

# 3

## Major Types of Agricultural Land Utilization in the World

People have been engaged in agriculture to produce food since the ancient times. Utilizing the land for cultivation is known as agricultural land utilization. Various characteristics are seen in agricultural land utilization. The main feature is the use of land for subsistence agriculture and commercial agriculture. Although various changes have taken place in agriculture over a long period of time, its value has not reduced. The factors for this are given below;

- Providing food for people i.e. producing crops, animal products and beverages to satisfy the needs of people.
- Supplying necessary raw material for the developing industrial sector.
- Majority of the world population being engaged in agricultural activities.
- The importance acquired by agro-products in world trade.

The objective of this chapter is to study the major types of agricultural land utilization in the world and their specific characteristics.

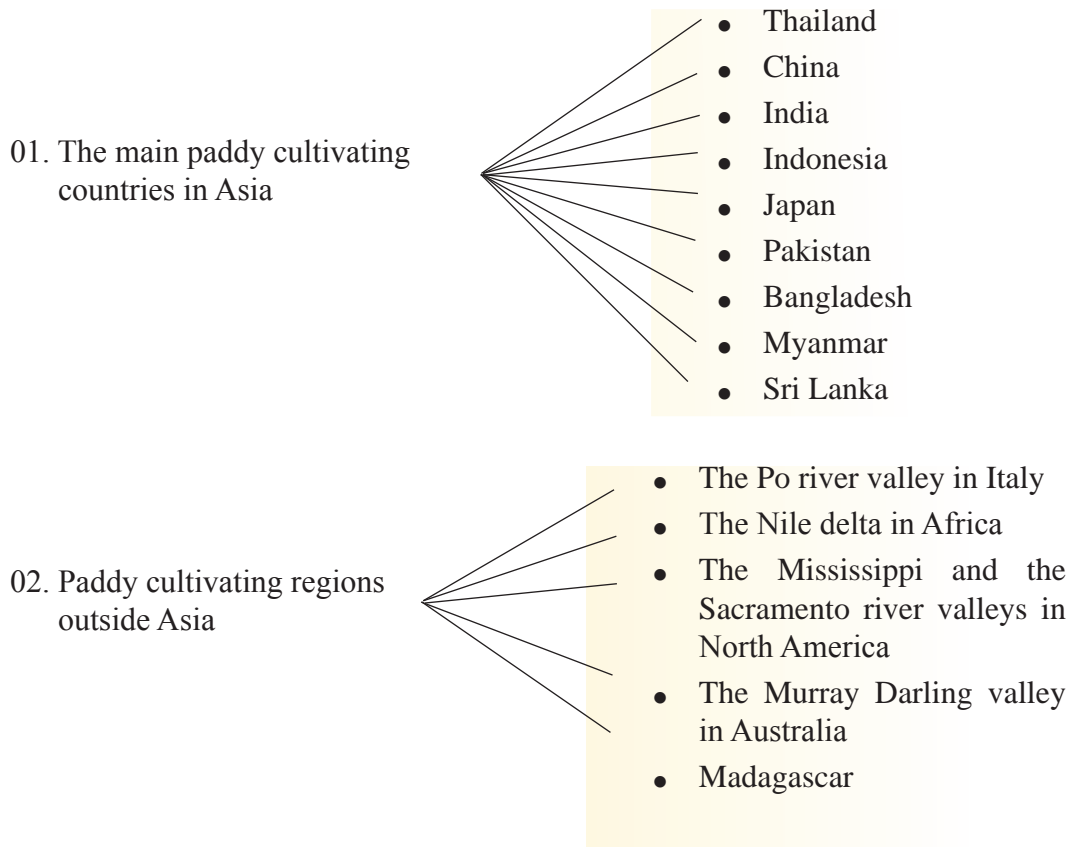
Figure 3.1 depicts some products related to agro-crops which are manufactured in various countries in the world.



Figure 3.1  
Products related to various crops

## Paddy cultivation

Paddy is the crop that provides rice, the staple food of the majority of people living in Asian countries. A special characteristic of Asian paddy cultivating regions is that the production is consumed within the region itself. Two main paddy cultivating regions can be identified in the world, as paddy cultivating regions in Asia and paddy cultivating regions outside Asia.



Study map 3.1 and identify the paddy cultivating regions in the world.

The main conducive factors for the distribution of paddy cultivation in these regions are the prevalence of temperature of about  $27^{\circ}\text{C}$ , rainfall around 2000 mm, alluvial soil and flat low lands. Paddy is cultivated in these areas with rain water and also with water from irrigation. Figure 3.2 represents a hilly region where paddy is cultivated in terraced method.



**Map 3.1**  
**The main paddy cultivating regions in the world**



**Figure 3.2**  
**A terraced paddy field**

## Special characteristics of paddy cultivation

- Cultivation of paddy in small blocks of land for domestic consumption in countries like Sri Lanka and Bangladesh.
- Cultivation of paddy on a commercial basis in countries like India, Japan, United States of America, China, Pakistan, Thailand and Vietnam.
- Paddy is mostly a labour intensive crop in Asian countries, but machinery is largely used in countries outside Asia. Using machinery has become a recent trend in Asia as well.
- More attention is paid on using organic fertilizer at present.  
Example - Sri Lanka.
- Introduction of seeds that produces a short term yield with resistance to various types of diseases using gene technology.
- Production of rice that contains specific qualities. Example - Golden rice.
- Using new techniques for manufacturing and packing rice related products. Examples - rice flour, bread and biscuits.
- The rice-trade is often done in the same area where it is produced.



**Figure 3.3**  
**Tilling the land**



**Figure 3.4**  
**Scattering fertilizer**



**Figure 3.5**  
**Harvesting**

**Using modern machinery in paddy cultivation**

## Activities

1. Mark and name the paddy cultivating countries and regions in Asia and regions outside Asia on a world map.
2. Explain the reasons that have contributed for the distribution of paddy cultivation in those countries.
3. Prepare a list of various products related to rice.

## Assignment

Design a poster on the theme "Modern technology used in paddy cultivation"

## Wheat cultivation

Wheat has acquired a unique place among all the other grains, produced and consumed in the world in a large scale. Wheat is consumed as the staple food by the majority of world population. As a result, wheat is cultivated in large scale farm lands on a commercial basis.

Wheat is processed in various methods for human consumption and its by-products are used as animal fodder.



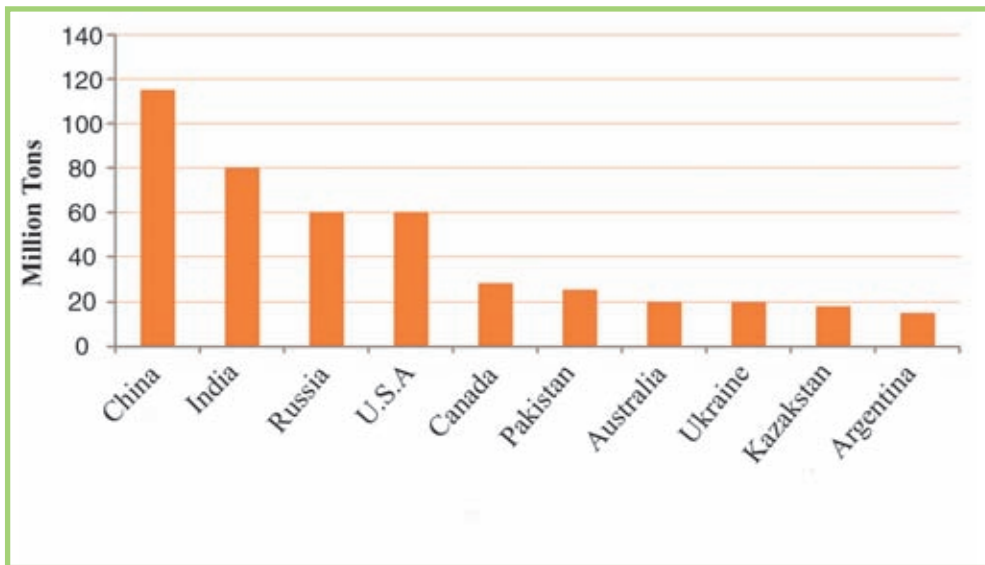
**Figure 3.6**  
Wheat products

Study map 3.2 and identify the major wheat growing countries of the world.



**Map 3.2**  
**The main wheat growing countries in the world**

The Graph 3.1 gives information about wheat production in a few major wheat producing countries of the world.



**Graph 3.1**  
**Wheat production in a few major countries 2009-2010**

Source – <http://spotonlists.com>

According to Graph 3.1 the major wheat producing countries in the world are China, India, Russia, and the U.S.A. Rainfall between 300-500 mm, cool wet climate during the period of plant growth, flat lands with proper drainage and chernozem soil are the conducive factors for the distribution of wheat cultivation in these areas.

In addition, the use of pesticides, agro-chemicals, new types of seed, machinery, modern technology and the ability of capital investment have contributed for the development of wheat cultivation.

## Special characteristics of wheat cultivation

- Although a lesser yield is obtained per land unit, the per capita yield is increased due to low population in wheat growing regions.
- Wheat cultivation is done as monoculture and they were grown in extensive lands.
- Use of advanced technological methods to increase production. Examples- gene technology and soil conservation methods.
- Prevalence of an extensive market throughout the world for wheat.
- Mechanization of wheat cultivation on a large scale when compared to paddy cultivation.
- Use of different types of wheat with a high yield. Example - Norin10 (a type of wheat).
- Consumption of wheat as food processed using different methods.

### Activities

1. Mark and name ten main wheat growing countries in the world on a world map.
2. Write three differences and three similarities related to paddy and wheat cultivation.
3. Explain the reasons for the significance of wheat as a major crop in the world market.
4. Explain the reasons why wheat has become a popular kind of food among people in the world.

### Assignment

Prepare a list of food items produced using wheat throughout the world.

# Plantation agriculture

Well-organized, export-oriented crop cultivation with a good management using skilled labour on large estates is called plantation agriculture. Tea, rubber, sugarcane, cotton, coffee, cocoa and coconut are the most significant crops grown under plantation agriculture.

## Special characteristics of plantation agriculture

- Expansion of plantation on very large estates and its operation on a commercial basis.
- Use of both local and foreign labour.
- Use of skilled labour with proper management.
- Presence of industrial features although it is a system of agriculture.
- Being export crops which earn foreign exchange.

Examples - Tea, rubber and coconut in Sri Lanka.

- In many countries plantation agriculture was initiated by foreigners.

Out of the above mentioned crops, only tea and rubber cultivation are focused in this lesson.

## Tea cultivation

Tea, discovered by Chinese can be introduced as a commonly consumed beverage in almost all the countries in the world at present. During the colonial period, the Western nations introduced tea cultivation to some countries in the world. At present, it has become a main crop in plantation agriculture. The Asian region occupies a prominent place in the cultivation of tea than other regions in the world.



**Figure 3.7**  
**A tea estate**



Map 3.3 shows a few countries where tea cultivation is distributed.



**Map 3.3**  
**Major tea growing countries in the world**

Tea cultivation has expanded in these countries due to the prevalence of favourable factors such as temperature between 15<sup>o</sup> C-27<sup>o</sup> C, annual rainfall around 1900 mm-5460 mm, loam and laterite soil, areas with gentle slopes and skilled labour.

### **Special characteristics of tea cultivation**

- A crop that gives an extending harvest over a long period of time.
- Expansion of tea plantation as small and large estates.
- Prevalence of proper management and a regular labour organization.
- Use of various techniques to increase the yield.
- Popularity of the vegetatively propagated tea than the tea that is planted from seeds.
- Presentation of tea to the market with various flavours and attractive packaging.

Examples-Yellow tea, Black tea, Green tea, Lemon tea and White tea.

Figure 3.8 shows several tea related products.



**Figure 3.8**  
Different tea related products

### Activities

1. Mark and name five main tea producing countries on a world map.
2. Mention the strategies followed by tea producing countries to increase their markets.

### Assignment

1. Find information from media such as magazines and newspapers on " How consumption of tea affects human health" and prepare an article for a newspaper.

## Rubber cultivation

Rubber which had been a jungle crop in Brazil, later expanded gradually into countries of South and South-east Asia and Africa as a plantation crop. The demand for rubber increased gradually with the development of the automobile industry in Europe around 1890s. By the 20th century, rubber was only second to tea among the crops grown under plantation agriculture. At present, 95% of the world's total natural rubber is produced in the South and South East Asian countries.

Map 3.4 shows some countries in the world where rubber is cultivated.



**Map 3.4**  
**Rubber growing countries in the world**

Source- [www.webcrawler.com](http://www.webcrawler.com)

Rubber cultivation is widely distributed in these countries in the world due to favourable physical factors such as a temperature of about 27°C, rainfall about 2000 mm and laterite or kabok mixed red soil. At present, rubber has become important as a main cultivation crop that provides necessary raw material for various industrial products. Figure 3.9 shows some rubber based products.



**Figure 3.9**  
**A few rubber based products**

## Special features of rubber cultivation

- Distribution of rubber cultivation in large estates.
- A labour intensive cultivation.
- Use of modern technology at present for tapping rubber and collecting latex instead of manual labour.
- Increase in demand for rubber as a raw material due to the availability of manufacturing industries where rubber is used as a raw material.
- Focus on the production of finished products locally by rubber exporting countries while exporting rubber as a raw material.
- Makes a large contribution to the economy of developing countries where rubber is grown.
- Natural rubber has faced issues in the market due to the competition from synthetic rubber

### Activities

1. Mark and name the rubber producing countries on a world map.
2. Explain the factors that have influenced the expansion of rubber cultivation in the rubber producing countries.

### Assignment

Prepare a booklet on "The importance of rubber cultivation in the world" including the distribution, production and trade related to rubber plantations.

## Livestock farming

Livestock farming is regarded as the most ancient form of land use which is important to obtain the requirements of food and which beverages as well as to obtain raw materials for industries. It has become a well organized and systematic farming method in many countries.

Livestock farming includes mainly the rearing of cattle, sheep, goats, pigs and poultry. Figure 3.10 shows the benefits gained by rearing those animals under livestock farming.



**Figure 3.10**  
Various animals and the benefits gained from them

Among livestock farming activities, attention is paid only on commercial dairy farming in this lesson.

## Commercial dairy farming

Milk is one main food item that provides the protein requirements of the people in the world. Countries engaged in commercial dairy farming in the world produce pasteurized liquid milk and various other processed products related to milk. (Figure 3.11)



**Figure 3.11**  
A few milk products

Dairy farming is mostly distributed in the areas located in the temperate zone of the world. The marginal lands with cool climate, which cannot be used for other types of cultivation, are often used for dairy farming. Factors such as the availability of grasslands and water, skilled labour, large market and the presence of modern technology have contributed to the development of dairy farming.

The map 3.5 shows several countries engaged in commercial dairy farming in the world.



**Map 3.5**  
**Dairy farming countries in the world**

New technological strategies are used by almost all the countries engaged in commercial dairy farming world wide. Figure 3.12 shows an instance of obtaining milk using such modern machinery.



**Figure 3.12**  
**Milking using a modern machine**

## Special characteristics of dairy farming

- The developed countries have acquired prominence in every aspect of commercial dairy farming.
- Developed countries have control over the milk related market.
- Using improved techniques to obtain milk, for transportation and storage of milk as well as to obtain an increased quantity of milk. For examples : vaccinating lactating cows with hormones and using gene technology to obtain an increased yield by breeding improved cows.
- Expansion of the market for liquid milk and milk related products.
- Increase in the consumption of milk products such as cheese, butter and yoghurt.

### Activities

1. Mark and name the dairy farming countries on a model world map.
2. Explain the factors that have contributed to the development of dairy farming in those countries.

### Assignments

1. Prepare a portfolio including information about various milk products.
2. Complete the following table using the information you have obtained from this lesson.

Crop	Temperature required	Rainfall required	Three countries engaged in	New trends related to the cultivation
Paddy cultivation	.....	.....		
Wheat cultivation	.....	.....		
Tea cultivation	.....	.....		
Rubber cultivation	.....	.....		

## Bibliography and Sources

- ගුණසේන ෆිලිප්ස් ලෝක සිතියම් පොත (2003), ඇම්.සී. ගුණසේන සහ සමාගම, කොළඹ.
- ගුරු මාර්ගෝපදේශ සංග්‍රහය, භූගෝල විද්‍යාව, 10 ශ්‍රේණිය (2007), ජාතික අධ්‍යාපන ආයතනය, මහරගම.
- ගුරු මාර්ගෝපදේශ සංග්‍රහය, භූගෝල විද්‍යාව, 12 ශ්‍රේණිය (2009), ජාතික අධ්‍යාපන ආයතනය, මහරගම.
- භූගෝල විද්‍යාව, 10 ශ්‍රේණිය (2011), අධ්‍යාපන ප්‍රකාශන දෙපාර්තමේන්තුව, කොළඹ.
- [www.en.wikipedia.org](http://www.en.wikipedia.org)
- [www.worldatlas.com](http://www.worldatlas.com)
- <http://cdn3.chartsbin.com/chartimages/1-6409-67576fd1142f>
- <http://www.mapsofworld.com/world-top-ten/tea-exporting-countries./rice-producing-countries/ wheat-production.html>.
- <http://www.statista.com/statistics/157865/of-cow-milk-production-world-wide/>
- <http://www.statisticbrain.com/beef-cattle-production-statistics/>
- <http://www.sagevfoods.com/mainpages/Rice101/production.html>
- <http://www.top5ofanything.com/index.php?h=7738agg2>
- <http://www.factfish.com/statistic/natural+rubber,production+quantity>

## Glossary

- |                                |                       |                         |
|--------------------------------|-----------------------|-------------------------|
| ● Land use                     | - භූමි ජර්නෝගය        | - நிலப் பயன்பாடு        |
| ● Labour Intensive Cultivation | - ශ්‍රම සුක්ෂම වගාව   | - ஊழியச் செறிவான        |
| ● River valley                 | - ගංගා නිම්නය         | - ஆற்றுப் பள்ளத்தாக்கு  |
| ● Organic fertilizer           | - ඓතිහාසික පොහොර      | - சேதன பசளை             |
| ● Technology                   | - තාක්ෂණය             | - தொழில்நுட்பம்         |
| ● Technology                   | - ජාන තාක්ෂණය         | - மரபணு தொழில்நுட்பம்   |
| ● Consumption                  | - ජර්නෝජනය            | - நுகர்வு               |
| ● Monoculture                  | - ඒක භෝග වගාව         | - ஒரினப்பயிர்           |
| ● Soil Conservation Methods    | - පාංශු සංරක්ෂණ ක්‍රම | - மட்பாதுகாப்பு முறைகள் |
| ● Natural Rubber               | - ස්වාභාවික රබර්      | - இயற்கை இறப்பர்        |
| ● Marginal lands               | - ආන්තික බිම්         | - எல்லை நிலங்கள்        |
| ● Synthetic rubber             | - කෘත්‍රිම රබර්       | - செயற்கை இறப்பர்       |