

UPSC Preparation

Teesta River

Teesta River originates from the **Tso Lhamo Lake** at an elevation of about 5280 m in the North Sikkim district. It is the **right bank major tributary** of the **Brahmaputra** river system. Like many other major Himalayan rivers of India, like the Ganga, Teesta is a glacier-fed river. **Pahurni glacier, Khangse glacier and ChhoLhamo Lake** are also considered the sources of Teesta River.

Teesta River is considered a valuable resource from which hydroelectricity can be produced to power the cities of Sikkim.

Facts of Teesta River for UPSC

Brief facts of Teesta River - UPSC Prelims	
What is the length of the Teesta river?	414 km long
Which two countries share the Teesta river?	India and Bangladesh
Which is the largest right-bank tributary of the Teesta river?	Rangit

About Teesta River

- The Teesta river basin is located between India and Bangladesh.
- The major portion or the greater part of the river basin lies in India and only 17% of it is in Bangladesh.
- The Indian portion of the Teesta basin lies in the mountainous terrain of Sikkim and West Bengal.
- The two countries India and Bangladesh share many rivers and among them, Teesta is the fourth-largest river.
- The Teesta river basin extends from Sikkim in India in the eastern Himalayas, through West Bengal to the northern Rangpur division in Bangladesh.

- The river joins the Brahmaputra in Bangladesh before it flows into the Bay of Bengal after meeting with the Ganges and the Meghna.
- In Bangladesh, the Teesta joins the Brahmaputra on its right bank, from where the river is known as the Yamuna.
- Then, it finally merges with the river Padma, which falls in the Bay of Bengal.
- Historically, the Teesta river system was considered the major tributary of the Ganges.
- Teesta basin is home to around 30 million people, 2% in Sikkim, 27% in West Bengal; and 71% in northwest Bangladesh.
- Sikkim is mountainous with very low population density, whereas West Bengal has a mix of low hills and plains, and in Bangladesh, the terrain is almost flat.
- There are two major large barrages on Teesta that diverts water for mainly irrigation purpose:
 - Gajoldobha in India
 - Duani in Bangladesh.

Major tributaries of Teesta river

The tributaries on the eastern flank are shorter in the course but larger in number whereas the tributaries on the western flank are much longer with larger drainage areas, consequently contributing much more amount of discharge to the main Teesta river. The major left and right bank tributaries of the Teesta river are tabled below:

Major Tributaries of Teesta River	
Left-bank Tributaries	Right-bank Tributaries
1. Lachung Chhu 2. Chakung Chhu 3. Dik Chhu 4. Rani Khola 5. Rangpo Chhu	1. Zemu Chhu 2. Rangyong Chhu 3. Rangit River
The left bank tributaries originate from semi-permanent and much smaller snowfields as compared to right bank tributaries.	Right-bank tributaries drain heavily glaciated areas with large snowfields.



Source - ResearchGate

Rainfall pattern

- The Teesta river is characterised by heavy rainfall and floods in the monsoon season.
- In the north Sikkim region, due to steep slopes and uneven elevation, these extreme events lead to slope transformation, landslides, and erosion.
- These events are responsible for the deposition of suspended sediments in the river channel.
- The northern parts of Teesta river basins are dry and cold, whereas the southern and middle parts are hot, humid and wet.

Characteristics of Teesta River Basin

- The Upper Teesta river basin - is characterised by glacial, accumulation of debris, debris avalanches and rock glaciers.
- Middle and Lower Teesta River basin - is relatively less slope and relatively subdued relief.
- Teesta and most of its tributaries flow with high velocity and carry boulders and suspended sediments.
- The flow is turbulent and characterised by high velocities throughout Sikkim.
- The upper part of the basin is characterised by sub-zero temperature in winter, rising to around 20 °C during the peak summer season.

FAQ about Teesta River

Is Teesta a tributary of Brahmaputra?

Yes. The Teesta river system is a major right-bank tributary of the Brahmaputra river system.

What is the temperature variation in the Teesta river basin?

The average seasonal temperature in summer is 25 degrees Celsius, and in winter is 3 degrees Celsius.