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Major Crops and Problems in Indian Agriculture: A Geographical Study

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Abstract

The Indian economy, which is based primarily on agriculture. In India, agriculture provides a living for almost 70% of the population. It continues to give our country's citizens a means of support. It provides for both humans and animals' fundamental needs. A lot of agro-based companies rely on it as a significant source of raw materials. India's geographic location is exceptional for agriculture because it offers a variety of beneficial conditions. There are plain areas, fertile soil, a lengthy growth season, and significant weather variety, among other things. India has continually made inventive attempts by utilising science and technology to improve production, in addition to its unique geographical circumstances. In this lesson, we'll talk about different farming practises, crop cycles, and how they relate to various geographic variables. We'll also talk about some of the biggest problems and difficulties Indian agriculture is currently facing.

Key words: Globalisation, Agriculture, Agricultural weather, Inspiring Aspect, Major Indian crops, Intensive and Extensive farming

Introduction

Agro-ecological diversity in soil, rainfall, temperature, and cropping systems define Indian agriculture. In addition to abundant solar energy, the nation receives over 3 trillion m3 of rainwater each year. About 83% of the drainage basin is shared by 14 large, 44 medium, and 55 minor rivers. Groundwater resources are thought to be around 210 billion m3. Water used for irrigation is getting harder to find. Therefore, it is crucial to harvest water properly and use it wisely. To research India's major crops Methodology: The current study is based on secondary data that was gathered from numerous sources, including books, websites, agricultural information, and other sources.

OBJECTIVES

Explain various types of farming in India
Describe salient features of Indian agriculture
List the major crops grown in India along with their utility
Locate major crop producing areas on the outline map of India
Analyse challenges faced by farmers in Indian agriculture

INSPIRING ASPECTS OF INDIAN AGRICULTURE

Subsistence Agriculture: As was already said, subsistence agriculture is practised throughout most of India. Despite the enormous change in agricultural practises that occurred after independence, this style of agriculture has been practised in India for several hundreds of years and continues to be dominant in a vast portion of the country. Population pressure on agriculture: Approximately 70% of people still depend on agriculture in some way, despite increased urbanisation and industrialisation. Farming mechanisation: The Green Revolution occurred in India in the late 1960s and early 1970s. Complete mechanisation is still a faraway dream after more than 40 years of the Green Revolution and the revolution in agricultural gear and equipment. Dependence on the monsoon: Since independence, irrigation infrastructure has grown quickly. Despite the significant growth, only around one-third of the total planted land is currently irrigated. As a result, the monsoon still affects two thirds of harvested regions. As you are aware, the monsoon season in India is unpredictable. Because of the climate change, this has grown even more unreliable. a range of crops Can you guess the purpose behind India's wide range of crops? India has a variety of geography, climate, and soil, as was discussed at the start of the course. Since India has both a tropical and a temperate environment, both types of crops can be found there. India has a greater variety than a very few other nations in the globe. When we talk in-depth about the many types of crops, you'll understand it. Food crop cultivation takes precedence practically everywhere in India because the country's agriculture must provide food for a huge population. However, due to a variety of other financially viable

uses of this land, there has been a drop in the percentage of land used for food crops in recent years. Seasonal patterns: There are three main growing seasons in India. You may be familiar with the terms kharif, rabi, and zaid. In India, particular crops are grown during each of these three seasons. For instance, wheat is a rabi crop while rice is a kharif crop.

Major Indian crops

Sl. No	Types of Crops	Meaning	Major Crops
1.	Food grains	Crops that are used for human consumption	Rice, Wheat, Maize, Millets, Pulses and Oil seeds
2.	Commercial Crops	Crops which are grown for sale either in raw form or in semi-processed form	Cotton, Jute, Sugarcane, Tobacco and Oilseeds
3.	Plantation Crops	Crops which are grown on Plantations covering large estates	Tea, Coffee, Coconut and Rubber
4.	Horticulture	Sections of agriculture in which Fruits and Vegetables are grown	Fruits and Vegetables

Rice:

The most significant food crop in India is rice. The crop is primarily a Kharif or summer one. More over half of the population of India get their food from it, which makes up around one-third of the nation's total cultivated land. The majority of people in India are rice consumers. Do you know what kinds of geographical circumstances rice farming needs?

Wheat:

In India, behind rice, wheat is the second-most significant food crop. Winter Rabior crop, that is. Beginning in the winter, it is sown, and it is harvested in the spring. Typically, (in north India), wheat is sown in the months of October and November, and is harvested in the months of March and April. Millions of people, primarily in India's north and northwest, eat this as their primary source of nutrition.

Millets:

Brief-season warm-weather crops include millets. These are crops that are grown for coarse grains and are utilised as both food and fodder. This is a kharif crop. They are planted in May through August and harvested in October through November. Most poor people today use millets as their main source of nutrition.

Pulses:

This category of crops, most of which are leguminous, contains many that offer crucial sources of protein to India's vegetarian population. They have fewer sources of protein than those who eat meat and fish do.

Gram:

It is the most significant pulse there is. It makes up roughly 30% of the entire area used for growing pulses in India as well as about 37% of the production. It is a rabi crop that is planted from September to November and harvested from February to April.

Agricultural Product

Can you imagine a world without sugar in your daily life? It is difficult to imagine life without sugar. Do you know that sugarcane is a native of India and a member of the bamboo family of plants?Cotton: Cotton is the most significant fibre crop in the world, not just in India. It not only supplies a raw material for the cotton textile business, but also the Vanaspati oil industry uses its seed. . One of the significant groups of commercial crops in India are oilseeds. In actuality, India produces and grows more oilseeds than any other country in the world. Oil made from oilseeds is not only crucial for human.The most significant oilseed in India is

groundnut. Both the kharif and rabi seasons are used to cultivate groundnut, however the kharif season takes up 90–95 percent of the overall area.

Plantation Crops:

Tea:Indian tea gardens are well-known worldwide. You must be familiar with West Bengal's Assam and Darjeeling tea gardens. There are allegedly tea plantations in India. India currently leads the world in the production of tea. The second and third largest producers of tea are China and Sri Lanka, respectively.

Coffee: Do you have any idea how coffee got to India? It is Ethiopia's national crop (Abysinia Plateau). In the eleventh century, it was transported from Ethiopia to Yemen.

Problems of Indian Agriculture

The nature of the issues facing Indian agriculture is influenced by various agro-ecological and historical experiences in various places. As a result, most problems with Indian agriculture are regionally distinct. Despite the distinctions, there are a few comparable issues, such as institutional barriers and environmental limits. Here are a few of the difficulties faced by Indian agriculture that were covered in geography.

Dependence on an Unreliable Monsoon

Floods and droughts continue to be major threats to Indian agriculture. Even regions with substantial yearly rainfall are subject to significant oscillations, leaving them open to droughts and floods. One of the major problems with Indian agriculture that is covered in Geography Class 12: Problems of Indian Agriculture is this one. Irrigation covers a little over 33% of India's arable land. In the rest of the nation, rainfall has a significant impact on crop productivity. When the southwest monsoon is ineffective, it also has a negative impact on the provision of water for irrigation in canals. However, Rajasthan experiences very sporadic and infrequent rainfall, especially in regions that are prone to dryness. Significant variations in annual rainfall are also experienced by the areas that receive a lot of rain. As a result, these areas are susceptible to both floods and droughts. In locations with little rainfall, which occasionally also flood occasionally, droughts are common.

Financial resource limitations and Indebtedness

Many farmers raise crops for their own consumption. The majority of them lack sufficient acreage to grow more food than they require. Food grains are primarily grown by small and marginal farmers for their own consumption. Agriculture reliant on irrigation, however, has grown and become increasingly commercialised. Due to the high input costs of contemporary agriculture, small farmers are now obliged to rely on borrowing to fund their operations. Physical limitations and institutional barriers are just two of the issues that Indian agriculture is now dealing with.

Inadequate output

Due to intense competition for available land and low labour productivity, India's crop yields are low when compared to those of other nations. Infrastructure issues in India make agriculture ineffective. Aside from climate change, the inaccessibility of technology contributes to low productivity and inefficient resource use. Crop yields in the nation are poor when compared to global averages. As opposed to the United States, Russia, and Japan, China does not produce huge amounts of rice, wheat, cotton, or oilseeds. Similar to this, India's agricultural productivity is extremely poor when compared to global levels because of the intense pressure on available land resources. Rough cereals, pulses, and oilseeds are grown on rain-soaked ground, which is primarily dry terrain. These crops yield very little.

Insufficient Land Reforms

The peasants in India was most exploited by the previous tax system, and following independence, there was an increase in the consumption of chemical fertilisers per unit area. Landholdings are fragmented and small farms are small. Land distribution reforms were not put into effect because there was not enough political will.

Negative effects of global climate change

Global climate change is one of many difficulties nowadays. Its impact on agriculture was expected to be significant. You can picture the effects given that agriculture employs 70% of the Indian population. Climate change is anticipated to result in temperature increases of 2 to 3 degrees Celsius, an increase in sea level, stronger cyclones, erratic rainfall, etc. The production of wheat and rice would suffer as a result of these changes. In particular, a spike in wintertime temperatures would impact north India's wheat harvest.

The effects of globalisation

The impact of globalisation on India's agricultural sector is evident. It has an impact on all developing nations. The greatest impact is the reduction in farmer income and the threat to India's capacity to sustain agriculture. The growing input costs and declining product prices are to blame for this. This is a result of both protection for farmers and decreasing subsidies. Due to heavily supported production in the developed world, these farmers are exposed to competition as a result of trade liberalisation. The term "globalisation" describes how people, culture, and economic activity are increasingly interconnected on a global scale. Government funds are provided as subsidies to individuals or businesses. Liberalization is the freedom to launch any type of economic activity whenever you want, anywhere in the nation, without worrying about any sort of either private or public constraints.

Supplying Food Security

In terms of the production of food grains, India was not self-sufficient before to the arrival of the green revolution. The network of canal irrigation systems, cotton belt, and wheat bowl were designed for West Pakistan, which is now Pakistan, due to the partition of India in 1947. Similarly, East Pakistan, which is now Bangladesh, received the jute belt and rice bowl. India achieved self-sufficiency with the green revolution, which greatly expanded food grain production. However, for the past ten years, overall production has stagnated. On the other side, we have increased our population by 16 to 18 million people throughout this time. Although India has become self-sufficient in good it is yet to ensure food security which is dependent upon accessibility, affordability as well nutritional value of the food available. Providing food security for its population is one of India's top challenges.

Suicide by Farmers

Numerous factors can contribute to a suicide. However, it makes sense to look for broad common factors within that group when there are almost 200,000 of them. The suicides seem to be concentrated in areas with significant agricultural commercialization and high levels of peasant debt. Farmers of cash crops appeared to be much more susceptible to suicide than those of food crops. However, the crisis's fundamental root causes remained unaffected. The collapse began with the commercialization of the countryside and a sharp drop in agricultural investment. The challenges were made worse by the withdrawal of bank credit at a time of skyrocketing input prices and the decline in farm incomes. There were risks involved with switching millions of acres from food crop to cash crop cultivation. The issues have been made worse by the privatisation of numerous resources.

Lack of Commercialization

In India, there are a lot of marginal and small farmers. The average size of a landholding is getting smaller, and lands are small and scattered. Massive underemployment exists in India's agricultural sector, especially in the unirrigated areas. Alkalinity and salinity have harmed about 8 million ha of land, which is particularly concerning in irrigated areas, while waterlogging has affected nearly 7 million ha of land, according to Problems of Indian Agriculture. Artificial fertilisers also contaminate the soil, in addition to herbicides and insecticides.

Indian agriculture is impacted by institutional and environmental constraints. In India, there are a lot of marginal and small farmers. The majority of them farm small, dispersed parcels of land, and the size of their average landholding is decreasing. In unirrigated areas of India, the agriculture sector is notably under-employed. Due to a lack of technology and its accessibility,

India has low productivity and resource use. Due to the high input prices, small farmers have been obliged to take out loans to support their farming operations. Physical limitations and institutional barriers are among the issues that Indian agriculture is facing.

Indian Agriculture: Important Facts

- A total of 296.65 million tonnes of food grains were produced throughout the nation (up by 11.44 million tonnes compared with 285.21 million tonnes in FY19).
- In FY21, the government intends to purchase 42.74 million tonnes from the central pool, which is 10% more than was done in FY20.
- The government has set a record goal for farmers to produce 307.31 million tonnes of food grains, up 2% from the previous fiscal year.
- Production in FY21 was 303.34 million tonnes, above the target of 301 million tonnes.

Types of farming in India: Subsistence farming:

In India, the vast majority of farmers engage in subsistence agriculture, or cultivating for their own consumption. The farmers and their family consume the majority of the crop, so there is none left over to be sold on the market.Small and dispersed landholdings and rudimentary, archaic cultivation methods are used in this style of farming. Modern machinery like tractors and agricultural inputs like chemical fertilisers, insecticides, and herbicides are completely absent. Farmers mostly grow grains in this farming, along with oilseeds, legumes, vegetables, and sugarcane.

Subsistence farming is further classified into:

Primitive digging implements and communal or family labour are used in the practise of primitive subsistence agriculture on small plots of land. Along with soil fertility and other environmental factors, this style of farming is dependent on the monsoon. These forms include nomadic herding and changing agriculture, for instance. Using basic tools and additional labour, intensive subsistence agriculture is carried out on tiny plots of land. There is sufficient supply for both local consumption and outside sales. On the same plot, multiple crops can be grown each year because to the sunny climate and fertile soil for the most of the year. Typically, rice, wheat, maize, pulses, and oilseeds are grown.

Intensive and Extensive farming

The amount of yield per unit of land is the primary distinction between these two agricultural methods. India does not engage in extensive agriculture compared to the temperate regions of the United States and Canada. Extensive farming is the practise of cultivating a sizable area of land. Due to the wider area, there, total production may be high, but production per unit area is low. High yield per acre is a hallmark of intensive farming. In Kerala, where there is very little land available for cultivation, intensive farming is an example.

Indian Agriculture's Specifications

Agriculture for Subsistence: Subsistence agriculture is still practised in the majority of India's regions and has been for many hundreds of years.The strain of population on agriculture: Approximately 70% of the population still depends on agriculture in some way, despite the growth of urbanisation and industrialisation.Agriculture mechanisation: Despite the Green Revolution and the revolution in agricultural technology and equipment spanning more than 40 years, full mechanisation has yet to be accomplished.Dependence on the monsoon: Despite the significant growth, only around one-third of the total planted land is currently irrigated. As a result, the monsoon still affects two thirds of harvested regions.Crop variety: Because India has both tropical and temperate climates, both climates' crops can be found there. India has a greater variety than a very few other nations in the globe. When we talk about the various crops in depth, you would understand it.the dominance of crops used as food Almost all farmers in the nation prioritise growing foods for human consumption. India has three separate seasons for farming and crop production: Kharif, Rabi, and Zaid. In India, particular crops are grown during each of these three seasons. For instance, wheat is a rabi crop while rice is a kharif crop.

Conclusion

An important part of the Indian economy is agriculture. Agriculture field day by day progress climatic condition most influenced to agriculture development agriculture both are difficulty in today's world, where agriculture depends on 70% of the population in India. If we examine the difficulties that Indian agriculture faces, we can roughly divide them into two categories. The issues with a long history fall into one category. The second class of issues is more recent and has been brought on by the current agricultural methods, system, and changing environment and economics.

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