[Board Term-I, Set (3K) 2013]

A Q. 13. Name some plantation crops. Ans. Tea, coffee, rubber, sugarcane and banana. 1 $\bigsqcup Q$. 14. Which type of farming is intensive subsistence farming? **Ans.** Labour intensive farming. 1 UQ. 15. Which two areas of India produce oranges mainly? Ans. Oranges in India are mainly grown in the States of Maharashtra particularly in Nagpur, Assam, Nagaland, Mizoram, Arunachal Pradesh, Madhya Pradesh. 1 **A** Q. 16. Which country is the largest producer of rice? Ans. China. 1 UQ. 17. India is the largest producer as well as consumer of which agricultural product in the world? [Board Term-I, DDE-2014] Ans. Pulses. 1 UQ. 18. Which crop is used both as food and fodder?

- Q. 18. Which crop is used both as food and fodder?

 Ans. Maize.

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- **Q. 19. Which crop is known as golden fibre? Ans.** Jute.
- A Q. 20. Which state is the largest producer of ragi?

 Ans.
 Karnataka.

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 A Q. 21. In a bit is formed and the producer of ragi?
- A Q. 21. In which type of soil does maize grow well?

 Ans.
 Old alluvial.
- □ Q. 22. Why are some pulses known as leguminous crops?
- **Ans.** Pulses are leguminous crops. In these plants the seeds are found inside pods and the root nodules have the capacity of nitrogen fixation in the soil. **1**

(3 marks each)

OR

- ☑ Why the pulses are mostly grown in rotation with other crops? Name any two major pulse producing states? [Board Term-I, (5800 13), 2011]
 - Ans. Pulses are mostly grown in rotation with other crops because :
 - (i) Pulses need less moisture and survive even in dry conditions.
 - (ii) Being leguminous crops, all these crops help in restoring soil fertility by fixing nitrogen from the air.
 - (iii) Major pulse producing states are : Madhya Pradesh and Uttar Pradesh. 1×3=3 (CBSE Marking Scheme, 2013)
- A Q. 4. Give an account of oilseeds in India. State the importance of groundnut and name the states where it is grown. [Board Term-I, Set (H3), 2013]
 - **Ans.** The main oilseeds grown in India are groundnuts, coconut, sesamum, castor, soyabean, linseed and sunflower.

Importance of groundnuts :

(i) Are edible and used as cooking medium.

- (ii) Used as raw material in production of soap, cosmetics and ointment.
- (iii) India-largest producer. Groundnut :
- (i) Kharif crop
- (ii) Accounts half of the total oilseed production.
- (iii) States : Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, etc. 1¹/₂ + 1¹/₂ = 3
 (CBSE Marking Scheme, 2013)
- A Q.5.Describe the uses of oilseeds. Which state is the largest producer of groundnut?

[Board Term-I, Set (5800 32), 2011]

Ans. Oil seeds usually have two main uses :

- (i) They are used as a cooking medium as most of them are edible. For example, sunflower oil, coconut oil, etc.
- (ii) They are used for industrial purposes. For example, oil seeds are important raw materials for the production of soap, cosmetics, ointments, etc. The groundnut production in Rajasthan was 1041.1 thousand tonnes in 2015-16. Other states are Rajasthan, Tamil Nadu, Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, West Bengal and Telangana.

2 Long Answer Type Questions

A Q. 1. Define plantation agriculture. Explain any four characteristics of plantation agriculture.

[Board Term-I, Set (3K) 2013, Set (45) 2012]

- **Ans. Plantation Agriculture :** Plantation agriculture is a form of commercial farming where crops are grown for profit. Large land areas are needed for this type of agriculture. It is a type of commercial farming practised in tropical and sub-tropical regions. It was introduced by the British in India. **Characteristics :**
- (i) A single crop is grown over large area.
- (ii) It is capital intensive and done with migrant labour.
- (iii) All produce is used as raw material in industries such as tea, coffee, rubber, sugarcane, banana, etc.
- (iv) Plantation has interface of agriculture and industry both.

(CBSE Marking Scheme, 2013) 1+4=5

- Q. 2. Explain Rubber cultivation in India under the following heads:
 - (i) Importance
 - (ii) Geographical conditions
 - (iii) Producing states.

[Board Term-I, (39) 2012, (580011, 33) 2011]

Ans. (i) Importance: Many industries depend upon Rubber as their raw material especially transport industry.

- A Q. 6.Why is West Bengal the leading producer of Jute, the second important fibre crop of India?
- Ans. (i) Jute is the second most important fibre crop of India.
- (ii) West Bengal, especially the Hooghly basin of the state, is the leading jute-producing area of the country on account of the well drained fertile soil of the floodplain which are renewed every year.
- (iii) The climatic conditions with high temperature during time of growth and sufficient availability of water have favoured jute cultivation in the Hooghly basin of West Bengal.
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- U Q. 7. Why has Indian agriculture started a declining trend in food production? Explain any three reasons.
- Ans. Due to the following reasons food production is declining :
 - (i) There has been a gradual shift from cultivation of food crops to cultivation of cash crops, fruits vegetable, etc.
 - (ii) Area under food crop has reduced due to rapid urbanization and industrialization.
- (iii) The productivity of land is also declining due to heavy use of chemical fertilizers and pesticides.
- (iv) Natural calamities like drought and flood have become frequent. Monsoon is still vital for food production.
 (Any three) 1 × 3 = 3

(5 marks each)

- (ii) Geographical conditions :
- (a) It is an equatorial crop, but under special conditions it is also grown in tropical and sub-tropical areas.
- (b) It requires moist and humid climate with rainfall of more than 200 cm and temperature above 25°C.
- (iii) Rubber producing states are Kerala, Tamil Nadu, Karnataka, Andaman and Nicobar Islands and Garo hills of Meghalaya. 1+2+2=5 (CREE Marking Scheme 2012)

(CBSE Marking Scheme, 2012)

- A Q. 3. Explain any four features of primitive subsistence agriculture in India?
 - [Board Term-I, Set (580017, 24, 30, 40, 15, 22, 23) 2011]
- Ans. Features of primitive subsistence agriculture in India are :
 - (i) It is practised on small patches of land with the help of primitive tools.
- (ii) Tools which are used are basically traditional tools such as hoe, dao and digging stick.
- (iii) This type of agriculture totally depends upon monsoon.
- (iv) When the soil fertility decreases, the farmers shift to another plot of land. $1\frac{1}{4} \times 4=5$
- Q. 4. What are millets? Give brief description of the climatic conditions and producing states of the millets grown in India.

[Board Term-I, Set (OEQ12HT) 2016-17]

- Ans. Millets are coarse grains but have high nutritional value, *e.g.*, ragi-rich in iron, calcium.
 - (i) Jowar—Rain fed crops mostly grown in moist area. States producing—Maharashtra, Karnataka and M.P.

(ii) Bajra—grown well on sandy soils & shallow black soil.

States producing—Rajasthan, Maharashtra, Gujarat, Haryana and U.P.

(iii) Ragi—grown well in dry region on red, black, sandy and loamy soils.

Statesproducing—TamilNadu,HimachalPradesh, Uttarakhand and Sikkim.1 ¼ × 4=5(CBSE Marking Scheme 2016)

Q. 5. What is intensive subsistence farming? Write three features of intensive farming.

[Board Term-I, Set (580021, 27, 38) 2011]

- **Ans. (i)** Intensive subsistence farming is practised in areas of high population pressure on land. In this type of farming, the agricultural production is increased by using high doses of biochemical inputs and better agricultural inputs.
 - (ii) Features of intensive farming :
 - (a) High yielding variety (HYV) seeds and modern chemical inputs and irrigation are used to increase the production.
 - (b) The per hectare yield is very high.
 - (c) More than one crop is cultivated during a year.

2 + 3 = 5

A Q. 6. Which crop is known as the 'golden fibre'? Explain any two geographical conditions essential for the cultivation of this crop. Mention its any four uses.

[Board Term-I, Set (OEQL2HT) 2016-17]

- Ans. (i) Jute is called the golden fibre.
 - (ii) Geographical conditions :
 - (a) Grows well in drained fertile soil of the flood plains where the soil is renewed every year.
 - (b) High temperature is required during the time of growth. Uses : Can be used to manufacture gunny bags, mats, ropes, yarn, carpets and other artefacts.
 - (CBSE Marking Scheme 2016) 1 + 2 + 2 = 5
- R Q. 7. Name any four oilseeds produced in India. Explain the importance of oilseeds in our day to day life. [Board Term-I, (CB4QHT1) 2016-17]
 - Ans. (i) Groundnut
 - (ii) Mustard
 - (iii) Coconut
 - (iv) Sesamum
 - (v) Soyabean, sunflower, etc.

Importance of oilseeds : Most of these are edible in the form of oil. Used as raw material for manufacturing paints, varnishes, soaps, perfumes, etc., oil cake is used as cattle feed. Oil cake is also used as a fertiliser. $2\frac{1}{2} + 2\frac{1}{2} = 5$ (CBSE Marking Scheme 2016)

Q. 8. Mention any two geographical conditions required for the growth of maize crop in India. Describe any three factors which have contributed to increase in maize production.

[Board Term-I, Set-M DDE-2015]

- Ans. (i) Geographical conditions required for the growth of maize crop in India :
 - (a) It is a kharif crop which requires temperature between 21°C to 27°C.

- (b) It grows well in alluvial soil.
- (ii) Use of modern inputs such as HYV Seeds, fertilisers and irrigation have contributed to the increasing production of maize. 2 + 3 = 5
- A Q. 9. Explain any three geographical conditions required for the growth of rice in India. How is it possible to grow rice in areas of less rainfall? Explain with examples.

[Board Term-I, Set (6AP67LB) 2015]

- Ans. (i) Three geographical conditions for the growth of rice :
 - (a) It requires high temperature, (above 25°C).
 - (b) Annual rainfall above 100 cm.
 - (c) High humidity
 - (ii) It is possible to grow rice in areas of less rainfall with the help of irrigation in Punjab and Haryana. 3+2=5

(CBSE Marking Scheme 2015)

□ Q. 10. What are the climatic conditions required for the growth of rice? [NCERT]

[Board Term-I, NCT-2014]

- Ans. Climatic conditions required for the growth of rice :
 - (i) It is a Kharif crop which requires high temperature (above 25°C).
- (ii) High humidity with annual rainfall above 100 cm.
- (iii) In the areas of less rainfall, it grows with the help of irrigation.
- (iv) It is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions.
- (v) Development of dense network of canal irrigation and tubewells have made it possible to grow rice in areas of less rainfall such as Punjab and Haryana. 1×5=5
- Q. 11. "Wheat and rice farming in India are fairly different from each other". Support the statement with five suitable examples.

[Board Term-I, Set (33) 2012]

OR

U Wheat and rice farming in India are fairly different from each other. Explain.

[Board Term-I, Delhi (580041) 2011]

Ans. Basis of difference :

S. No.	Wheat	Rice		
(i)	Rabi crop.	Kharif crop.		
(ii)	Sown in the winter.	Sown after the onset of monsoon.		
(iii)	It depends on the moisture of sub-soil	It depends on the monsoon.		
(iv)	It is grown in the areas where there is less than 100 cm of rainfall.	It is grown in the areas where there is rainfall above 100 cm.		
(v)	It is grown in Punjab, Haryana, etc.	, It is grown in West Bengal, Kerala, etc.		
(CBSE Marking Scheme, 2012) 1×5=5				

Ans

Q. 12. Distinguish between primitive subsistence farming and commercial farming by stating five points of distinction.

•	S. No.	Subsistence farming	Commercial farming
	(i) It is practised on small patches.		It is practised on a large scale.
	(ii)	Farming depends on irrigation	Irrigation facilities are available.
	(iii)	Primitive tools are used	Modern technol- ogy is used.
	(iv)	Production is low.	Production is high.
	(v)	No costly fertilisers are used.	Chemical fertilis- ers are used.
	(vi)	Family members provide labour.	Labourers are hired.
	(vii)	Only cereals and other food crops are grown.	Commercial crops are grown.

[Board Term-I, Set (38) 2012]

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(Any five)(CBSE Marking Scheme, 2012) 1×5=5

Q. 13. Describe any four geographical conditions required for the growth of tea. Mention the two major tea producing states of South India.

[Board Term-I, Set (37) 2012]

OR

☑ Name the important beverage crop introduced by the British in India. Explain the geographical conditions needed for its cultivation. Write any two important states where it is grown.

OR

□ In which agricultural production, India is the leading producer as well as exporter in world? Describe the geographical requirements for its growth and development.

[Board Term-I, Set (77) 2012]

OR

U What are the soil type, climatic conditions and rainfall conditions required for the cultivation of tea? Write two states of India where tea grows. [Board Term-I, Set (580011) 2011]

Ans. Tea: Grows well in tropical and sub-tropical climates. Soil type : Deep and fertile, well-drained soil, rich in humus and organic matters.

Climate : Warm and moist, frost-free climate throughout the year.

Rainfall : Frequent showers throughout the year. States: Assam, West Bengal, Kerala, Tamil Nadu, Himachal Pradesh, Uttarakhand, Andhra Pradesh, Meghalaya and Tripura.

(Any two) 4+1=5

(CBSE Marking Scheme, 2012)

■ Q. 14. Describe four geographical conditions required for the growth of sugarcane. Name two major sugarcane producing states of North India.

[Board Term-I, Set (53) 2012]

OR

What geographical conditions are required for the cultivation of sugarcane? Name two largest producing states of sugarcane.

[Board Term-I, Set (580013, 35) 2011, Set (A1) 2010]

- Ans. Geographical conditions required for the growth of sugarcane in India :
 - (i) It is a tropical as well as sub-tropical crop so it requires a hot and humid climate with a temperature of 24°C to 27°C.
 - (ii) It requires an annual rainfall between 75 to 100 cms.
- (iii) It can be grown on a variety of soils.
- (iv) Major sugarcane producing states of North India are : Uttar Pradesh, Bihar, Punjab and Haryana. (Any two) 3+2=5

(CBSE Marking Scheme, 2012)

Q. 15. Which are the two major cotton producing states of North India? Describe four geographical conditions required for the growth of cotton.

[Board Term-I, Set (40) 2012]

OR

Describe the geographical conditions required for the cultivation of cotton?

[Board Term-I, Set (580028, 39) 2011]

- Ans. Haryana and Uttar Pradesh are the two major cotton producing states of North India.
 Geographical conditions required for the cultivation of cotton :
 - (i) It grows well in drier parts of the black cotton soil of the Deccan plateau.
 - (ii) It requires high temperature.
- (iii) It requires light rainfall or irrigation.
- (iv) It requires 21 frost free days and bright sunshine for its growth. 1+4=5

(CBSE Marking Scheme, 2012)

Q. 16. Compare the geographical conditions required for the production of cotton and jute.

4	1	n	15	5.

S. No.	Cotton	Jute	
(i)	Cotton requires more than 21°C of temperature.	Jute requires 30°C temperature.	
(ii)	Rainfall : 50 – 100 cm.	Rainfall : Near about 150 cm.	
(iii)	Frost free days are must during picking days	Hot and humid climate is required.	
(iv)	Loamy and blackWell-draitv)soil is required.fertile loamy is required.		
(v)	Mainly grown in Maharashtra and Gujarat.	Grown in eastern states of the country.	

□ Q.17. Explain any two main challenges faced by the jute industry in India. Explain any three objectives of National Jute Policy.

[Board SA-II, Delhi Set I, II, III (2017)

- Ans. The two challenges faced by the jute industry in India are :
 - (i) Stiff competition in the international market from synthetic substitutes.
 - (ii) Supply competition from other jute producing nations like Bangladesh, Brazil, Philippines, Egypt and Thailand.

The major objective of the National Jute Policy, 2005 are :

- (i) To increase productivity.
- (ii) To improve quality.
- (iii) Ensuring good prices to the jute farmers.
- (iv) Enhancing the yield per hectare.
- (v) The internal demand for jute has been on the increase because.
- (vi) The government policy of mandatory use of jute packaging. (Any three) 2+3=5

TOPIC-2 Technological and Institutional Reforms

Quick Review

- Agriculture, which provides livelihood for more than 60 percent of its population, needs some serious technical and institutional reforms.
- Collectivisation, consolidation of holding, cooperation and abolition of zamindari, etc, were given priority to bring about institutional reforms in the country after independence.
- Special weather bulletin and agricultural programmes for farmers were introduced on the radio and television.
- India's food security policy has a primary objective to ensure availability of food grains to the common people at an affordable price. It has enabled the poor to have access to the food.
- The Green Revolution promised improvement in the condition of marginal and small farmers.
- ➢ In the 1980s and 1990s, a comprehensive land development programme was initiated, which included both institutional and technical reforms.
- 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 were some important steps in this direction.
- Kisan Credit Card (KCC), Personal Accident Insurance Scheme (PAIS) are some other schemes introduced by the Government of India for the benefit of the farmers.
- The Government of India made concerted efforts to modernise agriculture by establishing the Indian Council of Agricultural Research (ICAR), agricultural universities, veterinary services and animal breeding centres, horticulture development, research and development in the field of meteorology and weather forecast, etc.
- > Today, Indian farmers are facing a big challenge from international competition.
- > The growth rate in agriculture is decelerating which is an alarming situation.
- Subsidy on fertilisers is decreased leading to increase in the cost of production.
- Reduction in import duties on agricultural products has proved detrimental to agriculture in the country.
- > Farmers are withdrawing their investment from agriculture causing a downfall in the employment in agriculture.
- In order to ensure availability of food to all sections of society our government carefully designed a national food security system. It consists of two components—(a) buffer stock and (b) public distribution system (PDS).
- > The FCI procures food grains from the farmers at the government announced minimum support price (MSP).
- The high MSP, subsidies in input and committed FCI purchases have distorted the cropping pattern. Wheat and paddy crops are being grown more for the MSP they get. Punjab and Haryana are foremost examples. This has also created a serious imbalance in inter-crop parities.
- There has been a gradual shift from cultivation of food crops to cultivation of fruits, vegetables, oil-seeds and industrial crops.
- > Globalisation has exposed the Indian farmers to new challenges.
- Genetic engineering is recognized as a powerful supplement in inventing new hybrid varieties of seeds.
- Today organic farming is much in vogue because it is practiced without factory made chemicals such as fertilisers and pesticides.
- Indian farmers should diversify their cropping pattern from cereals to high-value crops. This will increase incomes and reduce environmental degradation simultaneously.

Know the Terms

- Irrigation : Irrigation means the action of applying water to land to supply crops and other plants with necessary water. Irrigation in India includes a network of major and minor canals from Indian rivers, groundwater well based systems, tanks, and other rainwater harvesting projects for agricultural activities.
- ➢ ICAR : The Indian Council of Agricultural Research is an autonomous body responsible for co-ordinating agricultural education and research in India.
- Organic Farming : Organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, genetically modified organisms and livestock food additives.
- Minimum Support Price (MSP): A minimum guaranteed price of a crop, fixed and announced by the government before the start of a cropping season.
- Kisan Credit Card (KCC) : A Kisan Credit Card (KCC) is a credit delivery mechanism that is aimed at enabling farmers to have quick and timely access to affordable credit.

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Know the Links

- ▶ www.preservearticles.com/201106278625/how-technological-and
- > www.learnnext.com > ... > Geography > Agriculturein India

Yery Short Answer Type Questions

- Q. 1. By whom the Bhoodan-Gramdaan movement was initiated?
- Ans. Vinoba Bhave.

UQ. 2. What is the full form of ICAR?

- Ans. The Indian Council of Agricultural Research is an autonomous body responsible for co-ordinating agricultural education and research in India.
- **U**Q. 3. What is Green Revolution?

Short Answer Type Questions

- ▲ Q. 1. Describe the institutional and technical changes introduced in the field of agriculture in India in the recent years.[Board Term-I, (R9UJGYG), 2014]
- A Describe any three technological and institutional reforms made in the field of agriculture in India. [Board Term-I, Set-6AP67LB, C5]WEVD, 2015]

OR

A What were the attributes of the comprehensive land development programme initiated in India in the 1980s and 1990s?

[Board Term-I, Set-E, M, DDE-2015]

- **Ans.** (i) Land reforms : collectivisation, consolidation of holdings, cooperation and abolition of zamindari.
- (ii) Agricultural reforms : Green revolution and White revolution.
- (iii) Land development programmes : Provision for crop insurance against drought, flood, cyclone, etc.
- (iv) Establishment of Grameen banks, Cooperative societies and banks for providing loans.
- (v) Issuing of Kisan Credit Card and Personal Accident Insurance Scheme, etc.

- Ans. Green Revolution involving use of package technology was introduced in 1960s and 1970s with this initiative. Use of modern inputs like High Yielding Variety (HYV) seeds, chemical fertilisers, insecticides and pesticides along with use of farm machineries and irrigation, were initiated to increase yield per acre. It led to significant improvement in agricultural production.
- (vi) Special weather bulletins and agricultural programmes for farmers on radio and TV.

(Any three) $1 \times 3 = 3$

(3 marks each)

(1 mark each)

- □ Q. 2. What is the importance of using high yielding variety of seeds, machines and other technological advancements in increasing the agricultural production?
- **Ans. (i)** High Yielding Variety of seeds and machines form the basis of modernisation of agriculture.
- (ii) The Government of India has opened agricultural universities, agricultural research institutes, and agricultural farms.
- (iii) Farmers are trained to adopt new farm machineries to increase agricultural production.
- (iv) Farmers get these inputs on subsidised rates and on loan basis. (Any three) 1×3=3
- U Q. 3. Enlist the various Agriculture institutional reform programmes introduced by the government in the interest of farmers.
- Ans. Various institutional reform programmes introduced by the government in interest of the farmers are :

- (i) Provision for crop insurance against drought, flood, cyclone, fire, and diseases.
- (ii) Establishment of Grameen Banks, cooperative societies for providing loan facilities to farmers at lower interest rates.
- (iii) Special weather bulletins and agricultural

C Long Answer Type Questions

U Q. 1. Why is agriculture called the mainstay of Indian economy?

OR

- U What is the importance of agriculture in Indian economy?
- **Ans. (i)** Agriculture is the mainstay of Indian economy because about 67% of our population depends directly or indirectly on agriculture.
 - (ii) It provides raw materials to the industries.
- (iii) India earns foreign exchange by exporting agricultural products.
- (iv) It contributes about 29% to the gross domestic product.
- (v) It provides food to over 1027 million population.
 - $1 \times 5 = 5$
- A Q. 2. Suggest any five measures to enhance the agricultural production in India. [NCERT] [Board Term-I, DDE-2014]

OR

- A Explain any five institutional and technical reforms brought by the government to improve the condition of Indian Agriculture.
 - [Board Term-I, 2012 Set (35), 2011

(580018, 20), 2010 Set (C1)]

OR

- Describe any five steps taken by the government of India to increase the productivity of agriculture in India.
 [Board Term-I, Set (55) 2012]
- Ans. (i) Land reforms : Collectivisation, consolidation of holdings, cooperation and abolition of zamindari.
 - (ii) Agricultural reforms : Green revolution and White revolution.
 - (iii) Land development programmes : Provision for crop insurance against drought, flood, cyclone, etc., establishment of Grameen banks, Cooperative societies and banks for providing loans.
 - (iv) Issuing of Kissan Credit Card and Personal Accident Insurance Scheme, etc.
 - (v) Special weather bulletins and agricultural programmes for farmers on radio and TV.
 - (vi) GovernmentannouncesMinimumSupportPrice (MSP) and remunerative and procurement prices to check exploitation.
 - (vii) The government provides HYV seeds and fertilisers.

programmes for farmers on television and radio.

(iv) Announcement of minimum support price, remunerative and procurement prices for important crops to check the exploitation of farmers by speculators and middlemen.

(Any three) $1 \times 3 = 3$

(5 marks each)

- (viii) Government provides technical assistance and training for farmers.
- (ix) Soil testing facilities, cold storage and transportation facilities are provided by government for farmers. (Any five) 1×5=5 (CBSE Marking Scheme, 2012)
- Q. 3. Why has the agriculture sector in India got a major setback in spite of increase in the GDP growth rate?

[Board Term-I, Set-M, DDE- 2015]

- **Ans. (i)** More and more land is used for construction of factories, warehouses and shelters which have reduced the land under cultivation.
 - (ii) Soil gets degraded by the use of pesticides, fertilizers, over irrigation, etc., which leads to water logging and salinity.
- (iii) Today Indian farmers are facing a big challenge from international competition.
- (iv) Our government is reducing the public investment in agriculture, subsidy on fertilizers have decreased.
- (v) Reduction in import duties on agricultural
products have proved detrimental to agriculture in
the country. $1 \times 5 = 5$
- U Q. 4. Why has Indian agriculture started a decline in the trend of food production? How can we overcome this problem?

[Board Term-I, Set (580032, 43) 2011]

Ans. Indian agriculture started a decline in the trend of food production because :

- (i) More and more land is used for construction of factories, warehouses and shelters have reduced the land under cultivation.
- (ii) Soil gets degraded by the use of pesticides, fertilizers, over-irrigation, etc., which leads to water logging and salinity.
 Remedial Measures :
- (i) Use of agricultural techniques, which are environmentally sustainable.
- (ii) Use of biotechnology in modifying different crops and increase the yield per hectare. It reduces dependence on insecticides and also requires less water. $2\frac{1}{2}+2\frac{1}{2}=5$



- Q.1. After 1990 globalization has caused difficulties to Indian farmers, how do you think the lot of farmers can be improved in India?
- **Ans.** Farmers are unable to compete with foreign agricultural products.

To improve their condition and prevent farmer suicides, various suggestions are as follows :

- (i) Genetic engineering can help to invent hybrid seeds.
- (ii) Organic farming will preserve the soil, water and environment.
- (iii) Diversification of crops from only cereals to high-value crops which can grow easily in Indian climatic conditions. 1×3=3