

# Rivers of India

[UPSC Notes]

## Indian River System

The Indian drainage system is made up of numerous small and large rivers. It is the result of the evolution of the three major physiographic units, as well as the nature and attributes of precipitation. The majority of Indian river systems either join the Bay of Bengal in the east or the Arabian Sea in the west. Some of them have inland drainage as well. Nevertheless, all major rivers in India can be tracked down to three major water sources that we will discuss in the coming section.

## Origin of Major Rivers of India

The majority of the rivers empty their waters into the Bay of Bengal. Some rivers flow through the western part of the country and eventually join the Arabian Sea. Inland drainage occurs in the northern Aravalli range, parts of Ladakh, and arid regions of the Thar Desert. All the major rivers in India flow from one of three major watersheds:

- The Himalayan and Karakoram mountain ranges
- The Chota Nagpur plateau, as well as the Vindhya and Satpura ranges
- Western Ghats
- Indian Rivers and their Tributaries

## Indian Rivers and their Tributaries

Below we have discussed some of the major Indian rivers and their tributaries.

### Brahmaputra river

The Brahmaputra River, also known as the Tsangpo-Brahmaputra, is an Asian transboundary river. At 2,900 kilometers, it is Asia's sixth-longest river (1,800 mi). It emerges from the Tibetan Plateau and flows east for over 2,900 kilometers before emptying into the Bay of Bengal.

The Chemayungdung mountain ranges near Mansarovar lake in southern Tibet are the origin of the Brahmaputra river. The Brahmaputra is a vital transportation and irrigation corridor for the countries it flows through, which include India, Bangladesh, and Tibet. The river is home to a diverse range of wildlife, including plenty of endangered species.

The Brahmaputra river basin is made up of numerous small rivers and spans Tibet, Bhutan, Bangladesh, and India. In India, the River Brahmaputra basin spans several states, including Assam, Arunachal Pradesh, West Bengal, Meghalaya, Nagaland, and Sikkim.

### **Left Bank tributaries**

The principal tributaries of the river joining from the left are the Burhi Dihing, the Desang, the Dikhow, the Dhansiri, and the Kopili.

### **Right Bank tributaries**

The principal tributaries of the river joining from the right are the Lohit, the Dibang, the Subansiri, the Jiabharali, the Dhansiri, the Manas, the Torsa, the Sankosh, and the Teesta.

### **Godavari river**

The Godavari River is the largest of India's peninsular rivers and the third longest river in the country. The Godavari river rises near Trimbak Hills in Maharashtra's Nasik district, at an altitude of 1,067 m in the Western Ghats. Dakshin Ganga and Vridha Ganga are two other names for the same river.

The Godavari river basin includes:

- On the north, the Godavari river basin is bounded by the Ajanta hills range, Satmala hills, and the Mahadeo hills range.
- By the Eastern Ghats to the south and east.
- On the west, by the Western Ghats.

The Godavari flows southeast for approximately 1,465 kilometers before merging with the Bay of Bengal. The Godavari Drains about 10% of India's total land area. Nasik and Bhadrachalam have holy places on the river's banks. Every 12 years, Nasik hosts the Kumbh Mela, which draws millions of devotees. The Pranhita river is Godavari's largest tributary, accounting for approximately 34.87% of the drainage area.

### **Right Bank tributaries**

Pravara, Manjira, and Maner are right bank tributaries that cover approximately 16.14% of the basin.

### **Left Bank tributaries**

The left bank tributaries Indravathi, Purna, Pranhita, and Sabari, contribute nearly 59.7% of the basin's total catchment area.

## Indus river

The Indus River system is one of South Asia's greatest and most important rivers. It commences near Mount Kailash and flows through Tibet in a narrow valley towards the north-western region of Tibet, where it is famous by the name Singi Khamban or Lion's Mouth. It runs nearly straight through Ladakh between the Ladakh and Zaskar ranges.

It passes for the first 480 kilometers along the northern edge of the Zaskar range, through flat country at altitudes of more than 3200 meters, before falling into the Zaskar River below Leh.

The Indus river flows for 2900 kilometers eastward before falling into the Arabian Sea. The river flows across some of the rockiest terrains in India and Pakistan. The river has a large influence on the regional climate, agriculture, and aquatic ecosystems.

### Right Bank tributaries

Its major right-bank tributaries include the Shyok River, Gilgit River, Hunza River, Swat River, Kunar River, Kurram River, Gomal River, and Kabul River.

### Left Bank tributaries

Its major left-bank tributaries include the Zaskar River, Suru River, Soan River, Jhelum River, Chenab River, Ravi River, Beas River, Satluj River, and Panjnad River.

## Cauvery river

The Cauvery, also known as the Ponni river, is named as the Ganga of the South. The Cauvery river originates at Talakaveri, in the western ghats, at a height of 1341 meters above sea level, Brahmagiri range in Karnataka's Coorg district.

The Cauvery river basin covers an area of 81,155 square kilometers.

The Cauvery river runs 800 kilometers from its headwaters to its mouth in the Bay of Bengal. The Cauvery basin is bounded on the north side by the Tungabhadra river basin and on the south side by the Palar river basin. The western boundary is formed by the Western Ghats. The Nilgiri mountain range reaches the Eastern Ghats from the west.

### Right Bank tributaries

Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil, and the Amaravati.

### **Left Bank tributaries**

the Harangi, the Hemavati, the Shimsha, and the Arkavati.

## **Ganga River**

The Ganga river system extends across India, Tibet (China), Nepal, and Bangladesh. It is India's largest river basin, covering roughly one-fourth of the country's total land area. states of Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh, and the Union Territory of Delhi are included.

The Ganga is made up of six headstreams and five confluences. The Alaknanda River joins the Dhauliganga River in Vishnuprayag, the Nandakini River in Nandprayag, and the Pindar River in Nandprayag to form the Ganga mainstream.

The Bhagirathi considered the source stream river, emerges at the foot of the Gangotri Glacier, at Gaumukh, at an altitude of 3892m, and flows into the 350km-wide Ganga delta before emptying into the Bay of Bengal.

### **Right Bank tributaries**

The Yamuna, Tamsa (also called Tons), Karamnasa, Sone, Punpun, Falgu, Kiul, Chandan, Ajoy, Damodar, Rupnarayan

### **Left Bank tributaries**

Ramganga, Garra, Gomti, Ghaghara, Gandak, Burhi Gandak, Koshi, Mahananda

## **Krishna river**

The Krishna River is peninsular India's second largest river, after the Godavari River, with a total length of 1400 km. River Krishna rises in the Western Ghats close to Mahabaleshwar in Maharashtra, about 64 kilometers from the Arabian Sea. It runs the length of the peninsula, from the western ghats to the Bay of Bengal.

The Krishna River originates in Maharashtra and flows through Karnataka, Telangana, and Andhra Pradesh before entering the Bay of Bengal. The Krishna river basin is heavily used for agriculture; nearly 75% of its basin is agricultural land.

### **Right Bank tributaries**

Venna, Koyna, Panchganga, Dudhganga, Ghataprabha, Malaprabha, and Tungabhadra are major right-bank tributaries of the Krishna River.

### **Left Bank tributaries**

Bhima, Dindi, Peddavagu, Halia, Musi, Paleru, and Munneru are major left-bank tributaries of the Krishna River.

### **Mahanadi river**

The Mahanadi river emerges at an elevation of 422 meters above sea level near Pharsiya village, located in the Nagri town in Chhattisgarh's Raipur district. It is one of the major inter-state east flowing rivers in peninsular India. The total length of the Mahanadi river from its headwaters to its confluence in the Bay of Bengal is nearly 851 kilometers, with 357 kilometers in Chhattisgarh and the remainder 494 kilometers in Odisha.

The Mahanadi river basin covers an area of 1,41,589 square kilometers, or 4.3% of India's total geographical area, and is located in the states of -Chhattisgarh, Odisha, Jharkhand, Maharashtra, and Madhya Pradesh.

### **Right Bank tributaries**

Ong, Tel, and Jonk.

### **Left Bank tributaries**

Seonath, Hasdeo, Mand, and Ib.

### **Narmada river**

The Narmada River is one of India's greatest rivers, stretching over 1,312 kilometers. The river originates in the Maikala range's Amarkantak Plateau and streams west into the Gulf of Cambay. The Narmada River flows across the states of Gujarat, Madhya Pradesh, and Maharashtra. The river is a crucial source of water for irrigation and purposes of hydroelectric power generation.

The Narmada river basin covers an area of 98,796 square kilometers. The Narmada basin is surrounded on all sides by different mountain ranges:

- The Vindhyas are to the north,
- the Maikalas are to the east,
- the Satpuras are to the south, and
- The Arabian Sea is to the west of the Narmada.

### **Right Bank tributaries**

Silgi, Balai, Gaur, Hiran, Biranjo, Tendon, Barna, Kolar (MP), Sip, Jamner, Chandrakeshar, Khari, Kenar, Choral, Karam, Man, Uri, Hathni, Orsang

### **Left Bank tributaries**

Kharmer, Burhner, Banjar, Temur, Sanair (Saner), Sher, Shakkar, Dudhi, Sukhri, Tawa, Hather, Ganjal, Ajnal, Machak, Chhota Tawa, Kaveri (MP), Khurkia, Kunda, Borad, Deb, Goi, Karjan

### **Tapti river**

With a length of 724 kilometers, the Tapti River is one of peninsular India's major rivers. The Tapti River's origins are in Multai, Madhya Pradesh's Betul district. The Narmada, Mahi, and Tapti rivers are the three major rivers that flow from east to west in peninsular India. The Tapti River has the second largest interstate river basin that drains westward. Its primary drainage area is in Maharashtra, but it also drains areas in Madhya Pradesh and Gujarat.

It has a drainage area of 65145 square kilometers, nearly 80 percent of which is in Maharashtra. Tapti runs through Madhya Pradesh for the first 282 kilometers, 54 of which are shared by the states of Maharashtra and Madhya Pradesh.

The Tapti river flows through Maharashtra for 228 kilometers before approaching Gujarat. The Tapti River flows through Gujarat for 214 kilometers before joining the Arabian Sea via the Gulf of Cambay/Khambhat after passing through Surat.

### **Right Bank tributaries**

Vaki, Gomai, Arunavati, and Aner.

### **Left Bank tributaries**

Nesu, Arunavati, Buray, Panjhra, Bori, Girna, Waghur, Purna, Mona and Sipna.

### **Yamuna river**

It originates on the southwestern slopes of the Yamunotri Glacier or on Bandarpoonch peak in the Mussoorie range of the lower Himalayas. It flows through Uttarakhand, Himachal Pradesh, and Haryana before entering Delhi and merging with the Ganga near Triveni Sangam in Allahabad (Prayagraj). The Ganga's largest tributary in the northern plains merges with the Yamuna just below Kalsi before the latter departs the hills.

**Right Bank tributaries**

Tons, Giri, Baghain, Chambal, Betwa, Sindh, Ken

**Left Bank tributaries**

Hindon, Hanuman Ganga, Sasur Khaderi

