

Chapter 04

LAND AND CLIMATE OF PAKISTAN



1. Location

Islamic Republic of Pakistan is located between latitude of 23.35° to 37.05° north and extends from longitude 60.50° to 77.50° east, covering an area of 7, 96, 096 square kilometers.

Pakistan consists of four provinces, a Federal Capital Area and Gilgit Baltistan. Area-wise, the province of Balochistan is the biggest with an area of 347, 190 sq. kilometers, Punjab province has an area of 205, 345 sq. kilometers, Sindh province is spread over 140, 914 sq. kilometers and the area of Khyber Pakhtunkhwa 101,741 sq. kilometers and Federal Capital Islamabad has an area of 906 sq. kilometers.

Look at the map of Asia. Pakistan is situated in the Southern side of Asia. It is, therefore, considered as a part of South Asia.

In the South-West of Pakistan is Iran having a common boundary of about 800 kilometers with it. Iran is connected with Pakistan through rail and road.

India lies in the east of Pakistan having a common boundary line of 1610 kilometers along with the provinces of Sindh and the Punjab.

China is situated in the north of Pakistan. Pakistan shares a common boundary of about 585 kilometers with China and is connected with it through Karakoram Highway. Tajikistan is located in the north of Pakistan. A small strip of Afghan territory known as Wakhan, separates Pakistan from Tajikistan. Afghanistan is in the north-west of Pakistan. It has 2252 kilometers long boundary with Pakistan known as Durand Line.

In the south of Pakistan is the Arabian Sea forming a coastal area of about 1050 kilometers. Three seaports Karachi Port, Port Qasim and Gwadar Port have been built on this coast.

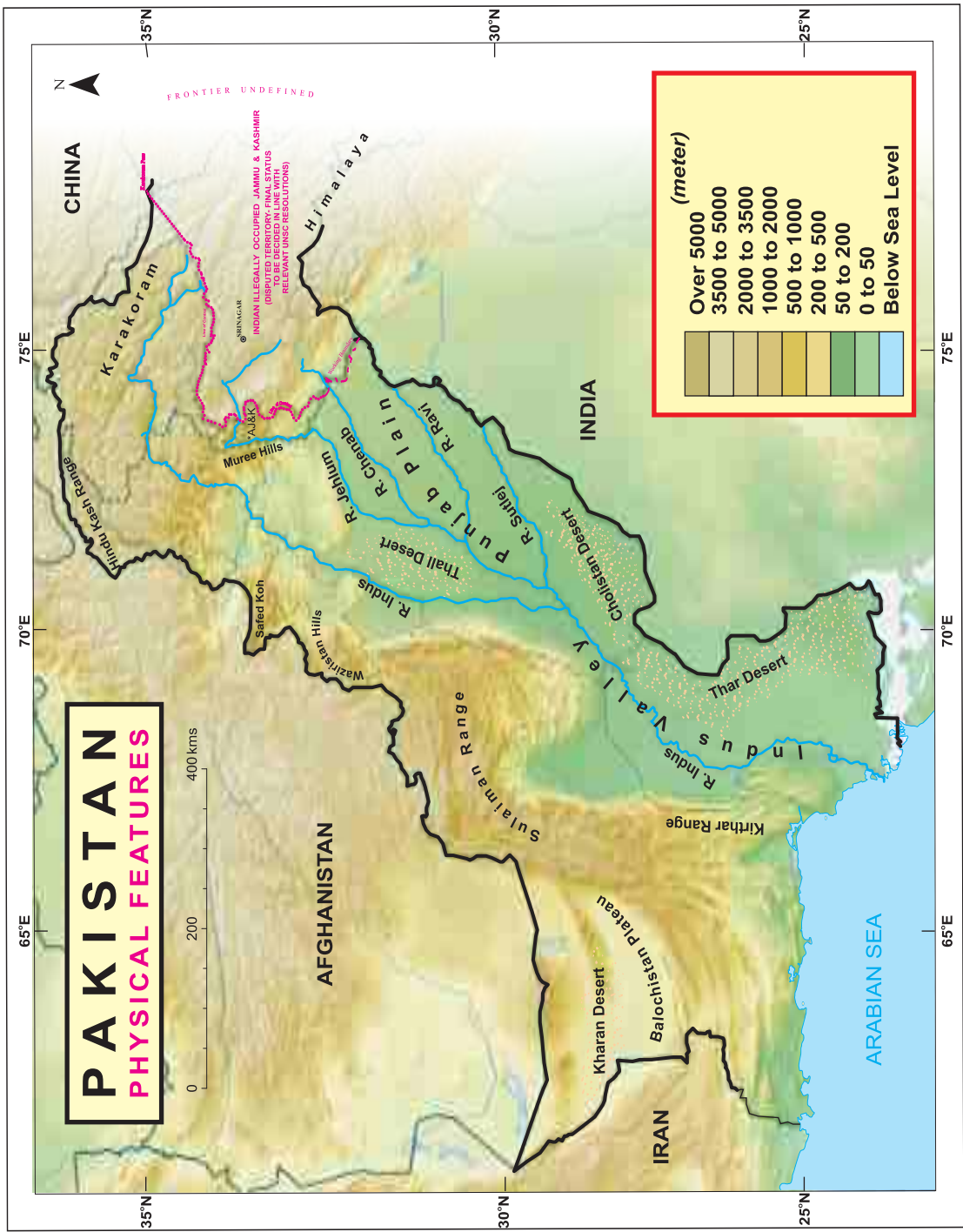


Importance of Pakistan's Location

Pakistan is located in a strategic region having great political and economic importance.

- i) It is connected with China in the North. The Karakoram Highway connects China and Pakistan by land. This highway has been constructed, cutting through the rocks of Karakoram. This Highway is an important trade route between Pakistan and China. Pakistan has very friendly relations with China.
- ii) Pakistan provides transit route to Afghanistan for its trade through land and sea.
- iii) In the west of China, a narrow strip of Wakhan (in geography it is called the tongue of Wakhan) of Afghanistan territory separates Pakistan's Northern border from Tajikistan. Pakistan has developed close friendly relations with this country.
- iv) India lies to the east of Pakistan. In the East of India are the Muslim countries of Bangladesh, Malaysia, Indonesia and Brunei Darul Salam. Pakistan enjoys very good relations with these countries.
- v) Iran is on the south-west border of Pakistan. Iran and Turkey along with Pakistan are the members of Economic Co-operation Organization (ECO). This organization has strengthened friendly relations between the member countries. These countries have signed a number of projects of mutual interest.
- vi) Pakistan is situated near the oil producing gulf countries and in the middle of the Muslim World, stretched from Morocco in the West to Indonesia in the East. The industrial development of a number of Western countries depends on the oil produced by Gulf States, which is transported to other countries through the Arabian Sea. Karachi is an important seaport on the Arabian Sea.
- vii) Pakistan maintains friendly relations with the Muslim countries of the Middle East and the Gulf. Pakistan has played a very significant role in the development of these countries. Countries like Saudi Arabia and UAE are considered as a second home for Pakistanis.
- viii) Karachi is an International harbour and airport. It connects Europe so with Asia through sea and air routes. All those countries which want to be linked with the Middle East and Central Asian states cannot ignore the location of Pakistan.





- ix) Indus Valley and the Gandhara are the ancient civilizations and possess importance from tourism point of view. The tourists love to visit the valley of Kaghan, Swat and the northern areas of Pakistan.
- x) Pakistan, Afghanistan and Turkmenistan have signed a protocol on the supply of gas through pipeline, passing through Afghanistan to Pakistan. This project would help develop friendly relations with each other. India can also benefit from the project with the consent of Pakistan.
- xi) Kashmir is the main dispute between Pakistan and India. If this dispute is resolved between the two countries, peace will be established in the whole region. Trade will flourish. Both the countries will influence the region politically and economically. Good relations between the two countries will help alleviate poverty in the region.
- xii) Pakistan is the 7th Atomic nation of the world and enjoys high prestige in the Muslim world. It's also an advanced country in certain technologies. Muslim countries look toward Pakistan for playing a leading role for common development in a number of fields. In the recent times it has become a centre for foreign investment.

2. Physical features of Pakistan

The land surface of Pakistan can be divided into the following physical features:

1. Mountains
2. Plateaus
3. Plains
4. Deserts including coastal areas.

1. Mountains

The mountains of Pakistan are divided into two parts, namely Northern and North-Eastern Mountains and North-Western and Western Mountains.



(1) Northern and North-Eastern Mountains

These include the Himalayas and the Karakoram.

(i) The Himalayas

In the North Eastern part of Pakistan, Himalaya is the highest mountain of the world. The parallel ranges of Himalayas stretch like an arch up to the Eastern Part of India for about 2430 kilometers. Four important parallel ranges of Himalayan Mountains enter Pakistan through Kashmir. In these ranges are located a number of beautiful valleys. These ranges can be divided into the following parts:

a) The Sub-Himalayas or the Siwalik Hills

These hills rise in the North where the upper Indus Plain ends. The hills spread in the South of Himalaya from Sialkot district to northern part of Rawalpindi district. Their average height is 300 to 1000 meters.

b) The Lesser Himalayas or the Pir Panjal Mountain Range

These mountains are located near the border ranges of Karakoram and Siwalik. They start from the North of Siwalik hills, wherefrom the Himalaya begins to rise gradually to the height of 1800 meters to 4600 meters. Most of the northern hilly areas are situated here. Health resorts like Murree, Ayubia, Nathia Galli, Abbottabad and the beautiful valley of Kaghan are located here. Most of the parts of this mountain range are covered with snow.

c) Great Himalayan mountain range

The biggest Himalayan mountain range is situated between Pir Panjal and Karakoram ranges. The highest mountain range of the world begins in the north of Pir Panjal. The height of the mountain is 6500 meters. The highest peak of these ranges is Nanga Parbat which is 8126 meters above the sea level. Indus, the longest river of Pakistan, originates in these mountains. The beautiful valley of Kashmir also lies in this range.

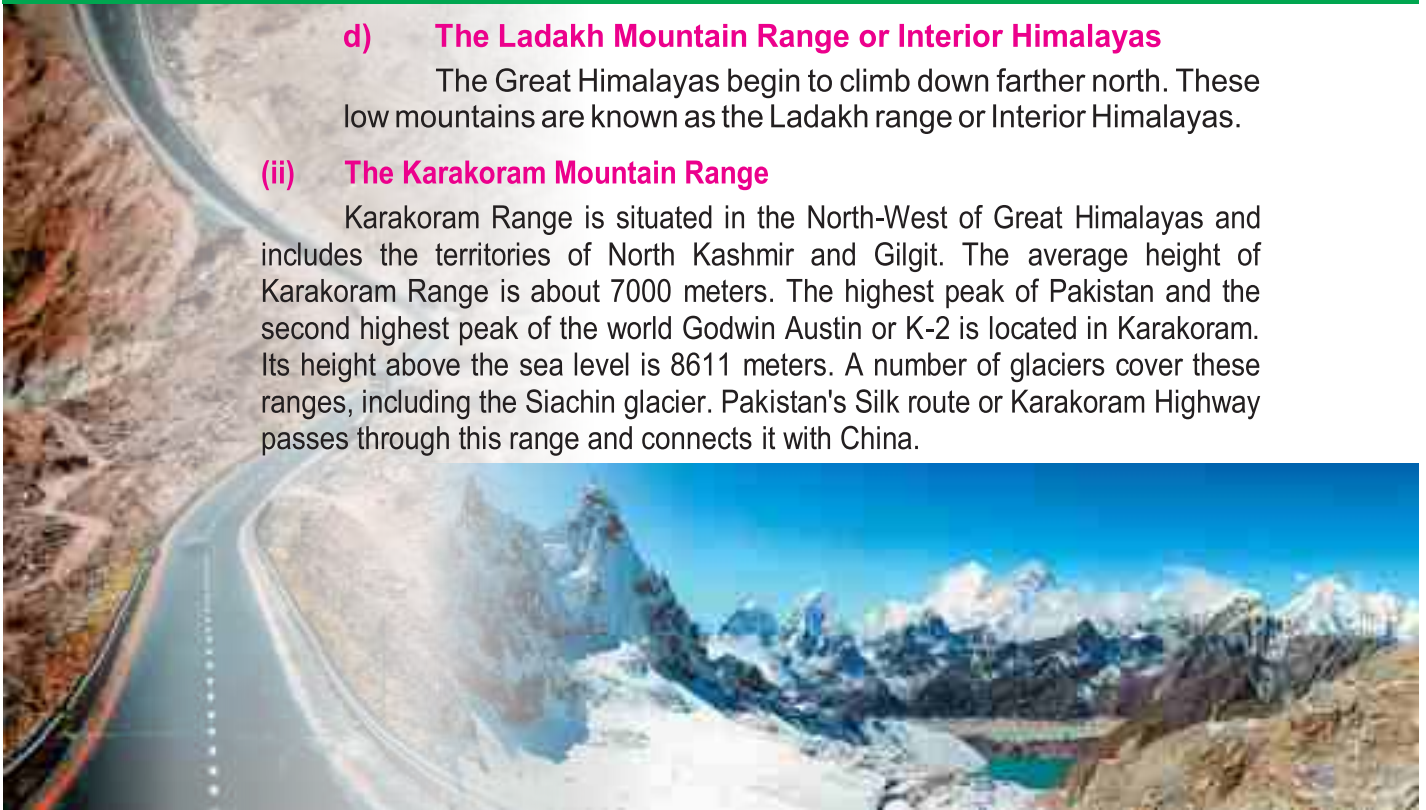


d) The Ladakh Mountain Range or Interior Himalayas

The Great Himalayas begin to climb down farther north. These low mountains are known as the Ladakh range or Interior Himalayas.

(ii) The Karakoram Mountain Range

Karakoram Range is situated in the North-West of Great Himalayas and includes the territories of North Kashmir and Gilgit. The average height of Karakoram Range is about 7000 meters. The highest peak of Pakistan and the second highest peak of the world Godwin Austin or K-2 is located in Karakoram. Its height above the sea level is 8611 meters. A number of glaciers cover these ranges, including the Siachin glacier. Pakistan's Silk route or Karakoram Highway passes through this range and connects it with China.



The Importance of North Eastern Mountain Range

- a) These mountains are very beneficial for Pakistan. They provide natural defence to Pakistan from the North due to their height and uneven surface.
- b) They protect Pakistan from the cold freezing winds blowing from the North Pole, otherwise Punjab and Khyber Pakhtunkhwa would have been covered with snow during the winter season and the longer duration of cold would have made the life difficult and miserable.
- c) These mountains cause huge rainfall in Punjab and Northern areas of Khyber Pakhtunkhwa in monsoon season, which becomes source of irrigation through the rivers.
- d) During winter these mountains are covered with snow which melts during the summer season and raises the underground water table. The water can be used for irrigation.
- e) These mountains cover 80% forests of our country. Although only 4.5% of the geographical area of Pakistan is under forests but these forests are quite thick and are the source of great wealth to the country.

(2) North-Western and Western Mountains

The mountain ranges situated in the north-west of Pakistan are also known as Western branches of Himalayas. As compared to North Eastern Mountains these are less in height. Many valleys, small rivers and passes are situated in these mountains. These mountain ranges are divided into the following parts:

(i) The Hindu Kush Mountains

These mountains take off from the Western side of the Pamir plateau which is located to the West of the Karakoram. The greater part of this range is situated in Afghanistan. Tirich Mir is the highest peak with a height of 7690 meters. These mountains are covered with snow during the winter. The Hindu Kush Mountains form a barrier to the movement of rain bearing winds, blowing from the Bay of Bengal and the Arabian Sea. They cannot cross these mountains and cause rains in Pakistan and India. Also, these mountains are the source of stopping the severe cold winds blowing from the Central Asia. They cannot reach the plains of Pakistan and save the people from intense cold.

(ii) The Koh-i-Safed Range

This mountainous range is in between the Khyber Pass and Kurram Pass. Much of it is in Pakistan and a small part is in Afghanistan. The Koh-i-Safed range has an east-west trend and rises to an average height of 3600 meters. The peaks of Koh-i-Safed are covered with snow throughout the year. The Kurram River flows in the south of Koh-i-Safed. The Khyber Pass, located in Koh-i-Safed joins Pakistan and Afghanistan. The highest point in this range is Sikeram.

(iii) The Waziristan Hills

The area between Kurram Pass and Gomal Pass is known as Waziristan Hills with an average height of 1500-3000 meters. Three rivers Gornal, Kurram and Tochi flow through these passes. The Tochi Pass leads to Ghazni, a famous city of Afghanistan. The Gomal Pass is famous for trade between Pakistan and Afghanistan. The cantonments of Dera Ismail Khan and Bannu are located in these hills.



(iv) The Sulaiman Range

It begins in the south of river Gomul. Its highest peak is Takht-e-Sulaiman which is 3487 meters above the sea level. The most important river of this region is the Bolan River which flows through the Bolan Pass. This pass connects Quetta with Sibi. Quetta is an important cantonment area situated at the end of Bolan Pass. A railway line passes through this area to Quetta and then goes to Zahidan (Iran).

(v) The Kirthar Range

It lies on the south of the Sulaiman range and along the western edge of the lower Indus valley. These are low dry mountains. On their south flow the Hub and Lyari rivers, which ultimately fall in the Arabian Sea near Karachi. The highest point in this range is Gorakh.

2. Plateaus

The following two plateaus are located in Pakistan:

- i. The Potwar Plateau.
- ii. The Balochistan Plateau.

i. The Potwar Plateau

This plateau lies between the river Indus and Jhelum. It starts in the south of river Jhelum near Tilla Jogian and spreads to districts of Jhelum, Mianwali, Rawalpindi and some part of Islamabad. The surface of these areas is uneven. The height of this plateau ranges from 300 meters to 600 meters. The main rivers of this area are Soan and the Haro. Oil and other minerals are found at various places of this area.

The salt range also starts from Tilla Jogian in the river Jhelum and spreads to a few parts of Mianwali, Banu and D.I. Khan. The average height of this range is about 700 Meters. But at Sakesar its height is 1500 meters. The entire area is almost barren. Minerals like gypsum, coal and salt are found in this range.

iii. Balochistan Plateau

This plateau is located in the west of Kirthar and Sulaiman mountains. Its height is between 650 meters. The ranges of Toba Kakar and Chagai in the north separate it from Afghanistan. Among these ranges, the peaks of Ziarat and Muslim Bagh stand as the highest points. Their height is approximately 2133 meters. In the

south of this plateau line ranges of Makran and in the centre line the Central Brahui and North Makran hills. It is the largest plateau in Pakistan and covers about 40% area of Pakistan. High mountains are situated in the north-west which are covered with snow in winter. Rainfall in most areas of this plateau is scarce. It is mostly dry and barren. However, this area is rich in minerals. The main river of this plateau is Zhob, which flows from the Sulaiman mountains. Porali, Hingol and Dasht rivers are also situated in this plateau but are of little importance.



3. Plains

The plains of Pakistan have been formed by the alluvium brought by the Indus River and its tributaries. The vast plain areas can be divided into three parts:

- i. The Upper Indus plain.
- ii. The Lower Indus plain.
- iii. The Indus Delta.

i. **The Upper Indus Plain:** The water of the eastern tributaries of the Indus namely, Jhelum, Chenab and Ravi rivers flow into the Indus near Mithan Kot. The part of Indus plain above Mithan Kot is called the Upper Indus Plain. It lies between 200 meters to 300 meters above the sea level. The Upper Indus Plain has been made by the fertile soil brought by the rivers. There are, however, a few low dry hills near Sargodha, Chiniot and Sangla. Due to low rainfall agriculture is not possible. Therefore, one of the greatest canal systems of the world is operating in this plain which produces wheat, rice, sugarcane, cotton, corn, pluses, etc. in large quantities.

ii. **The Lower Indus Plain:** The area south of Mithan Kot is called lower Indus plain. This includes most of the area of the Sindh Province. The Indus river flows gently slow in the flat land. It deposits along its course all the silt it has brought from the hills. This is why the river has raised its channel above the adjacent land. As rainfall is low in this region, water is needed for agriculture. Due to canal irrigation, different kinds of crops are grown in this part of the Indus Plain.

- iii. **The Indus Delta:** As the Indus River continues its journey towards the Arabian Sea, it becomes very slow and forms its delta near Thatta where it gets divided into many distributaries. The sea tides have changed the coastal areas to 40 kilometers into marshy lands. Therefore, coconut and mangroves are found in this area.

4. The Deserts including Coastal Areas

An extensive area in the south east of Pakistan is covered with rolling sand dunes. The desert areas of Pakistan receive very low rainfall; therefore, these deserts are without natural vegetation. Some plain areas of Pakistan are also called desert or semi desert because their physical conditions are different from those of the plain areas. Some of them are located in the Punjab and some in Sindh Province. These areas are as under:

- i. **Thal Desert:** Thal desert is located in the district of Mianwali, Muzaffargarh and Dera Ghazi Khan. Three fourth of its area is composed of huge sand dunes though most of its areas have been irrigated by Indus canal water.
- ii. **Cholistan Desert:** About sixty percent area of Bahawalpur region and its south eastern area are located in the Cholistan desert. Its main portion is located in India. It is covered with sand dunes and clusters of thorny bushes, acacia etc.
- iii. **Thar and Nara Desert:** The desert area of the Thar and the Nara is located in border areas of Khairpur, south-eastern parts of districts Tharparkar, Umerkot and Sanghar in Sindh. In fact, this area is the extension of Rajasthan desert of India. It is not drained by any perennial stream. Therefore, wind action is dominant in the formation of topography. Vast expanses of sandy plains with innumerable sand dunes dominate the scene. Agriculturally it is a poor area. With the extension of irrigational facilities, some areas have been reclaimed. The natural vegetation of the area is thorny bushes. In the same way, the south western portion of Balochistan is also a desert.



- iv. **The Chaghai and Kharan Desert:** The northwestern districts of Chaghai and Kharan in Balochistan are extremely dry. The average rainfall is not more than 25 mm. These barren areas are most sparsely populated with density of 4 people per kilometer.
- v. **Coastal Area:** Pakistan has about 1050 Kilometers long coastal area. It has two parts. The coast between the border of Iran and Hub River is called Makran coast. Its length is 750 kilometers. The other part is called Sindh coast. Its length is 300 kilometers. It is located between Hub delta and Thatta, Badin district in (Sindh).

All the coastal areas of Pakistan are located on the Arabian Sea. The most important harbour of Pakistan is Karachi. Other ports are Port Qasim, Sonmiani, Ormara, Pasni, Gwadar and Jewani.

3. Climate

The long lasting conditions of weather in a particular area such as air pressure, temperature, humidity and rainfall are termed as the climate of an area.

Pakistan is situated in the north of Tropic of Cancer. Pakistan is a sub-tropical country. It is situated in the western part of the monsoon region. Some of the areas in the north of Pakistan are warm and moist. Whereas the mountainous areas have highland type climate.

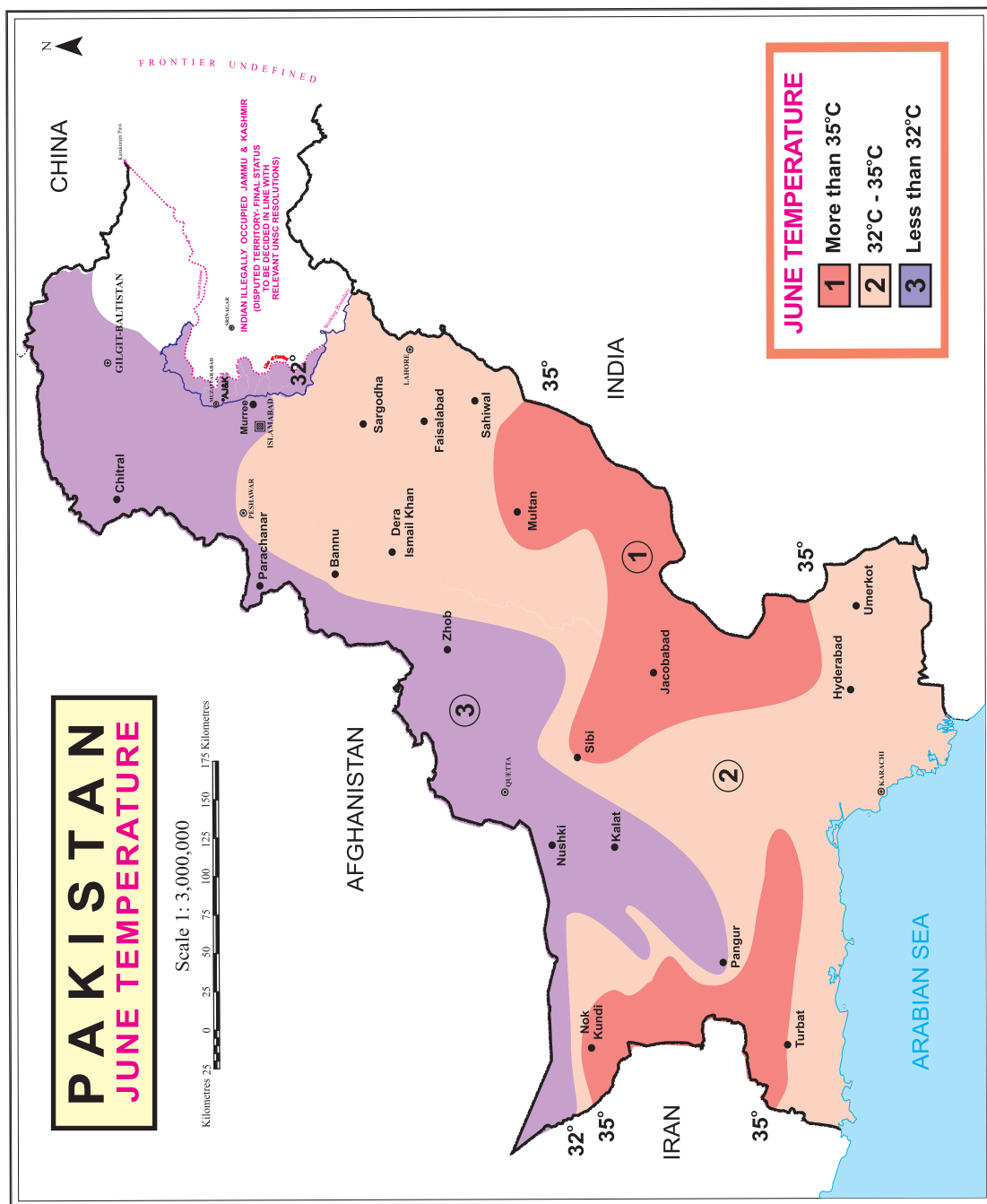
The average January temperature in the plains of Pakistan is 4°C and maximum temperature of the same month is 24°C, whereas the minimum temperature in the months of June / July is 30°C and maximum temperature in the same months is 48°C. The maximum temperature of Sibi and Jacobabad is about 50°C.

Pakistan is divided into the following regions on the basis of its climate.

1. Sub-Tropical Continental Highland.
2. Sub-Tropical Continental Plateau.
3. Sub-Tropical Continental Lowland.
4. Sub-Tropical Coastland.

1. Sub-Tropical Continental Highland

It includes Pakistan's northern mountain ranges (outer and central Himalayas), north western mountain ranges (Waziristan, Zhob and Loralai) and the mountain ranges of Balochistan (Quetta, Sarawan, Central Makran and Jalawan). Here the winter is extremely



cold, normally there is snow fall. Summer season is quite cool and in the spring and winter seasons, there is mostly fog and rainfall.

In some areas of this region like outer Himalayas, Muree and Hazara districts, rainfall continues throughout the year. Mostly it rains at the end of the summer season.

2. Sub-Tropical Continental Plateau

In this climatic region most of the parts of Balochistan are included. From May to the mid of September hot and dusty winds continuously blow. Sibi and Jacobabad are located in this region. There are a few mm rainfalls during the months of January and February (normally 50 mm). Extreme hot, dry and dusty winds are important characteristics of this region.

3. Sub-Tropical Continental Lowland

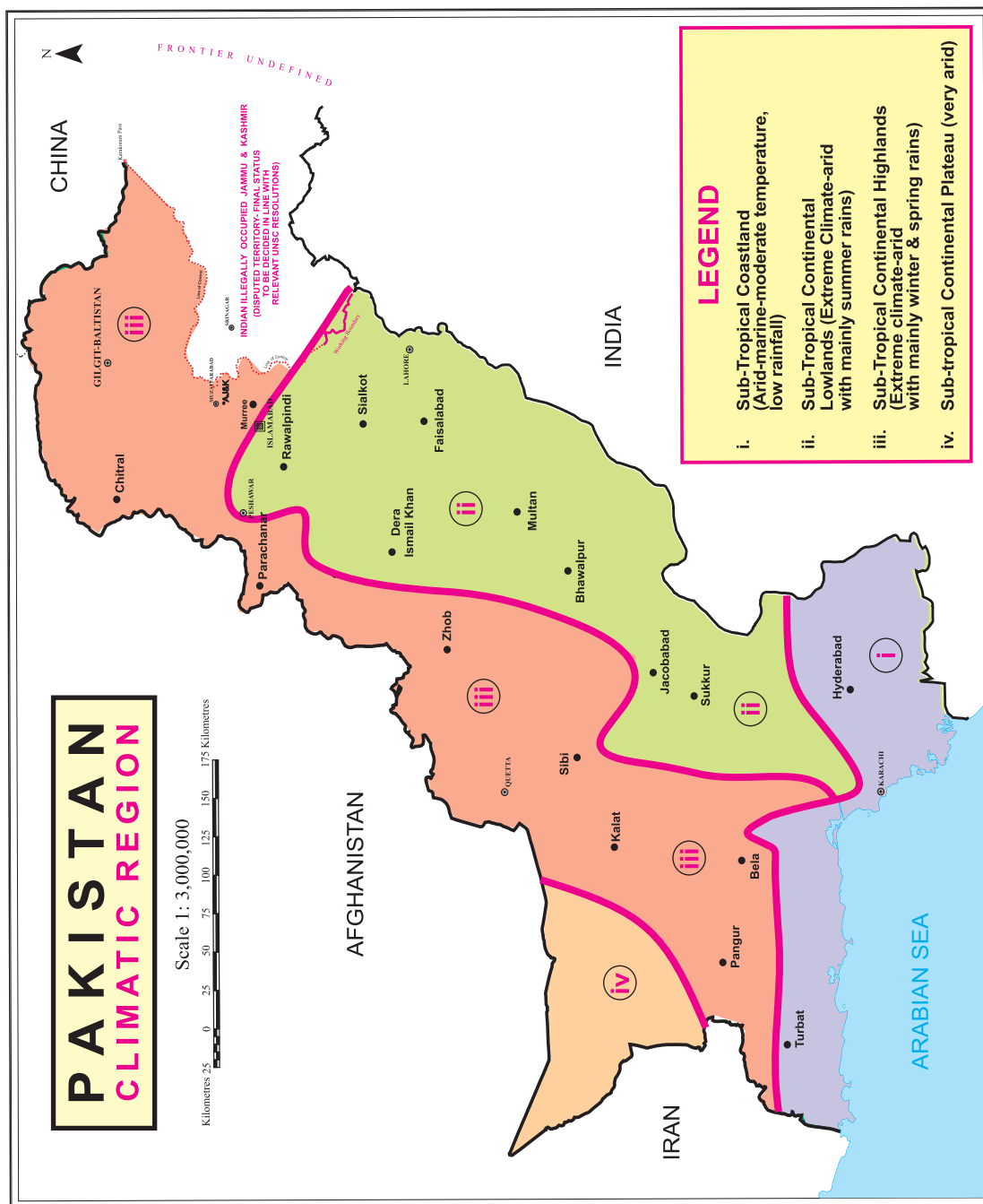
This climate region includes the upper Indus plain (Punjab province) and lower Indus plain (Sindh province). Summer is very hot. The north of Punjab receives late summer monsoon rains. While the rest of Punjab receives less rainfall. Winter rainfall situation is same. In the Thal, Kachhi, Sibi and South Eastern plains are dry and a large area is a desert. The Peshawar plain experiences thunder storms and dust storms during summer.

4. Sub-Tropical Coastland

This climatic region includes the coastal areas of Sindh and Balochistan provinces, or the southern part of Pakistan. The temperature is moderate. The difference between maximum and minimum temperature or range of temperature is less. There is inflow of sea breeze throughout the summer and the humidity is high.

Annual average temperature is 32°C and rainfall is 180 mm. May and June are the hottest months. The plain of Lasbela receives rainfall both in summer and winter seasons.

Although Pakistan is situated in the monsoon zone of climate, but being in the extreme western part of this region, does not possess its characteristics. Therefore, the climate of Pakistan is arid, hot and continental type. There are extreme variations in the temperature. A major part of Pakistan lies at a great distance from the sea.



Influence of Climate on life

Human life is greatly affected by the influence of climate. The climate and weather conditions of a particular area influence the way of living, dress, food, occupation, sports, customs and the economic set up of the people of that area. Pakistan is a vast country and there is much difference of climate in its various regions. There is a marked difference in the customs and living patterns of the people.

In northern mountainous areas of Pakistan, the winter is extremely cold. The temperature falls below freezing point and snow spreads all around. Severe cold, influences human, animal and the plant life of the area. The people of this area start storing necessary food items and the animals before the start of winter. During winter people are confined to their houses. The people pay attention to household cottage industry. Some people of this area temporarily migrate to plain areas during winter in search of jobs and food and return back to their homes when summer season starts. At the start of the summer season, when snow melts, life generates through hustle and bustle. The trees, plants and grass grow rapidly. Springs and streams, which had become frozen during winter, start flowing with clean water and become a source of adding beauty to the areas. People start outdoor activities like cultivation, trade, labour etc. The cold climate has an effect on the health of the people of Northern areas. They possess sound physique. Their colour is fair. They are hardworking and brave. The tough life patterns have made them strong and courageous.

The plains of Pakistan have severe hot season during summer and fairly cold during winter. During winter it is possible to work diligently but during summer the working efficiency decreases. Light clothes are used during summer and heavy woolen clothes are used during winter. The land and climate of these areas is suitable for agriculture. Variety of crops is grown during the winter and the summer. The area becomes prosperous as a lot of food grain, vegetables and fruit grow in these areas. The plain areas are thickly populated as compared to the northern areas. Means of transportation are convenient. People are directly or indirectly associated with agriculture. Educational and other amenities of life are available. People have many jobs to do.

Most of the southern areas of Pakistan are desert and hot. Windstorms and sandy cyclones blow frequently. People use coarse clothes to protect them from heat and hot wind. They put on big turban and cover their bodies with clothes. They travel in the night because deserts in the night are cool. The people breed sheep, goats and cattle. The areas irrigated by canals are under cultivation.

The Balochistan Plateau have extreme climate. Winter is cold and in some areas there is snowfall. During winter people are engaged in indoor activities and most of the time people prepare gifts for sale. Many people of cold areas migrate to warm areas and return back in summer. In summer the plains of Balochistan are very hot. People use loose clothes. Water is collected through underground artificial streams called *KAREZ*, now mostly dried up. Now a few dams are being constructed to provide water for irrigation and drinking.

In short, people living in severe cold region wear woolen and thick clothes. The people of cold region build houses comprising of small rooms which can be heated easily. The people living in cold regions consume food with high protein and fat to maintain the temperature. They use fatty meat, eat wheat and corn bread. They drink tea and coffee. Movement in the cold regions is not frequent and easy. During snowfall roads are closed. People are confined to their homes. Population in cold region is thin. Winter is dull but life is pleasant during short summer. Job opportunities are limited. The people of these regions are not much prosperous.

As compared to cold region, the people living in low lands and desert region put on loose dress due to hot weather in summer. Their houses are open and airy. People of hot regions eat wheat bread, rice and fish. They drink syrups of different kinds. People are involved in farming and cultivation throughout the year. People perform different types of jobs which include trade, business and employment in government offices and in private organizations as well. Low land regions are thickly populated due to job opportunities and availability of amenities of life. Life is full of activities. People are prosperous as compared to the people of cold regions.



4. Environmental Problems

Environmental pollution has emerged as a big problem throughout the world. This is due to increasing population, rapid industrialization and due to the smoke created by heavy and light vehicles. Ecology has emerged as a new science to make people aware about the pollution of water, air and land. Pakistan is among those countries of the world where environmental pollution is increasing day by day.

Environmental Pollution

Pollution means such changes in the environment of earth, water and air, which put injurious influence on human life as well as on the animals. When different elements bring unhealthy changes in our environments, it is called environmental pollution. This environmental pollution is of three types. They are:

- i. Air Pollution (Atmospheric)
- ii. Water Pollution
- iii. Land Pollution

i. Air Pollution (Atmospheric)

Neat and clean atmosphere is essential for human health. Air is the most essential element for human survival. There are a number of gases in the air. But air is basically composed of Oxygen, Nitrogen and Carbon dioxide. The water vapour is about 4% in the air atmosphere like soot, smoke, Carbon dioxide and Carbon mono oxide making the environment polluted. Gases with injurious effects are also present in the atmosphere. An adult person needs about 15 kilograms of air every day. The amounts of gases, which are consumed, become part of atmosphere again. This maintains the ratio of gases in the atmosphere. But natural balance of these gases is rapidly changing due to a number of human activities. The smoke, poisonous moisture, atomic wastes etc. are damaging the atmosphere. This is called "Atmospheric pollution" This pollution brings unhealthy impact on human beings, vegetation and the buildings. Man has invented machines for his convenience and for living a comfortable life. The oil, gas and coal are used to run motor cars, aeroplanes and ships. They produce dark smoke, which is injurious to human health. Industrial development has made human life comfortable but on the other hand this material development has increased air pollution. With the growth of industrial development, air pollution has also increased. It is, therefore, necessary to counter the root causes of this pollution.



ii. Water Pollution

Water is a great blessing of Almighty Allah and is an important need of human beings. Water maintains 70% of the total weight of human body. The total area of the planet Earth is 71% water and 29% land. The potable water of the globe is 2.8% of the total quantity of water on the earth. This fresh water is used in the homes, in agriculture and factories. The 0.65% of this water is in liquid form and the rest is in the form of snow and glaciers. The remaining 97.2% water on the earth is salty and not suitable for drinking and for other use. Water is a good solvent; therefore, it dissolves solids, gases and liquids. When unclean bodies are mixed in water, it becomes dense and loses its natural form. This state of water is called "Water pollution". The polluted water is not only harmful for human health but also for animals, agriculture and vegetation. Polluted water becomes source of dangerous diseases and sometimes causes death.

iii. Land Pollution

The earth is polluted biologically, chemically and physiologically, when a number of harmful things are inducted in the earth. Air and water pollution are also the source of land pollution. Land is polluted through floods, earthquakes, volcanoes and fire. When human beings bury harmful material into the earth it damages its composition. Elements which make the land barren are as under:

1. Decrease in the forest areas and stock rearing of bushes and low height trees.
2. Salinity and water logging.
3. Depositing waste of pharmaceuticals and chemicals into the earth.
4. Excessive use of fertilizers.
5. Water and air pollution.





5. What should we do now?

In order to prevent and control pollution, a number of Conferences have been held in the World. Atmospheric temperature and air pollution is increasing day by day but little attention is being shown to this problem. The reason is that the big industrial countries are not inclined to gradually decrease the release of injurious gasses of their industries. Because their industrial output will be affected.

As far as Pakistan is concerned the following arrangements will help in reducing environmental pollution:

- i. The poisonous chemical material should be separated and cleaned before it is drained into the rivers or their deposition into the ditches.
- ii. The dirty water (sewerage) of the cities should be cleaned through machines in big ponds as is done in the developed countries before it is drained into the rivers.
- iii. Vehicles which emit frequent smoke should be banned. Those who violate it should be fined. The garbage should be burnt in an appropriate manner.
- iv. The role of the institutions involved in the environmental affairs should be strengthened including provision of adequate funds for better environment.
- v. The human and animal waste should not be deposited in the fields nor should it be used as fertilizer.
- vi. Arrangements for more plantations should be made. The cutting of forests should be stopped because these forests are the best source of purifying the atmosphere.
- vii. The use of polythene bags should be stopped. If it is not possible, awareness campaign should be started advising the people not to throw these bags in open places.
- viii. Arrangements for general cleanliness should be made around the public places, parks and streets.
- ix. Radio and television programmes on environmental pollution should create awareness among the people about the dangers of environmental pollution.

EXERCISE

A. Answer the following questions:

1. What do you understand by Climate?
2. What are different climatic regions of Pakistan?
3. How does climate affect human life?
4. What is Environmental Pollution?
5. What is the relationship between the population growth and the environmental pollution?
6. Describe the importance of the location of Pakistan in the South Asian Region.
7. Give a brief account of the physical features of Pakistan.
8. Mention the benefits of the Northern-eastern mountainous region.
9. Name the neighbouring countries of Pakistan.

B. Fill in the blanks:

- i. The long border between Pakistan and Afghanistan is called _____.
- ii. Pakistan is divided into _____ climatic Regions.
- iii. The coastal areas of Pakistan are _____ and _____.
- iv. The climate of the upper Indus plains of Pakistan is _____.
- v. The water evaporation is about _____ in the atmosphere.
- vi. Water maintains _____ of the total weight of human body.
- vii. People of the Northern region in Pakistan perform _____ activities during winter.
- viii. In the South-West of Pakistan, _____ neighbouring country is our neighbouring country.
- ix. Balochistan has an area of _____ sq. kilometers.
- x. The word FATA means _____.
- xi. Hub and Lyari Rivers flow in _____ range of mountains.
- xii. The biggest salt mine in the world is in Pakistan's _____ Province.