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Economic Activities in Agriculture

Economic activities related to agriculture are classified into three types: primary, secondary, and tertiary activities. Primary activities involve extraction and production of natural resources such as agriculture, fishing, and gathering. Secondary activities focus on processing these resources, including manufacturing steel, baking bread, and weaving cloth. Tertiary activities provide services supporting the primary and secondary sectors, such as transport, trade, banking, insurance, and advertising.

What are the three types of economic activities related to agriculture?

Answer: The three types are primary (production of natural resources), secondary (processing of resources), and tertiary (services supporting primary and secondary sectors).

Agriculture as a Primary Activity

Agriculture involves growing crops, fruits, vegetables, flowers, and rearing livestock. It is a primary economic activity. Globally, about 50% of people are engaged in agriculture, and in India, two-thirds of the population depend on it. Favorable soil and climate conditions are essential for agriculture. The land used for growing crops is called arable land.

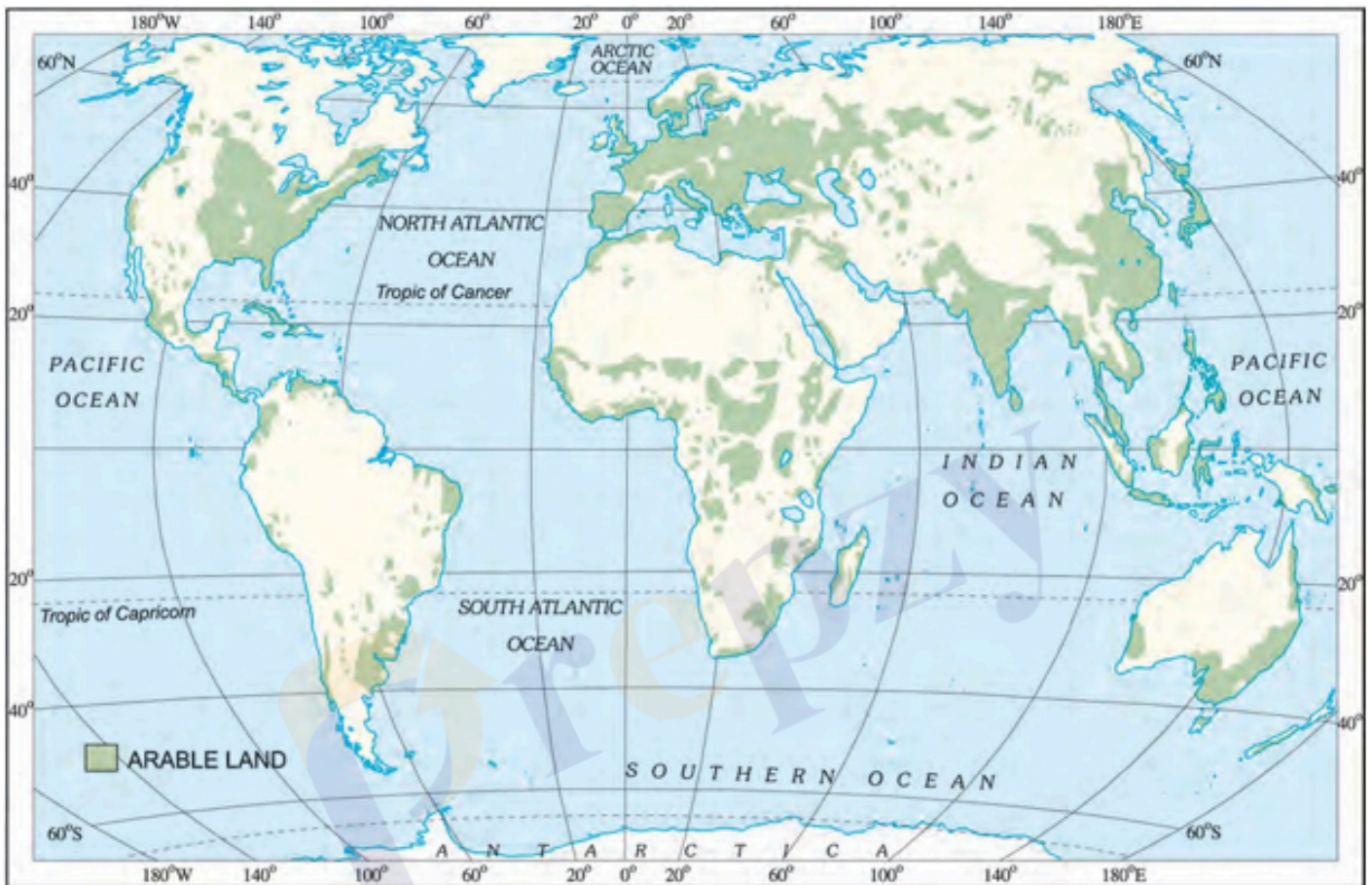


Fig. 3.1: World Distribution of Arable Land

The world map shows the distribution of arable land, mainly in temperate and tropical regions with suitable climate and soil. Areas like deserts and polar regions have little or no arable land.

Why is arable land important for agriculture?

Answer: Arable land is the land suitable for growing crops, which is vital for food production and agriculture.

Farm System

Agriculture can be viewed as a system with inputs, processes, and outputs. Inputs include seeds, fertilizers, machinery, and labor. Processes involve ploughing, sowing, irrigation, weeding, and harvesting. Outputs are crops, wool, dairy, and poultry products.

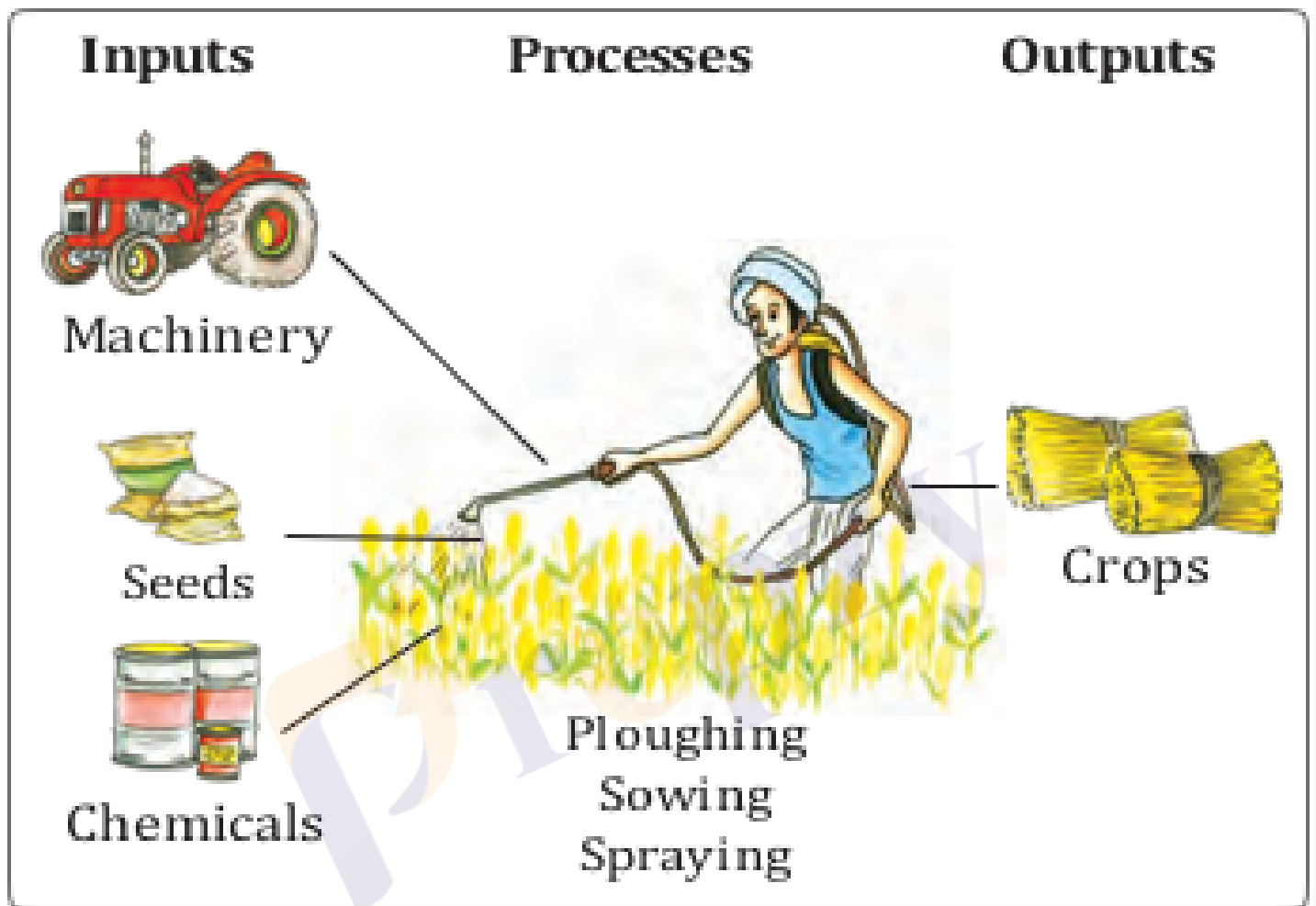


Fig 3.2: The farm system of an arable farm

Physical inputs such as sunshine, rainfall, temperature, soil, and slope affect farming. Human inputs include storage, labor, machinery, and chemicals. Both are essential for successful farming.

What are the main inputs in the farm system?

Answer: The main inputs are physical inputs (sunshine, rainfall, temperature, soil, slope) and human inputs (storage, labor, machinery, chemicals).

Types of Farming

Farming is classified into subsistence and commercial farming based on geographical conditions, demand, labor, and technology.

Subsistence Farming

Subsistence farming is practiced to meet the needs of the farmer's family, using low technology and household labor on small plots. It includes intensive subsistence farming, where multiple crops are grown annually, and primitive subsistence farming, such as shifting cultivation and nomadic herding.

Shifting cultivation involves clearing forest land by burning and growing crops like maize and yam. After soil fertility declines, the land is abandoned. Nomadic herding involves moving with animals in search of fodder and water, common in arid regions.



Fig 3.4: Nomadic Herders with their camels

What is shifting cultivation?

Answer: Shifting cultivation is a form of primitive subsistence farming where forest land is cleared by burning, crops are grown, and the land is abandoned after fertility declines.

Commercial Farming

Commercial farming grows crops and rears animals for sale, using large areas and capital, often mechanized. It includes commercial grain farming, mixed farming, and plantation agriculture.

Commercial grain farming is practiced in temperate grasslands with large farms growing wheat and maize. Mixed farming combines crop growing and livestock rearing. Plantations grow single crops like tea, coffee, sugarcane, rubber, and banana, requiring large labor and capital.



Fig 3.5: A Sugarcane plantation

What distinguishes commercial farming from subsistence farming?

Answer: Commercial farming is for sale with large areas, capital, and mechanization, while subsistence farming is for family needs with small plots and low technology.

Major Crops

Major food crops include wheat, rice, maize, and millets. Fibre crops include jute and cotton. Beverage crops include tea and coffee.

Rice

Rice is the staple food in tropical and subtropical regions, requiring high temperature, humidity, and rainfall. It grows best in alluvial clayey soil. China and India are leading producers.



Fig 3.7: Rice Cultivation

Why is rice grown in flooded fields?

Answer: Rice requires standing water to control weeds, provide nutrients, and create a suitable environment for growth.

Wheat

Wheat needs moderate temperature, rainfall, and bright sunshine at harvest. It grows best in well-drained loamy soil and is grown extensively in USA, Canada, Russia, and India.



Fig 3.8: Wheat Harvesting

What is the role of a combine harvester in wheat farming?

Answer: A combine harvester cuts, threshes, and cleans wheat grains efficiently, reducing labor and time.

Millets

Millets are hardy crops grown on less fertile soils, requiring low rainfall. Jowar, bajra, and ragi are common in India.

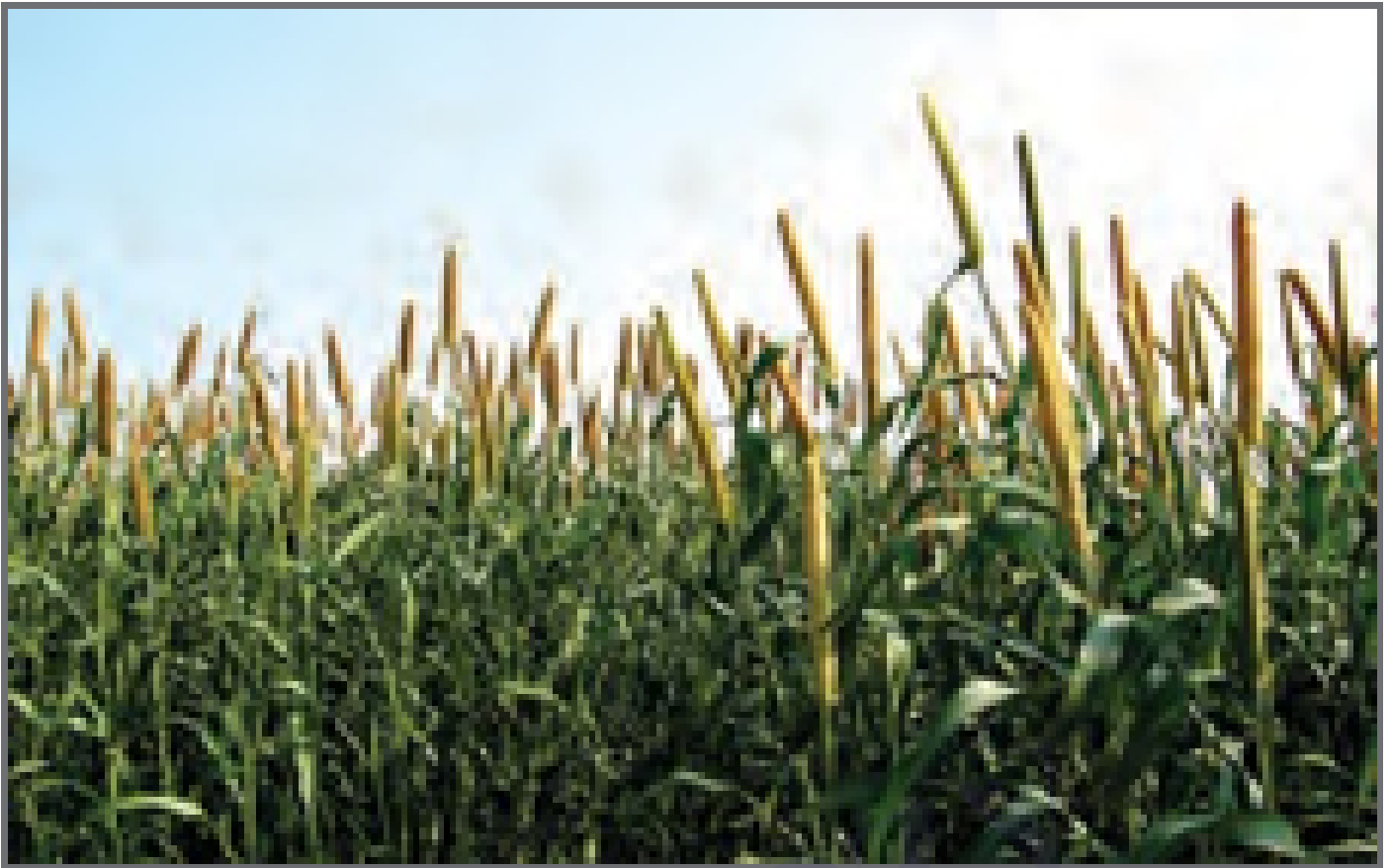


Fig 3.9: Bajra Cultivation

Why are millets important in agriculture?

Answer: Millets grow in arid conditions with low rainfall and provide nutritious food in less fertile areas.

Maize

Maize requires moderate temperature, rainfall, and sunshine, growing in North America, Brazil, China, and India.



Fig 3.10: Maize Cultivation

What is maize also known as?

Answer: Maize is also known as corn.

Cotton

Cotton requires high temperature, light rainfall, frost-free days, and bright sunshine. It grows best on black and alluvial soils. Major producers include China, USA, India, and Egypt.



Fig 3.11: Cotton Cultivation

What is the main use of cotton?

Answer: Cotton is mainly used as raw material for the textile industry.

Jute

Known as the 'Golden Fibre', jute grows well on alluvial soil with high temperature, heavy rainfall, and humid climate. India and Bangladesh are leading producers.

Coffee

Coffee requires warm, wet climate and well-drained loamy soil, often grown on hill slopes. Brazil is the leading producer.



Fig 3.12: Coffee Plantation

Why is coffee harvested by hand?

Answer: Coffee cherries are delicate and need to be picked carefully when ripe to ensure quality.

Tea

Tea is grown on plantations requiring cool climate and well-distributed rainfall. It grows best on well-drained loamy soils and gentle slopes. Major producers include Kenya, India, China, and Sri Lanka.



Fig 3.13: Tea Plantation

What is the importance of hand plucking in tea cultivation?

Answer: Hand plucking selects young tender leaves and buds, which produce high-quality tea with better flavor and antioxidants.

Agricultural Development

Agricultural development aims to increase farm production to meet growing demand. Methods include increasing cropped area, multiple cropping, improving irrigation, using fertilizers, high-yielding seeds, and mechanization. The goal is to ensure food security, meaning all people have access to sufficient, safe, and nutritious food at all times.

What is food security?

Answer: Food security exists when all people have access to sufficient, safe, and nutritious food to meet their dietary needs for an active and healthy life.

Farming in India and the USA

A Farm in India

Indian farms are generally small, such as Munna Lal's 1.5-hectare farm in Uttar Pradesh. Farmers use a mix of traditional and modern methods, including renting tractors and tubewells. They grow multiple crops annually and rear livestock. Farmers often rely on cooperative societies for advice and credit. Produce is sold in local markets, though storage facilities are limited.



Fig 3.14: Farmers ploughing a field

How do Indian farmers prepare their fields traditionally?

Answer: They use oxen to pull ploughs to turn over the soil, which aerates it and prepares it for sowing.

A Farm in the USA

Farms in the USA are much larger, averaging 250 hectares. Farmers like Joe Horan use advanced technology such as soil testing, satellite data, and mechanized equipment including tractors, seed drills, and combine harvesters. They manage farms scientifically and operate like businesses. Crops include corn, soybean, wheat, cotton, and sugarbeet.



Fig 3.16: A Farm in the USA

What technologies do American farmers use to manage their farms?

Answer: They use soil testing laboratories, satellite-linked computers, mechanized equipment, and automated grain storage.

Solved Examples

Example 1: Identify the type of farming where a farmer grows crops only for his family's consumption.

Answer: This is subsistence farming.

Example 2: Name two major crops grown in commercial grain farming.

Answer: Wheat and maize.

Practice Set

Easy

- Define agriculture.
- What is arable land?

Moderate

- Explain the difference between subsistence and commercial farming.
- List any three physical inputs required for farming.

Challenging

- Describe the process and importance of shifting cultivation.
- Explain how technology has changed farming practices in the USA.

Answer Key

- **Define agriculture:** The science and art of cultivation on the soil, raising crops and rearing livestock.
- **What is arable land?** Land suitable for growing crops.
- **Difference between subsistence and commercial farming:** Subsistence farming is for family needs with small plots and low technology; commercial farming is for sale with large areas, capital, and mechanization.
- **Three physical inputs:** Sunshine, rainfall, soil.
- **Shifting cultivation:** Clearing forest land by burning, growing crops, then abandoning land after fertility declines; important for farming in forested, high rainfall areas.
- **Technology in USA farming:** Use of soil testing, satellite data, mechanized equipment, and automated storage improves efficiency and productivity.

Quick Reference

- **Primary activities:** Extraction and production of natural resources.
- **Secondary activities:** Processing of natural resources.
- **Tertiary activities:** Services supporting primary and secondary sectors.
- **Subsistence farming:** Farming for family consumption.
- **Commercial farming:** Farming for market sale.
- **Major crops:** Rice, wheat, maize, millets, cotton, jute, tea, coffee.
- **Food security:** Access to sufficient, safe, nutritious food for all.

Glossary

- **Agriculture:** The science and art of cultivating soil, growing crops, and raising livestock.
- **Arable land:** Land suitable for growing crops.
- **Combine harvester:** A machine that cuts, threshes, and cleans grain crops.
- **Food security:** The state when all people have access to sufficient and nutritious food.
- **Plantation:** Large farm growing a single crop commercially.
- **Subsistence farming:** Farming to meet the needs of the farmer's family.
- **Shifting cultivation:** A form of agriculture where land is cleared by burning and used temporarily before moving on.