



## **Topography of Pakistan**

### **Land and People of Pakistan**

Topography is the study and description of the natural and man-made physical features of an area, for example its mountain ranges, deserts, rivers and dams; or it is the representation of these features on maps. The topography of Pakistan is discussed below.

#### **Mountain Ranges**

There are four mountain ranges in Pakistan.

##### **Karakoram Range**

The Karakoram range covers the borders between Pakistan, India and China in the region of Gilgit-Baltistan (Pakistan), Ladakh (India) and Xinjiang region (China). The range is about 500 KM (311 miles) in length.

##### **Himalayan Range**

The Western Himalayan range is situated in Kashmir valley dominated by Nanga Parbat, Pakistan 2<sup>nd</sup> and world's 9<sup>th</sup> highest mountain range. It is considered as one of the most dangerous mountains to climb, nick name as "Killer Mountain", in local language it's called "Des Mir". It is situated in Gilgit-Baltistan.

##### **Hindu Kush Range**

The height of Hindu Kush Mountain is an 800 km long mountain range that stretches between central Afghanistan and northern part of Pakistan. It comes to Pakistan and connects with rest of the two ranges: Himalaya and Karakoram. The highest point in the Hindu Kush is Tirch Mir and its height is 7,708 meters or 25,289 ft high which is located at Chitral district of Khyber Pakhtunkhwa. This mountain range separates Central Asia from South Asia.

There are numerous high passes in Hindu Kush and normally these passes are known as Kotal, forming a strategically important network for the transit of caravans. The most important mountain pass is the Salang Pass. Some of other passes are Tangi Ghoru and Khyber Pass. Whereas Chitral is considered to be the pinnacle of Hindu Kush region. High peaks as well as countless passes and massive glaciers are in this region.

## **Sulaiman Range**

Pakistan's fourth major mountain range is the Sulaiman range which is situated in Balochistan. It emerges in the south western region of the country mostly covering Balochistan province. However, the mountain range is quite different from the Northern Mountains as it is less precipitous, extremely steep and with medium elevations. The highest peak is Takht-i-Sulaiman rising 3,487 meters above sea level. The topography of Sulaiman range is quite different from rest of the mountains situated in Pakistan as they are quite dry and cold at sometimes.

## **Deserts**

There are four major deserts situated in Pakistan.

### **Thal Desert**

Thal desert is situated in Punjab, Pakistan. It is a vast area mainly between the Jhelum and Sindh rivers. Its total length from north to south is 190 miles, and its maximum breadth is 70 miles (110 km) while minimum breadth is 20 miles. This region is divided into the districts of Bhakkar, Khushab, Mianwali, Jhang, Layyah, and Muzaffargarh.

### **Thar Desert**

The Thar Desert is the largest among all and mostly falls under the territory of Sindh province, extending eastwards from irrigated plains on the left bank of River Indus towards the Indian states of Rajasthan and Gujrat, constituting the largest desert in South Asia, also known as the Great Indian Desert. The approximate area of Greater Thar Desert in total is around 200,000 square km, of which around 50,000 square km falls in the Pakistani territories, covering the districts of Tharparker, Mirpur Khas, Umerkot, Khairpur, Sukkar and Ghotki in Sindh Province.

### **Cholistan Desert**

The Cholistan desert is locally known as Rohi, with an estimated area of 26,000 square km covering the districts of Bahawalpur, Rahimyar Khan and Bahawalnagar.

Towards the eastern flanks, Cholistan extends into the Indian states of Rajasthan and Punjab which joins the greatest Thar Desert while on North Western front it is bordered by the irrigated plains of Indus and Sutlaj rivers. The total estimated population living in these desert districts is around 7.5 million (1998 census).

### **Kharan Desert**

The Kharan desert is situated in the western region of Balochistan province of Pakistan. Overall, all of Balochistan plateau is characterized by extreme weather conditions and are also very barren terrain. However, Kharan desert can be separated from the rest of the arid landscape due

to its sandy nature and more even terrain. It mostly falls in the Kharan District covering an estimate area of more than 20,000 square km with a population of only 0.23 million.

## **Sea**

The coastal area of Pakistan is in the province of Sindh and Balochistan. The coastline of Pakistan is Balochistan coastline which is 771 Km and rest of the 250 km coastline is in Sindh. These coastlines of Pakistani areas are on the shore of Arabian Sea and they connect Pakistan with other countries like Middle East of the world through a sea route.

Gawadar and Karachi are two prominent ports on these coastal areas of Pakistan. Famous ports of Pakistan are Gawadar, Pasani, Ormaro, Jiwani which serve as an engine of economic growth of Pakistan.

## **Plains**

Plain areas are also known as flat or lowlands. In Pakistan, plains are found in Sindh and Punjab. Plains are fertile lands which favour agriculture. Most of the cultivation is carried out in the plains of Sindh and Punjab. If Pakistan wants to ensure its food security in the future, it should work for the betterment of these plain areas. Pakistan is an agrarian country, and for productive agriculture, water is of utmost importance.

## **Rivers**

The principal rivers of Pakistan are

- ❖ Chenab River
- ❖ Indus River
- ❖ Jhelum River
- ❖ Ravi River
- ❖ Kabul River
- ❖ Sutlej River

## **Chenab River**

The Chenab River is one of the major rivers of Pakistan. It originates in the Himachal Pradesh-India and flows through the Jammu region of Jammu and Kashmir into the plains of the Punjab, Pakistan.

## **Indus River**

Indus River is one of the longest rivers in the world. Originates from the glacial **Tibetan** mountains, the Indus gushes into Pakistan with all its might and fright from the northern areas. It then runs through Jammu and Kashmir, enters the Gilgit-Baltistan (formerly Northern Areas of Pakistan) region and flows through the entire length of the country and merges with the Arabian Sea.

## **Jhelum, Chenab, Ravi and Sutlej**

Besides Indus, four other rivers also enter Pakistan from the neighboring India, namely the Jhelum, Chenab, Ravi and Sutlej and all empty into the Indus to add to its might and power. The place where all these four rivers meet the Indus is known as PanjNadh.

In KPK it is called as Abaseen; Aba means father and seen means river. Thus, Abaseen means the father of rivers.

Jhelum River, originates from India, enters Pakistan Jhelum district. The Jhelum was crossed in 326 B.C. by Alexander the Great, who defeated the Indian king Porous. The river's ancient name was Hydaspes. This river is a tributary of the Indus River, and its hydrology is basically handled by snowmelt in the spring and the Indian monsoon. Strategically very important, any construction of dam by India can affect Pakistan.

The Ravi is a trans-boundary river flowing through Northwestern India and eastern Pakistan. It is one of the six rivers of the Indus System in Punjab region.

Sutlej, originates from India, enters Punjab, tributary of Indus River. The hydrology of the Sutlej is controlled by spring and summer snowmelt in the Himalayas and by the South Asian monsoon.

## **Dams**

Dams are built by people to store water. Dams are built where there is a lake which has mountains on two sides and then spillways are constructed in the area where there is no natural barrier. The glaciers (smaller moving mass of snow) melt and the water is collected in the dams. When there is a need the spillways are opened, and the water is supplied to the rivers. Pakistan has two most massive dams, i.e. **Mangla dam** built in 1967 and **Tarbela dam** built in 1976.

Attahbad lake which was created naturally by the earthquake of 2010, it can be called the natural dam, just spillways need to be constructed on one side, so the stored water can be used.

Other than dams, we have barrages constructed in lowlands to guide the water for irrigation. Kotri Barrage (1955, Hyderabad) and Taunsa Barrage (1958, Dera Ghazi Khan) can be stated as examples.

### **Kalabagh Dam**

Kalabagh dam has been proposed to be built on the Indus River in Mianwali, an area bordering KPK. This dam could not materialise till date because national consensus is missing. **KP** government says that the lake of the dam will reach till **Noshwera** and this will destroy the agricultural land. On the other hand, the **Sindh** government says that if this dam is built, the chances are that Sindh will not get an adequate share of water from it. Unfortunately, the Federal Government has failed to develop a consensus on the construction of this dam.

Diamer Bhasha dam also has issues of Royalty. KPK will get that Royalty and Northern areas will get affected by it and government is unable to resolve these issues.