

6. Agriculture in India

Improve your learning

1. Question

Name one important beverage crop and specify the geographical conditions required for its growth.

Answer

Tea is an important beverage crop. The geographical conditions required for its growth are:

- i) It requires a tropical or subtropical climate.
- ii) It requires deep, well-drained soil.
- iii) Additionally, the soil should be rich in humus and organic matter.
- iv) It requires warm and moist free climate all over the year.
- v) The growth of the leaves requires frequent showers all over the years.

2. Question

The land under cultivation has got reduced day by day. Can you imagine its consequences?

Answer

The fall in land available for cultivation along with an increasing population has led to the following consequences :

- i) India is not a self-sufficient country in terms of food grains.
- ii) This often leads to food shortage and a rise in the price of the same.
- iii) Farmers are unemployed. Thus, they have lost their livelihood.
- iv) Some farmers start cultivating high-value crops.
- v) Shortage of raw material supply to the agro-industries.
- vi) The negative export rate in terms of the agriculture sector, which comprises a major portion of international trade.

3. Question

On an outline map of India show millet producing areas.

Answer



4. Question

What is a Minimum Support Price (MSP)? Why is an MSP needed?

Answer

Minimum support price is the price at which the government purchases crops from the farmers. It's an important part of India's agricultural price policy. It was declared in 1965 as a tool for agricultural price policy to meet many objectives. The Cabinet Committee on Economic Affairs (CCEA), Government of India, and Commission for Agricultural Cost and Prices (CACP) decides the MSP of different agricultural goods in India. MSP is needed for the following reasons:

1. It helps to improve economic access to food to people.
2. It ensures price stability for the farmers by inducing them to increase production, which will ensure the availability of food grains.
3. It introduces a pattern of production which is in correspondence to the overall economic needs.

It is announced by the government at the beginning of the sowing seeds for certain crops. It affects the farmer's decision indirectly, allocation of land to different crops, the number of crops to be produced, etc. Currently it includes 24 crops—seven kinds of cereal (paddy, wheat, barley, jowar, bajra, maize and ragi); five pulses (gram, arhar, moong, urad and lentil); eight oilseeds (groundnut,

mustard, toria, soybean, sunflower seed, sesamum, safflower seed and niger seed); copra, raw cotton, raw jute, and Virginia flu cured (VFC) tobacco.

5. Question

Explain all the ways the Indian government supported the Green Revolution.

Answer

Green revolution was a period in India when the agricultural productivity increased due to the use of better technology and incorporating methods into agriculture. It was started in India during the 1960s and led to the increase in productivity of Haryana, Punjab, and Uttar Pradesh. It was introduced by Indian geneticist M. S. Swaminathan, and American agronomist Dr. Norman Borlaug. The Indian Council of Agricultural Research also claims credit for Udit Singhal for developing rust-resistant strains of wheat.

The Indian government supported the Green Revolution in the following ways :

The government offered High Yielding Variety of seeds and early maturing seeds at a subsidized price to the farmers.

The government provided better irrigation facilities. Drip irrigation and sprinklers were used.

It also gave a guarantee to the farmers to buy their goods at a particular price.

Biofertilizers replaced the chemical fertilizers.

Radio and newspapers have used a medium to create awareness among the farmers regarding the new methods.

Consolidation of land holdings

Better facilities for the availability of loans and crop insurance.

Increased availability of pesticides and insecticides.

Improving the rural infrastructure

The government also provided food grains to the farmers at a very low price.

These were the steps taken by the government to support the Green Revolution.

6. Question

Do you think it is important for India to be self-sufficient in food grains production? Discuss.

Answer

India is an agricultural country. It has the resources required for the production of foodgrains in abundance. It is necessary to exploit these

resources to the full extent to meet the requirement of food grains in our country. If the food grain production has increased the country will become independent in terms of food and will also be able to export the same. This, in turn, would help to bring more foreign capital into the country. It would also help to control the price of certain imported goods.

7. Question

How is dry land agriculture different from agriculture in other areas?

Answer

Dryland Agriculture is the scientific management of soil and crops under dry lands without irrigation. In irrigated Agriculture involves the use of controlled amounts of water to plants at regular intervals. Dryland agriculture and irrigated agriculture is different in the following ways:1. Dryland agriculture requires less than 750 mm of water while the irrigated land requires more than 750 mm of water.2. There is a lack of water used in the former, and sufficient water used in the later.3. The former is suitable for a single crop, whereas multiple crops require irrigated lands.4. The 2 main issues for dry land is soil conservation and the quality of the product. Irrigation helps to grow agricultural crops, helps maintain landscapes, and helps revegetate disturbed soils in dry areas and during periods of inadequate rainfall.

8. Question

Can you recall the incident such as pesticides being found in soft drinks? How is this related to the use of pesticides? Discuss.

Answer

According to research done by CSE- center for science and research, there is a high level of pesticides detected in many soft drinks. For example, Thumbs Up has the highest pesticide content of 15.2 percent. Followed by Coca-Cola and 7up with 13.4 percent 12.5 percent respectively. Next are Pepsi and Mirinda with approximately 10 to 11%. Last is Fanta with approximately 9.1 percent content. These reports were made public to create awareness about its harmfulness. The consumers of the soft drinks are mostly the youth as compared to the adults. Even after this shocking revelation, many people have not been able to get rid of this habit. The regular usage of soft drinks can affect the liver and lead to cancer. In rural areas and even in certain urban areas soft drinks are used as pesticides because they are cheap and abundantly available undefined farmers found it easy to use this as compared to the proper pesticides because of the low cost.

9. Question

Why is chemical fertilizer used in new farming methods? How could use of fertilizers make soil less fertile? What are the alternative ways of enriching soil?

Answer

Chemical fertilizers consist of Nitrogen, phosphorus, and potassium. Very important for the growth of the plant. They are used in large quantity by the farmers because they are nutrient specific and provide the required nutrients to the plant. These fertilizers tend to make the soil less fertile because it depletes the soil of the hummus, which cannot be replenished in a very short time. It depletes the soil of its microorganisms which are essential for the growth of the plant. The farmers are usually unaware of the correct usage of these chemical fertilizers and tend to employ a large quantity of the same. The different ways by which soil can be enriched are 1. Crop rotation 2. Use of manures 3. If chemical fertilizers are being used, a proper check must be kept on the quantity and the quality.

10. Question

How has the Green Revolution in some areas resulted in short-term gains but long-term losses to farmers??

Answer

Global Revolution is the increase in the productivity of agriculture through the use of modern, scientific and technological innovations. The Government of India has supported this by providing a high yielding variety of seeds, the quick maturing variety of seeds, fertilizers, pesticides, insecticides, of irrigated lands, etc. However, it has benefited the farmers only in the short run, and it was a disaster in the long run. This can be proved in the following way: 1. The excessive use of fertilizers and pesticides had made the crops to grow artificially. 2. Chemical fertilizers and insecticides had negatively affected the fertility of the field. 3. It has depleted the soil of its replenishment quality of the hummus and led to soil erosion. 4. It has also polluted the water system around the field. The water reserves are also affected by this chemical. 5. The increase in the acidity level of the land has made it unfit for cultivation.

11. Question

What could be the effects of foreign trade on farmers' income?

Answer

The effects of foreign trade on the farmer's income can be of the three types: 1. It can lead to an increase in the income of the farmer. 2. There would be a greater number of products available for participation in the Global market. 3. With the increase in the competition, the producers would be induced to produce a better quality of goods. 4. Also, it would lead to a negative effect on certain small farmers. 5. Such small farmers will not be able to withstand the increase in the competition and they will not survive in the market. 6. They will not be able to bear this loss because they do not have much savings. hence they will be caught in a vicious circle of the debt trap. The plants that are grown with traditional seeds are chili and rice. The plants that are grown with the use of HYV seeds are maize and wheat.

12. Question

In earlier classes we have studied about land distribution. How does the following image reflect this idea. Write a paragraph about this in the context of Indian agriculture.

Answer

Land reforms in India have a very prolonged history. Before the colonial rule, the land was in the hands of the community as a whole. It had completely changed when the British invaded India. Lord Cornwallis had introduced Permanent Land Settlement for Bengal, Bihar, and Orissa in 1793. According to this system, certain farmers were employed as landlords who had to pay a fixed commission to the East India Company. Certain intermediaries called zamindars/landlords were also formed. The farmers purchased land from the landlords and used it for agricultural purpose. This land was often given for rent and the people who hired the land were called tenants. However, the land was distributed in an unequal manner which gave a lot of power to the zamindars and nothing to the actual tillers of the soil. Many Land Reforms were introduced since independence. Such as the abolition of the zamindari system, consolidation of holdings, tenancy reforms etc. India is a large country where agriculture is the primary source of income coupled with an increase in the population especially in the rural areas. The land reforms had many different financial and political opinions. The main aim of Land Reforms are: 1. To reduce the inequalities in the ownership of land. 2. To register all the tenants with the village panchayat. 3. To ensure a land ceiling and take away the surplus land with the farmers. 4. To establish a relationship between the farmers and the ceiling. 5. To remove rural poverty. 6. To increase agriculture productivity. 7. Adequate protection of tribals. The main outcomes of Land Reforms are the following: 1. The powerful zamindars and intermediaries had become nonexistent and stopped exploitation. 2. The land was transferred from the intermediaries to the small peasants. 3. The ex-zamindars and intermediaries had engaged themselves in other activities. Thus, contributing to the national growth of the country. 4. The land ceiling was introduced which had stipulated the maximum size beyond which no farmer could hold the land. The objective was to promote Economic growth with Social Justice. 5. Usually, lands are passed from generation to generation without any proper documentation. Now, the government made it compulsory for every land to have proper documentation.

13. Question

Read the paragraph under the title 'Fertilizer Problem' on page 70 and comment on it.

Answer

Fertilizers are important ingredients required for the growth of crops. Fertilizers are of two types.

a. organic fertilizers: Manure, compost etc. These fertilizers are obtained from natural sources and release minerals as they decompose.

b. Chemical fertilizers: These fertilizers are prepared in factories and contain minerals like nitrogen, phosphorus, potassium. But excessive use of these

fertilizers reduces the fertility of the soil and makes the soil infertile.

The green revolution was an initiative taken by the government where high yield seed was distributed, though the initiatives helped the farmers and production it reduced the fertility of the soil.

Chemical fertilizers also contaminate the groundwater and lead to water pollution. Hence environmentalist proposes for a safety measure to prevent further deterioration.

14. Question

Observe the map given in page 74 and locate the States where paddy is grown

in the outline map of India.



Discussion:

Do you feel that the farmers who cultivate are happy? If not, What are the reason? What are the factors that affect agriculture?

Debate: In agriculture, whether it is to be followed organic or chemical fertilizers and pesticides? Conduct a debate in classroom keeping the population increase in mind.

Project

Which crops are grown in your area? Which of these are grown from HYV seeds and which ones are grown from traditional seeds? Compare the HYV seeds and the traditional seeds with regard to each of the following points:

(a) duration of crop (b) number of times irrigated (c) production

(d) fertilisers (e) diseases (f) pesticides

Answer

The marginalized farmers constitute the majority and they are the ones who are most deprived. They are affected by numerous factors that affect their livelihood. Whereas the big farmers have better livelihood and have basic amenities in life.

The factors that affect the agriculture are:

- a. Climate: Climate makes agriculture vulnerable. As the seasonal changes are frequent, and the farmers dependent solely upon agriculture are mostly hit by either drought or flood.
- b. The market is an important economic factor in agriculture. The distance from the market determines the cost of transportation.
- c. The poor farmers do not have enough money to bear the cost of transportation, of their grown-up products.
- d. Purchase of machinery, fertilizers, pesticides and high yielding variety seeds require plenty of money. In India, the farmers are poor.

Debate

Organic fertilizers: The fertilizers obtained from natural sources like plant nutrients, cow dung etc.

- a. compost and manure are generally free or very low cost for the most farmer
- b. contain significant amounts of micronutrients in addition to macronutrients such as N, P, and K.

chemical fertilizers are derived from a chemical manufacturing or synthesizing process. Some examples are urea

- a. They have a high level of nutrients, and less labor is needed.
- b. It helps in knowing which fertilizer and nutrient are required for the specific soil type.

Project

POINT OF DIFFERENCE	TRADITIONAL SEEDS	HYV SEEDS
DURATION OF CROP	LONGER TIME TO MATURE	SHORTER TIME TO MATURE
NO. OF TIMES IRRIGATED	WATER IS REQUIRED AT A NORMAL LEVEL	HIGH LEVEL OF WATER IS REQUIRED
PRODUCTION	NOT LABOUR INTENSIVE	LABOUR INTENSIVE
FERTILISERS	NORMAL AMOUNT IS REQUIRED	HIGH AMOUNT IS REQUIRED
DISEASE	MORE PRONE	LESS PRONE
PESTICIDES	LESS USAGE	HIGH USAGE