15
LIFE IN THE MID LATITUDES

15.1 INTRODUCTION

In the previous lesson we have studied about the concept of a natural region, we have also studied about some of the natural regions of the low latitudes. We have seen how variation in natural environments affect life in those regions. Even though all the three regions, equatorial lowlands, hot deserts and monsoon regions are located in the low latitudes, there are marked differences in climate, natural vegetation, animal life and human activities in them. The advancement of science and technology has changed the life style of people living in those regions. In continuation to the previous lesson, we shall study in this lesson, the environmental conditions and human response in mediteranean and mid latitude grasslands regions .

15.2 OBJECTIVES

After studying this lesson, you will be able to :

- locate the mediterranean and mid latitude grassland regions on the world map;
- explain the effect of climate on natural vegetation in these regions;
- describe the effect of physical and biological environment on the activities of human beings in these two natural regions of mid latitudes;
- explain reasons for difference in human response within the same natural regions; and
- describe the major economic activities pursued by the people living in these regions.

15.3 MID LATITUDE REGIONS

Mid latitude regions extend roughly between 30^0 and 60^0 of latitudes in both the hemisphere. The two seasons, namely summer and winter are well pronounced in these regions. During the summer months, the amount of insolation is considerable and hence summer is warm. The winter months, on the other hand, are mild in the areas lying between 30^0 and 40^0 latitude and become cold in the regions beyond these latitudes. Out of the five major natural regions of Mid Latitudes listed in chapter 14(section 14.4), we are going to study the Mediterranean and the Temperate Grassland regions in this lesson.

15.4 MEDITERRANEAN REGIONS

(i) Location & Areas

The regions are so named because the land bordering the Mediterranean sea form their major part. The Mediterranean regions border the hot desert regions on the western margins of the landmasses, usually between 30^0 and 40^0 of latitudes in the northern and southern hemisphere. These regions include the areas bordering the Mediterranean sea in Portugal, Spain, Southern France, Italy, former Yugoslavia, coastal strips of Balkan countries, Turkey, Syria and coastal strips of North Africa. Other areas of Mediterranean regions include California in North America, Central Chile in South America and Cape Province of South Africa. Two areas of Mediterranean regions are found in Australia, one on the south-west fringe including the city of Perth and the other bordering the Great Australian Blight on its east and extending through the southern margin of Australia (see fig 15.1).

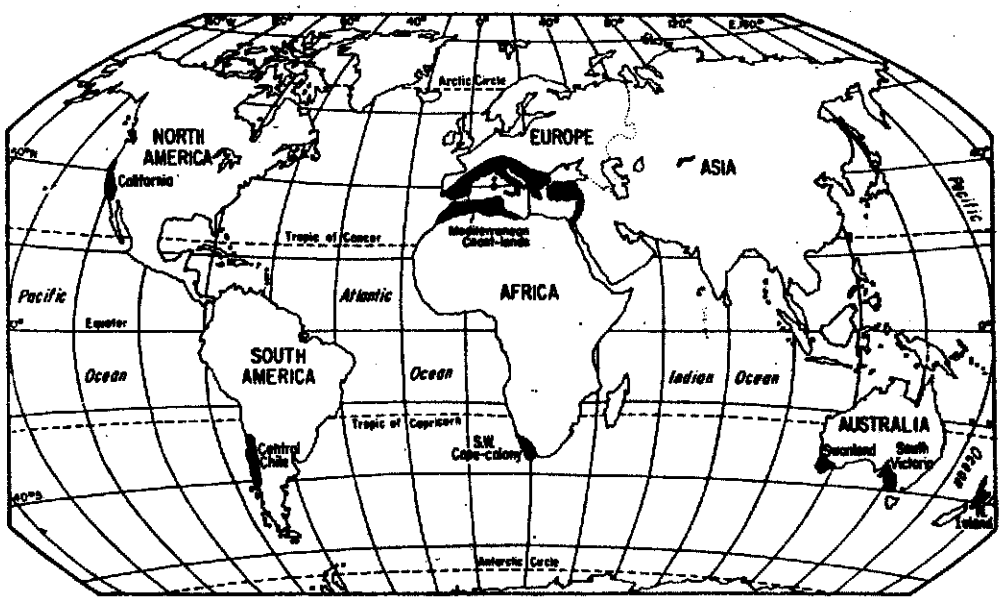
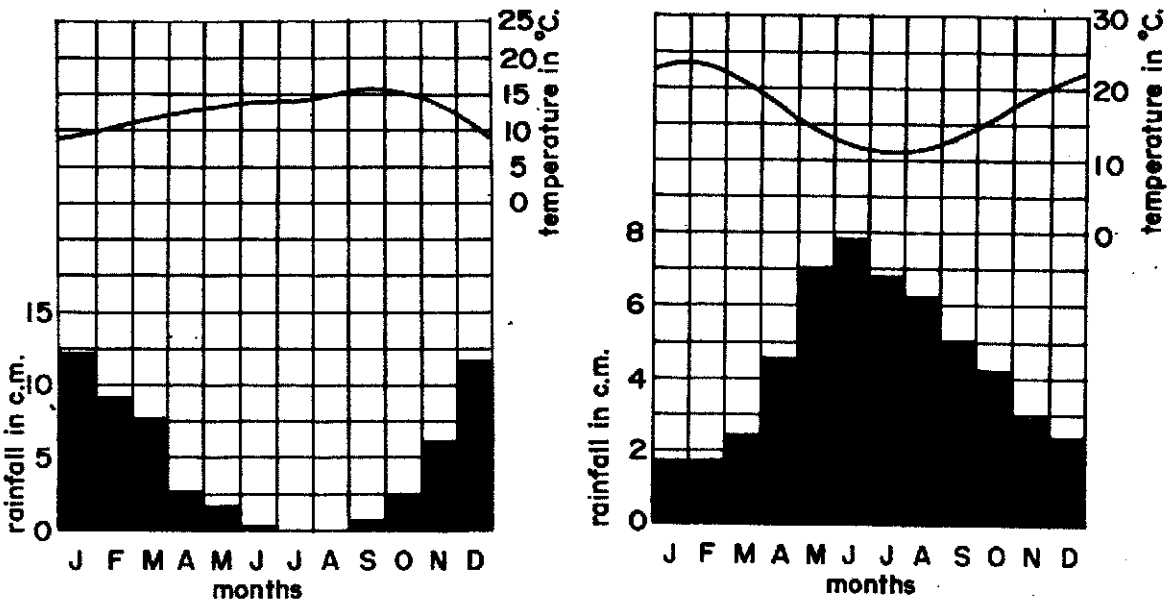


Fig 15.1 Mediterranean Regions of the World

(ii) Climate

The two main characteristics of climate of the Mediterranean regions are : (a) a dry, warm summer with off- shore trade winds and (b) mild winters with moderate rainfall mainly from on shore westerly winds. The impact of seasonal migration of pressure belts and the shifting of the wind belts is more pronounced in these regions. The entire system of pressure and wind belts follows the apparent movement of the sun. When the sun is overhead at the Tropic of Cancer in the month of June, all the belts move about 5^0 to 10^0 North of their average position. As a result the Mediterannean regions in the northern hemisphere, experiencing summer season, come under the influence of off-shore trade winds and therefore receive no rainfall. During the same period, the southern hemisphere experiencing winter season comes under the influence of the on-shore westerlies and receives rain. In the same manner, when the sun is overhead at the Tropic of Capricorn in December. The pressure and wind belts swing 5^0 to 10^0 south of their average position. During this period, northern hemisphere experience winter and southern hemisphere summer. The Mediterranean regions of Europe and California in North America come under the influence of on shore westerlies and receive rain whereas the Mediterranean regions in the southern hemisphere are under the influence of off- shore trade winds and therefore receive no rainfall.



For detail about the data please refer to the page no. 53

Fig 15.2 Temperature and Precipitation Graph of San Francisco & Adelaid

The most outstanding feature of the Mediterranean climate is that it receives rainfall in winter and the summers are warm and dry. The rain comes in heavy showers and only on a few days with bright sunny periods in between.

Most of the rainfall is caused by the temperate depressions brought to these regions by the westerlies. The average annual rainfall is between 50 and 75 cm. The amount of rainfall varies from place to place according to the elevation from sea level (see fig 15.2). The mild winter of these regions attract a large number of tourists.

Some local winds such as the ***Mistral*** and ***Bora*** (cold winds) and ***Sirocco*** (warm winds) bring about sudden change in the temperature in the areas adjoining the Mediterranean sea.

- Mediterranean regions are located between 30^0 and 40^0 latitudes in northern and southern hemisphere.
- Mediterranean climate is characterized by dry, warm summer with off shore winds and wet mild winters with on shore westerlies.
- The rainfall is cyclonic and it comes in showers for a few days with bright sunny periods in between.
- Some local winds such as the *Mistral*, *Bora* and *Sirocco* bring about sudden change in the temperature of the areas surrounding Mediterranean sea.

(iii) Natural Vegetation and Animal Life

In regions where half the year is dry; one can not expect the natural vegetation to be luxuriant. The trees are well adapted to the draught in summers. Trees have small broad leave and are widely spaced. Most of the plant species here have xerophytic (drought resistant) characteristics such as thick bark, small stiff and shiny leaves, thorns and other devices to prevent against excessive transpiration. The most common type consist of low evergreen shrubs and brush thickets known as chaparral in california, maquis in southern France and macchia in Italy. The broad leaf trees such as olive, mystle, laurel, holly and cork oak have large trunks and tropical branches. (see fig. 15.3)

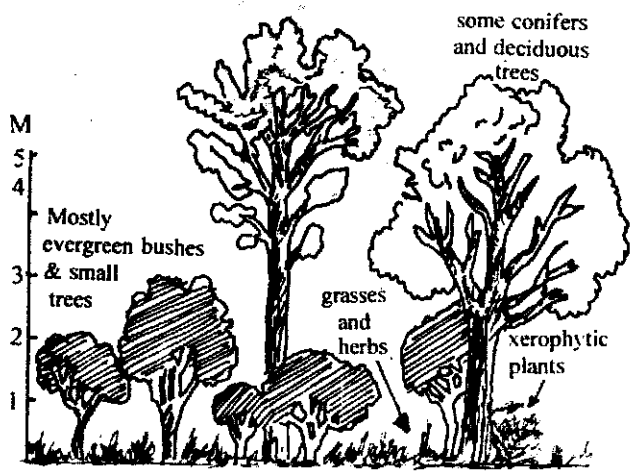


Fig 15.3 Mediterranean Vegetation

Conifer forests grow on higher and wetter mountain slopes. Climate in the Mediterranean regions does not favour the growth of grass due to summer drought, even if grasses do survive, they are wirry and bunchy and can not support large animal population. Cattle rearing is therefore not very important in Mediterranean regions.

The region is famous for growing citrus fruits. The fruits grown in the region include oranges, lemons, grapes, apricots, pomegranates, peaches, pears, figs, almonds etc.

* Most of the plant species in Mediterranean regions have xerophytic characteristics.
* The important broad trees are olive, laurel, mystle holly and cork oak.
* Coniferous tree grow on higher and wetter mountain slopes.
* Almost all kinds of citrus fruits are grown in the Mediterranean regions.

(iv) Resources

The Mediterranean regions are famous for the cultivation of fruits. Fruits form the basis of various manufacturing industries such as squash and wine making. Wheat of very high quality is grown here. Though the region is not very famous for mineral based industries yet some mineral are mined in different countries of this region. Iron is found in most of the countries bordering Mediterranean sea but they lack in coal. Spain is famous for iron ore, copper, zinc, lead and mercury. Italy is famous for mercury and sulphur deposits. North Africa is noted for its phosphate deposits. California is famous for oil reserves.

* Mediterranean regions are famous for the cultivation of citrus fruits and wheat of high quality.
* Iron ore is found in most of the countries bordering Mediterranean sea but they lack in coal.
* Spain is famous for iron ore, copper, zinc, lead and mercury Italy for mercury and sulphur deposits. California is famous for oil reserves.

(v) Human Response

Despite the semi-arid conditions over many parts of the Mediterranean regions, some of these regions here once the cradles of ancient civilization such as Greek and Roman. Now a days, the regions are famous for the cultivation of fruits and cereals, wine making and agro based industries. Mineral

based industry has also developing. A wide range of citrus fruits are grown here. Hence, the mediterranean regions are also called the world's orchard lands.

The olive tree is typical of mediterranean regions. It is so hardy and long rooted that it can survive even on poor soils and with very little precipitation. The olive tree like coconut palm has many uses. Beside olives many nut trees like chestnuts, walnuts, hazelnuts and almonds are grown here. The cultivation of grapes or viticulture is by tradition a mediterranean occupation. Wine making is a flourishing industry in these regions.

Besides fruit orchards, the mediterranean climate is also suitable for the cultivation of many crops such as wheat barley and beans. These crops are grown where irrigation facilities are available. Rearing of milch cattle is an important activity in the uplands of this region.

Most of the industries of these regions are agrobased like fruit preservation, canning, bottling of fresh or frozen fruit juices, soap making (olive) and wine making. Tourism is another development of modern times. The abundant sunshine, moderate winter climate, natural scenery and beaches of these regions are best suited for the development of tourist industry. Other industries like engineering, automobile and high quality like leather have also developed in some of the countries such as France, Italy.

* The Mediterranean regions are known as world's orchard lands as a wide range of fruits are grown here.
* The olive tree which has many use is extensively grown here.
* Wheat, barley and beans are also grown in the areas where irrigation facilities are available.
* Most of the industries of this region are agro-based.

INTEXT QUESTIONS 15.1

1 Name any two areas of the mediterranean climate in the Southern Hemisphere.

(a) _____ (b) _____ .

2 Name two main characteristics of mediterranean climate.

(a) _____ (b) _____ .

3 Name the winds that blow in mediterranean regions during summer.

_____ .

4 Name three local winds that bring about temporary changes in temperature in the mediterranean regions of Europe.

(a)_____(b)_____(c)_____.

5 Name three important citrus fruits grown in these regions.

(a)_____(b)_____(c)_____.

6 Fill in the blanks

(a) In the month of _____when the sun is overhead at the tropic of cancer, all the belts move towards _____ of their average position.

(b) Growing of grapes is called _____.

(c) The Mediterranean regions are also known as world's _____ lands.

15.5 MID LATITUDE GRASSLANDS

(i) Location and Areas

The mid latitude grasslands lie in two typical locations. Some of them are located in the deep interiors of large continents, quite away from the oceanic influences; the others are located in the rain shadow areas on the leeward side of high coastal mountains. These locations account for scanty rainfall in all these regions. These grasslands are found in all the continents under different names. In the northern hemisphere, the grasslands are far more extensive and are located in the interiors of the continents. In Eurasia, they are called the ***Steppes*** and stretch eastwards from the shores of the Black Sea to the plains of Manchuria. In North America, the grasslands are quite extensive and they are called ***Prairies***. They lie between the foothills of the Rockies and the Great lakes. In the southern hemisphere, these grasslands are less extensive. They are known as ***Pampas*** in Argentina and Uruguay. In South Africa, these grasslands are sandwiched between Drakensberg mountain and the Kalahari desert and are called ***Veldt***. In Australia, these grasslands are known as ***Downs*** and are found in the Murray-Darling basin of Southern Australia. Since all these grasslands are located in the temperate zone, they are also known as temperate grassland.(see fig. 15.4)

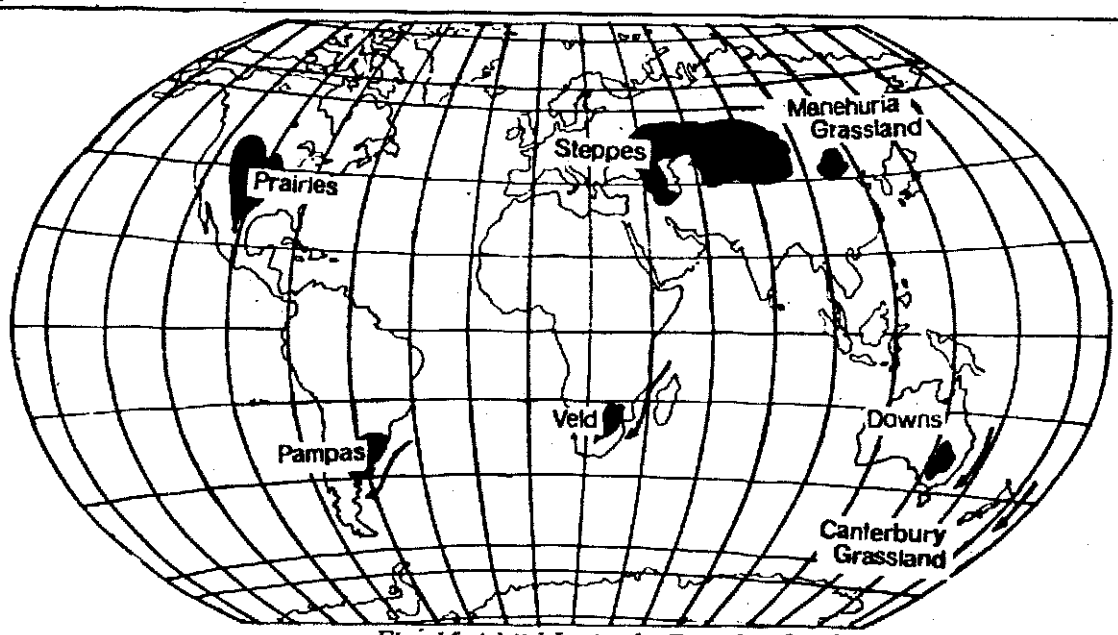


Fig. 15.4 Mid Latitude Grasslands of the World

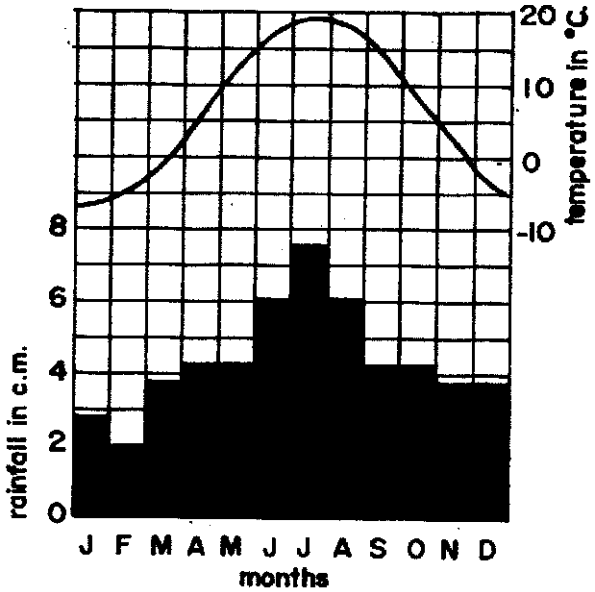
* The Mid-latitude grasslands are located in the deep interiors of the continents in northern hemisphere and in the rain shadow areas of the leeward side of high coastal mountains in the southern hemisphere.
* Mid latitude grasslands are known by different names in different continents. These are called Steppes in Eurasia, Prairies in North America, Pampas in Argentina and Uruguay in South America, Veldt in South Africa and Downs in Australia.

(ii) Climate

As the mid latitude grasslands of the northern hemisphere are located in th interior parts of continents, they experience little maritime influence. The climate is therefore continental with extremes of temperature. Summers ar warm and winters are cold. Winter temperature remains below freezing poir in the interior regions of Asia and North America. Parts of Eurasian steppe remain snow covered for a number of months. The amount of preclpitatio here is less than 60 cm annually (see fig.15.5). In the southern hemisphere as the continents are narrow and closer to the sea maritime influence reduce the annual range of temperature. Therefore, the amount of mid latitude rainfall in mid latitude grasslands of the southern hemisphere is more (above 60 cm) than that of the northern hemisphere .

Though the regions in the northern hemisphere lies in the westerly belt they receive very poor rainfall due to great distance from the sea. It varies from 30 cm to 60 cm with maximum in summer.

Winter temperature in the grassland of North America bordering the eastern foothills of the Rockies are modified by warm and dry Chinook winds. This warm wind is sometimes called the 'snoweater' as it rapidly melts the snow cover and exposes the grass. This warm wind can raise the temperature by as much as 10^0 C in a few hours.



For detail about the data please refer to the page no. 53

Fig 15.5 Temperature and Precipitation Graph of Kiev (Ukraine)

- In mid latitude grasslands, summers are warm and winters are cold.
- In the grassland of northern hemisphere, winter temperature often go below freezing point.
- This grasslands in the southern hemisphere experience maritime influences.
- The amount of precipitation is more in grasslands of the southern hemisphere than that of the northern hemisphere.

(iii) Natural Vegetation and Animal Life

As the precipitation is too low for the growth of trees but is sufficient for the growth of grass. The natural vegetation of these regions comprises treeless grassland. Trees appear only on slopes of mountains where precipitation is more. The height of grass varies from place to place according to the amount of precipitation and fertility of the soil. Steppes in particular are known for short and nutritious grass. The appearance of these grasses on these lands varies with the seasons. In spring, the grass begins to appear green, fresh and

blooming with small and colourful flowers. In summers, due to the scorching heat and evaporation, the green grass turns yellow and then brown. Towards autumn, the grass withers and dies, but the roots remain alive and lie dormant throughout the cold winter season. When spring comes, the whole cycle is repeated. These grasslands are natural habitat of a variety of animals. Noteworthy among them are antelopes, wild asses, horses, wolves, kangaroo, emu and dingo or wild dog.

- Mid latitude grassland are noted for short and nutritious grass.
- These grasslands are a natural habitat of a variety of animal such as antelopes, wild asses, horses, wolves, kangaroo, emu and the dingo or wild dog.

(iv) Resources

The climate of these regions is suitable both for grain and grasses. Hence, these regions are famous for the cultivation of wheat on large farms and for rearing cattle and sheep on large ranches. In recent decades, mining has also become an important activity. There are large deposits of iron ore in Donetz basin in Ukraine. Other minerals produced here are manganese, mineral oil and copper. Copper, petroleum and salts are also important minerals in American region. Gold, diamonds, coal and iron are mined in South Africa region.

- Mid latitude grasslands are famous for the cultivation of wheat on large farms and rearing of cattle and sheep on large ranches.
- These regions have deposits of iron ore, manganese, mineral oil, copper, gold diamonds and coal.

(v) Human Response

The mid-latitude grasslands were once the home of pastoral nomads like the Khirgiz, the Kazakhs and Kalmuks. These people used to travel long distances with their animals in search of grass and water for their animals. They used to get most of their requirements from these animals. These grasslands sparsely populated regions of the world. But in recent years, marked changes have taken place in these grasslands. Most of these areas have been converted into farmlands and areas of pastoral activities.

The Mid latitude grasslands are ideal for extensive wheat cultivation. The cool moist spring stimulates early growth and the light showers in the ripening period help to swell the grain to ensure a good yield. The warm and sunny summers help in ripening the crop. The almost level surface of the temperate grasslands makes the ploughing and harvesting an easy job. Vast size of farms, extensive plains and shortage of labour have favoured use of machinery for all operations on the farms of Prairies of North

America and the Steppes of Russia. Wheat is the chief crop of this region. Wheat is grown both in winter and spring seasons. The sparsely populated grasslands of the mid-latitudes, produce the largest quantity of wheat per capita in the world. They are therefore the largest wheat exporters. U.S.A., Canada, Argentina and Australia are main exporters of wheat. Maize is cultivated in the warmer and wetter regions. Other important crops grown here are barley, oats, sugarbeet and potatoes. As these areas are very fertile and climatically well suited for the cultivation of wheat, more and more of these grasslands are being converted into large farmlands. Because of all these reasons, the mid-latitude grasslands are popularly known as the "Bread Basket" of the world.

Besides wheat cultivation, animal rearing is also well developed. Both cattle and sheep are reared on a large scale. Machines are used for various operations such as milking of dairy cows, sheering of sheep for wool, slaughtering of animals and packing of meat. Cattle are reared in warmer and wetter areas while sheep are raised in colder and drier regions. In Argentina, nutritious alfalfa grass is grown quite extensively which is good for animals reared mainly for meat production. The use of refrigerated ships has encouraged large scale export of meat and dairy products to several countries from Australaia. The Mid-latitude grasslands, thus specialize in supplying the food products such as wheat, meat and dairy products to the world. Beef is exported from Argentina and wool from Australia.

Industries in these regions are mostly based on primary products, these industries include meet production, leather manufacture, flour milling, sugar refining. Recently some other industries like iron and steel, chemicals, cement, aluminium and textile have also come up.

- The mid-latitude grasslands which were once the home of nomads people have now been changed into farmlands and areas of settled pastoral activities.
- These grasslands are ideal for extensive cultivation especially of wheat, maize, barley, oats, sugarbeat and potatoes.
- U.S.A., Canada, Argentina and Australia are main exporters of wheat.
- Cattle and sheep are also reared on a large scale. Argentina, and Australia export meat, dairy products and wool to distant countries.

INTEXT QUESTIONS 15.2

1. Fill in the blanks by selecting appropriate words form those given in the bracket :

   (bread basket, interior, praries, Downs, Chinook, Steppes, Pampas, 60 and Veldt)

   (a) Mid-latitude grasslands of the northern hemisphere are located in the _____ parts of the continents.

   (b) Mid-latitude grasslands are known by different names in different continents, such as _____ in North America, _____ in Euraisa _____ in Argentina _____ in South Africa, and _____ in Australia.

   (c) The annual precipitation in mid-latitude grasslands varies from 30 cms in the Prairies of North America to _____ cms.

   (d) The _____ local warm wind in the Praries of North America is also called the 'snoweater'.

   (e) Mid-latitude grasslands are known as the _____ of the world.

2. Answer the following questions very briefly

   (i) Which factor reduces the annual range of temperature in the mid-latitude grasslands of Southern hemisphere ?

   (ii) What is the name of pastoral nomadic people of Asiatic steppes ?

   (iii) Why is the size of farms in praries and steppes quite large ?

   (iv) Which four countries are the main exporters of wheat ?

   (v) Name the two countries which export meat and wool in large quantities.

WHAT YOU HAVE LEARNT

We have studied about two natural regions of Mid latitudes in this lesson. Mediterranean regions are located in the western margins of landmasses between 30^0 and 40^0 latitudes in both the hemispheres. The Mediteranean climate is characterised by two distinctive features (a) warm and dry summers with off shore trade winds (b) Wet and mild winter with on shore westerlies. Mediteranean regions are famous for orchard farming especially of citrus fruits. Viticulture is a traditional occupation of people in these regions. These regions produce wines of good quality. Bright sunny weather

of these regions has favoured development of tourism.

Mid-latitude grasslands in the northern hemisphere are located away from the oceanic influence and thus have high annual range of temperature. The precipitation is also low. The climate of these regions is suitable for the growth of short and nutrient grass and cultivation of cereal crops. The climate of these regions has helped them to become leading producers of wheat, maize and sugarbeat. As these regions are leading producers and exporters of wheat for which they are aptly called bread basket of the world. Because of the growth of nutritious grass, these regions have also become leading producers of meat, wool and dairy products. Canada, Argentina and Australia are major exporters of wheat. Australia and Argentina are known for the export of wool, meat and dairy products.

TERMINAL QUESTIONS

1. Give reasons account for each of the following statements.
   (a) Orchard farming is the predominant activity in mediteranean regions.
   (b) Mid-latitude grasslands are called bread basket of the world.
2. Name the mid-latitude grasslands in different continents. What are the reasons of their becoming important exporters of wheat, meat and wool?
3. Describe the climate and natural vegetation of mediterranean regions.
4. Why are the mediteranrean regions hot and dry during summer season ?

CLIMATIC DATA OF THREE STATIONS OF MID LATITUDES
T for Temperature in °C (degree celsius); P for Precipitation in Centimetres

Station	Natural Region	Location	Altitude in Metres	T/P	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
San Francisco	Mediterranean	28 °N 122 °W	47	T	9.4	10.6	11.7	12.2	13.3	13.9	13.9	14.4	15.6	15.0	13.3	10.6
				P	12.2	9.1	7.9	2.5	1.8	0.2	-	-	0.8	2.5	6.1	11.7
Adelaid	Mediterranean	35 °S 139 °E	43	T	23.3	23.3	21.1	17.8	14.4	12.2	11.1	12.2	13.9	16.7	19.4	21.7
				P	1.8	1.8	2.5	4.6	7.1	7.9	6.9	6.3	5.1	4.3	3.6	2.5
Kiev	Mid-Latitude or Temperate Grasslands	50°N 30°E	180	T	-6.1	-5.0	-0.6	7.2	13.9	17.8	19.4	18.6	13.9	7.8	1.1	-4.4
				P	2.8	2.0	3.8	4.3	4.3	6.1	7.6	6.1	4.3	4.3	3.8	3.8

5. Study the above climatic data and answer the following questions:

5.1 Which station experiences the highest annual range of temperature and why?

5.2 State one point of similarity and one point of difference in the regime of rainfall between San Francisco and Adelaid

5.3 Which station receives snowfall during winter? Give reason for its occurance.

CHECK YOUR ANSWERS

INTEXT QUESTIONS

15.1

1 Central Chile/Cape Province/South and S.W. parts of Australia.

2 (a) Dry, Warm summer and (b) Wet and mild winters,

3 Off-shore trade winds.

4 Bora, Mistral, and Sirooco.

5 Oranges, grape and lemons.

6 (a) June, north (b) viticulture (c) orchard

15.2

1. (a) Interior (b) Praries, Steppes, Pampas, Veldt, Downs (c) 60

   (d) Chinook (e) Bread basket

2. (i) Marine influence (ii) Khirgiz/Kazakhs (iii) Sparse population (iv) USA, Canada, Argentina, Australia. (v) Argentina, Australia, New Zealand.

TERMINAL QUESTIONS

1. (a) See under mediterranean regions

   (b) see under mid-latitude grasslands

2. Refer to section 15.4 (i) and (v)

3. Refer to section 15.5 (ii) and (iii)

4. Refer to section 15.4 (i) and (ii)

5. (5.1) Kiev; Reason :- Continental location/far away from the oceanic influence.

(5.2)(a) Similarity :- Both receive rainfall during winter.

(b) Differences : San Francisco; during December to March which are winter months in the northern hemisphere and Adelaide; during May to August, which are winter months in the southern hemisphere.

(5.3) Kiev; Reasons: Winter months temperature are below freezing point.