

Development of Early Agriculture

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Reasons why man changed from hunting & gathering to food production

1. **Population increase:** Natural environment could no longer provide adequate and regular food
2. **Climatic changes:** Increasing drought and aridity which threatened not only human beings but also animals
3. **Inadequate wild food:** Due to competition between human beings and animals
4. **Unreliability of hunting and gathering:**
5. **Natural calamities:** e.g. bush fires, floods at times destroyed vegetation and drove away wild animals
6. **Agriculture** was the solution to the above problems.

Domestication of Animals

Some of the earliest evidence of domestication of animals are:-

❖ Dog	10,000BC	Israel
❖ Sheep	9,000 BC	Iraq
❖ Goat	7,000 BC	Iran
❖ Cattle	5,800 BC.	Turkey
❖ Camel	3,000 BC	Saudi-Arabia

Benefits of domesticated animals

- 1) Provided a regular source of meat and milk
- 2) Animal skins were used for clothing
- 3) Hooves and horns were used as containers and drinking vessels
- 4) Animal bones were used for ornaments, needles and weapons
- 5) Some of the animals were used for transport e.g. horses, camels and donkeys
- 6) Others like the dog protected man against dangerous animals.

Domestication of crops

Some of the earliest crops to be domesticated included:

1. Barley 8000 B.C Syria, Iran, Jordan
2. Maize 5000 B.C Mexico
3. Rice 3500 B.C Thailand
4. Sorghum 1500 B.C Sudan
5. Finger Millet 1500 B.C Kenya, Sudan, Tanzania

Note:

Various crops adapted to a variety of environmental conditions and spread over a

Early Agriculture in Mesopotamia

- a. Mesopotamia was one of the earliest areas in the world to develop farming
- b. It means "the land between the two rivers i.e. river Tigris and Euphrates". Mesopotamia was located in the present day Iraq
- c. The people of southern Mesopotamia, the Sumerians began to improve their arid and dry land by irrigating it.

- c) They used basin or flood irrigation. Later they used canal irrigation and invented the shadoof method of irrigating their fields
- d) They also invented various tools like the ox-drawn plough, the seed drill, and the wheel
- e) Clay vessels and woven baskets were used for storage of their produce
- f) They grew crops such as wheats barley, figs, flax, olives, vines, donkeys, goats, horses, geese, sheep and pigs

Factors that facilitated Early Agriculture in Mesopotamia

1. Fertile soils
2. Availability of water, labour, and indigenous crops and animals
3. Various inventions also facilitated early agriculture e.g. the plough, the seed drill, the wheel.
4. Weather forecast
5. The need to feed the growing population.

Impact of early Agriculture in Mesopotamia

1. Led to settlement of people along the river valleys
2. High population because of plenty of food
3. Emergence of urban centers e.g. Ur, Uruk, Nippur, Babylon
4. Influenced writing and arithmetic
5. Emergence of social classes i.e. merchants, farmers, craftsmen

Advancement of religious practices

1. Led to several inventions e.g. the wheel, ox-drawn plough, the seed drill
2. Led to establishment of government
3. Advancement in architecture.

Early Agriculture in Egypt

- a. Egypt was the first country in Africa to start food production, which was restricted to the Nile valley
- b. Practice of irrigation developed due to the severe drought experienced
- c. They practiced basin, canal and shadoof irrigation
- d. They grew crops such as wheat, barley, fruits, flax beans, dates, grapes, onions and kept animals like cattle, goats, sheep, pigs, donkey, bees and poultry.

Factors that led to early Agriculture in Egypt

- 1) Availability of water, fertile soils, labour and indigenous crops and animals to be domesticated.
- 2) Invention of basin and shadoof methods of irrigation
- 3) Existence of stable government
- 4) Development of writing and geometry that helped to keep accurate records
- 5) Construction of storage facilities
- 6) Close proximity to Mesopotamia which influenced early agriculture in Egypt.

Effects of Early Agriculture in Egypt

- 1) Adoption of sedentary lifestyle
- 2) Increased food production hence growth of population
- 3) Creation of social classes
- 4) Development of trade to sell the surplus food
- 5) Development of laws and government
- 6) Development of urban centers

- 7) Job specialization and division of labour
- 8) Development of religion
- 9) Emergence of formal education
- 10) Agriculture influenced scientific and technical knowledge like new farming methods, calendar, geometry and arithmetic
- 11) Architecture also developed i.e. building of the pyramids
- 12) The standards of living improved.

Agrarian Revolution

Definition:

Agrarian revolution refers to the radical change in methods of crop growing and livestock rearing

Agrarian Revolution in Britain

- ❑ Agrarian revolution occurred in Europe and America from the mid 18th century
- ❑ Britain was the first country to undergo the Agrarian revolution.

Agriculture in Britain before the Agrarian Revolution


1. Feudal land ownership where all land belonged to the king who gave it to the noble. The nobles rented the land to peasant farmers.
2. Small scale farming
3. No use of fertilizers, pesticides or fungicides
4. No mechanization
5. Lack of government subsidy or aid for farmers
6. Poor breeds of crops and livestock
7. Common grazing land
8. Scattered pieces of land
9. Use of open-field system of farming.

Factors leading to the Agrarian Revolution in Britain

1. Land enclosure and consolidation
2. Development of new methods of livestock breeding
3. New tools e.g. seed drill, plough, tractor, threshing maize
4. New methods of maintaining soil fertility
5. Development of industrial revolution
6. Development of preservation of agricultural produce.


Changes that marked the Agrarian Revolution in Britain

1. Land enclosure system i.e. fencing and hedging which led to improved yields, control of pests and diseases of livestock.
2. Mechanization - invention of the seed drill in 1701 by Jethro Tull and a horse drawn hoe for weeding and ploughing of land. A mechanical thresher was invented in 1876 by Andrew Meikle
3. Establishment of large scale farming
4. Abolition of fallows

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5. Reclamation of waste and moorland
 6. Irrigation of land
 7. Use of fertilizers
 8. Intercropping
 9. Breeding of livestock
 10. Establishment of the royal agricultural society in 1838, which publicized new ideas and techniques of farming.

Results of the Agrarian Revolution in Britain


1. Population increased due to increased food production, low mortality rates and increased life expectancy
2. New classes emerged of wealthy landowners
3. Growth of a working class
4. Development of wage or hired labour in the agricultural sector
5. Class conflicts between the larger working class and few wealthy landowners who were politically and economically stronger
6. Intensification of scientific research

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7. Land prices increased
 8. Trade expanded in local and international with agricultural goods as the main items of trade
 9. Rural-urban migration in search of employment
 10. Development of industries, transport system and large scale farming.
 11. Emigration of British nationals to other parts of the world i.e. U.S.A, South Africa, Canada and New Zealand
 12. Emergence of landless peasants
 13. Improved standards of living.

Agrarian Revolution in America (U.S.A)

Factors that facilitated agricultural development in America before 1800

1. European immigration into the region leading to population increase and demand for food
2. The immigrants introduced new farming methods
3. Introduction of slave labour
4. Suitability of climate for agriculture

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5. The soils were suitable for different types of crops
 6. Settlement of enterprising immigrations who wished to make a living through agriculture
 7. Use of rivers for irrigation
 8. Availability of indigenous crops like maize, yams, tobacco, cocoa and pepper.


Factors that led to the Agrarian Revolution in North America

1. Crop zoning: different regions specialized in various crops and animals i.e. cotton - the south maize or corn - central wheat - North West Dairy cattle - North East, and Beef cattle in the drier west
2. Land availability
3. Mechanization e.g. John Deere invented the steel plough. Cyrus McCormick invented the reaper in 1847 and Eli Whitney the cotton gin in 1793
4. There was application of fertilizers and use of weed killers and insecticides
5. Scientific research that led to improvement of both animal and crop production

6. Demand for raw materials by European industrialists led to expansion of agriculture
7. The European immigrants introduced new skills in farming methods
8. Food preservation i.e. canning and refrigeration
9. Government granted financial aid to farmers to buy and develop land
10. Labour was available from the slaves
11. Government recognized individual land ownership
12. Increase in population hence demand for food which led to expansion of agriculture
13. Education of farmers on crop and animal production through extension services.

Effects of the Agrarian Revolution in U.S.A

- 1) There was diversification of agriculture with the introduction of new crops and animals by the European immigrants
- 2) New inventions of farm machinery e.g. the steel plough and reaping machines brought more land under cultivation
- 3) Increased food production because of the use of new farming methods

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4. Many parts of North America were opened up for farming and settlement
 5. It promoted industrialization, since agriculture provided raw materials for industries and food for the workers in towns
 6. Increased in trade between USA and Western Europe which boosted USA's economy
 7. Enhancement of research and scientific inventions, leading to better quality crops and animals.



Food Situation in Africa and the Rest of the Third World Countries


The third world countries refer to countries in Africa, parts of Asia, Central and South America. They have a serious food problem.

Characteristics of third world countries

- 1) Weak economies
- 2) They have a fragile food situation
- 3) A rapidly growing population
- 4) Most were colonized by western European countries
- 5) They rely on food aid from developed countries and international organizations.

Causes of food shortage in Third World countries

- 1) High population growth rate
- 2) Inadequate food production due to emphasis on cash crop growing, poor marketing and transportation
- 3) Poor storage facilities leading to high wastage of harvested food
- 4) Poor and infertile soils
- 5) Inadequate capital to purchase farm inputs
- 6) Foreign debt burden. They over depend on donations and foreign aid


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- 7) Pests and diseases which destroy large quantities of food
 - 8) Political instability characterized by civil wars, that have diverted attention from food production
 - 9) Poor economic planning
 - 10) Natural calamities e.g. excessive damage to crops and animals
 - 11) Increasing desertification.


Effects of food shortage in Africa and the rest of the third world

- 1) The effects touch on social, political, economic and health aspects of the people:-
- 2) Loss of life e.g. in Ethiopian famine in 1984
- 3) Create social problems e.g. raiding of animals, mostly amongst the pastoral communities
Migration to other countries due to drought and famine
- 4) Dependence on food aid from rich countries
- 5) Adversely affects agricultural-based industries leading to unemployment Leads to malnourishment and malnutrition resulting to high infant mortality.

Remedies to food problems in Third world countries

1. Encourage farmers to grow both cash and food crops and emphasize on drought resistant food crops
2. Adoption of national food policies to promote food production
3. Land reclamation to turn wasteland into productive use
4. Provide extension services to the farmers
5. Research and technology on development of crops suitable to certain regions
6. Establish agricultural training institutes
7. Construct good storage facilities

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8. Intensify weather forecasting and educating farmers on weather changes and their effects on planting, harvesting and livestock rearing
 9. Creating political stability through peaceful resolution of conflicts and enhancing democracy
 10. Development of infrastructure
 11. Diversification of eating habits
 12. Development of Agro-based industries
 13. Encouraging families to have manageable families.

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13. It promoted industrialization, since agriculture provided raw materials for industries and food for the workers in towns
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