



Exploring the Teesta River: From Himalayan Glaciers to Bengali Delta

In this blog, we are going to discuss about the lifeline of West Bengal and Bangladesh, the Teesta River. The Teesta River is a major transboundary river that flows through the Indian states of Sikkim and West Bengal, as well as Bangladesh. It originates in the Pauhunri Mountain of the eastern Himalayas, flows through the Teesta Valley in Sikkim, and enters Bangladesh through the Rangpur Division. The Teesta River is the largest river of Sikkim and the second largest river of West Bengal after the Ganges.

The Teesta River has a drainage basin of 12,540 square kilometers (4,840 square miles). The river is fed by glaciers and snowmelt from the Himalayas. The Teesta River is a perennial river, meaning that it flows year-round.

The Teesta River is home to a variety of fish and other aquatic life. The river is also a popular tourist destination. The Teesta Valley in Sikkim is known for its scenic beauty and its rich biodiversity.

Now, before diving deep into the different elements of this river, let's take a glance at the river.

Teesta River at a Glance

Teesta River	
Length	414 kilometers (257 miles)
Drainage Basin	12,540 square kilometers (4,840 square miles)
Average discharge	370 cubic meters per second (13,000 cubic feet per second)
Highest Point	Pauhunri Mountain (7,128 meters or 23,386 feet)
Lowest Point	Bay of Bengal (sea level)
Major Tributaries	Rangeet River, Lachen River, Lachung River, Jaldhaka River
Flows Through	India (Sikkim, West Bengal) and Bangladesh

The Teesta River is a vital lifeline for the people of Sikkim, West Bengal, and Bangladesh. The river provides water for irrigation, drinking, and hydropower generation. The Teesta River is also a major transportation route and a popular tourist destination.



[Source: Britannica]

Now, let's look at its Journey and its course from the start till the end.

Course of Teesta River

The Teesta River, one of the most important water bodies in the Indian subcontinent, courses through several districts, leaving its mark on the landscapes and communities it encounters. In this exploration, we will follow the Teesta's path as it winds through the region, connecting people and places along the way.

Sikkim - The Himalayan Cradle:

The Teesta begins its journey high in the Himalayas, originating from the pristine Cholamu Lake in North Sikkim. As it rushes downhill through the rugged terrain of this northeastern Indian state, it forms turbulent rapids and cascades, providing the perfect playground for adventure seekers. The river's journey in Sikkim is characterized by deep gorges, thick forests, and the backdrop of snow-capped peaks. Here, it passes through districts like North Sikkim and East Sikkim, contributing to the region's stunning natural beauty.

The Confluence in Singtam:

Near Singtam in Sikkim, the Teesta meets its significant tributary, the Rangpo River. This confluence marks a pivotal point in the Teesta's course as it receives the waters of the Rangpo, which originates from the eastern Himalayas. This union sets the stage for the river's continued journey with increased volume and vigor.

Enter West Bengal - A Transformative Phase:

Leaving behind the mountainous terrain of Sikkim, the Teesta enters the Indian state of West Bengal. This marks a transition in its character. The river's flow slows down, and it begins to meander through the fertile alluvial plains of the Bengal region. The Teesta is now joined by several smaller rivers and streams, further enriching its waters. This phase of its course takes it through districts like Darjeeling and Jalpaiguri.

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The Farakka Barrage and Ganga Linkage:

One of the significant developments in the Teesta's course occurs near the town of Farakka in West Bengal. Here, the Farakka Barrage was constructed in the 1970s. This engineering marvel diverts a significant portion of the Teesta's waters into the Bhagirathi-Hooghly river system, eventually joining the Ganges. The primary purpose of this project was to prevent erosion along the Bhagirathi-Hooghly riverbanks and to maintain navigability for the Kolkata Port.

Confluence with Brahmaputra in Bangladesh:

Here, the river concludes its journey within the borders of India and proceeds into Bangladesh through Dahagram, situated in the Rangpur Division. As it meanders onward, the river gradually descends towards Barakhata, where it encounters the Teesta Barrage, a vital structure in Bangladesh. Continuing its course, the Teesta River proceeds through Rangpur and other districts as well. It then ultimately merge with the Brahmaputra River at Haripur Port, in the Kurigram District of Bangladesh.



[Source: Wikipedia]

Major Tributaries of Teesta River

The Teesta River has a number of major tributaries, including:

- **Rangheet River:** The Rangheet River is the longest and most important tributary of the Teesta River. It originates in the Singalila Ridge in Sikkim and flows south to join the Teesta River near Darjeeling. The Rangheet River is a popular destination for white water rafting.
- **Lachen River:** The Lachen River originates in the Gangotri Glacier in Sikkim and flows south to join the Teesta River near Chungthang. The Lachen River is known for its scenic beauty and its rich biodiversity.
- **Lachung River:** The Lachung River originates in the Lachung Glacier in Sikkim and flows south to join the Teesta River near Chungthang. The Lachung River is also known for its scenic beauty and its rich biodiversity.
- **Jaldhaka River:** The Jaldhaka River originates in the Darjeeling Hills and flows south to join the Teesta River near Hasimara. The Jaldhaka River is a major source of water for irrigation and drinking in the region.
- **Torsa River:** The Torsa River originates in the Bhutanese Himalayas and flows south to join the Teesta River near Cooch Behar. The Torsa River is a major source of water for irrigation and drinking in the region.

These tributaries play an important role in the Teesta River basin, providing water for irrigation, drinking, and hydropower generation. They also support a rich variety of aquatic life.

In addition to the above major tributaries, the Teesta River also has a number of smaller tributaries, including the following:

- **Ganol River:** The Ganol River flows through the Indian states of Sikkim and West Bengal.
- **Mahananda River:** The Mahananda River flows through the Indian states of West Bengal and Bihar.
- **Chel Khola:** The Chel Khola flows through the Indian state of Sikkim.
- **Neora Khola:** The Neora Khola flows through the Indian state of Sikkim.
- **Leesh Khola:** The Leesh Khola flows through the Indian state of Sikkim.
- **Relli River:** The Relli River flows through the Indian state of Sikkim.
- **Riyang River:** The Riyang River flows through the Indian state of Sikkim.
- **Geil Khola:** The Geil Khola flows through the Indian state of Sikkim.

The Teesta River basin is a complex and dynamic system, and its tributaries play an important role in its overall health and function.

We've seen many questions in different exams regarding the bridges on the rivers. So, let's look at the major bridges on the Teesta River.

Major Bridges on Teesta River

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There are a number of major bridges on the Teesta River, including:

- **Sevoke Railway Bridge:** The Sevoke Railway Bridge is a cantilever bridge that carries the Darjeeling Himalayan Railway over the Teesta River at Sevoke, West Bengal. It is one of the highest railway bridges in India, with a height of 318 feet (97 meters).
- **Teesta Bridge:** The Teesta Bridge is a road bridge that carries National Highway 31 over the Teesta River near Jalpaiguri, West Bengal. It is one of the longest bridges in West Bengal, with a length of 3.5 kilometers (2.2 miles).
- **Joyee Setu:** Joyee Setu is a road bridge that carries National Highway 31D over the Teesta River near Haldibari, West Bengal. It is the longest bridge in West Bengal, with a length of 3.8 kilometers (2.4 miles).
- **Indreni Bridge:** The Indreni Bridge is a road bridge that carries the Melli-Sombarey Road over the Teesta River near Melli, Sikkim. It is the highest bridge in Sikkim, with a height of 230 meters (755 feet).
- **Rangpo Teesta Bridge:** The Rangpo Teesta Bridge is a road bridge that carries National Highway 10 over the Teesta River at Rangpo, Sikkim. It is the longest bridge in Sikkim, with a length of 400 meters (1,312 feet).

These bridges play an important role in the transportation network of the region, connecting Sikkim, West Bengal, and Bangladesh. They also provide access to important economic centers and tourist destinations.

In addition to the major bridges listed above, there are a number of other smaller bridges on the Teesta River. These bridges serve important local transportation needs and also provide access to remote villages and communities.



[Source: India Today]

The Teesta River is a vital water resource for the region, and the bridges that cross it play an important role in the lives of the people who live and work in the Teesta River basin.

Major Hydroelectric Projects on Teesta River

There are a number of hydroelectric projects on the Teesta River, including:

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- **Teesta Stage I Hydroelectric Power Station:** The Teesta Stage I Hydroelectric Power Station is a 120 MW power station located near Chungthang, Sikkim. It was commissioned in 1990.
- **Teesta Stage II Hydroelectric Power Station:** The Teesta Stage II Hydroelectric Power Station is a 160 MW power station located near Jholung, Sikkim. It was commissioned in 2000.
- **Teesta Stage III Hydroelectric Power Station:** The Teesta Stage III Hydroelectric Power Station is a 1200 MW power station located near Mangan, Sikkim. It was commissioned in 2017.
- **Teesta Stage IV Hydroelectric Power Station:** The Teesta Stage IV Hydroelectric Power Station is a 520 MW power station located near Dikchu, Sikkim. It is currently under construction.
- **Teesta Stage V Hydroelectric Power Station:** The Teesta Stage V Hydroelectric Power Station is a 500 MW power station located near Sirwani, Sikkim. It is currently under construction.

In addition to these large hydroelectric projects, there are a number of smaller hydroelectric projects on the Teesta River. These projects range in capacity from 1 MW to 50 MW.



[Source: Economic Times]

The hydroelectric projects on the Teesta River provide a valuable source of renewable energy for the region. They also play an important role in flood control and irrigation.

However, the hydroelectric projects on the Teesta River have also been criticized for their environmental and social impacts. The dams associated with these projects have displaced local communities and disrupted ecosystems. They have also been blamed for increasing the risk of flooding and landslides.

It is important to weigh the benefits and drawbacks of hydroelectric projects on the Teesta River carefully when making decisions about their future development.

Climate and Agriculture

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The Teesta River basin is located in a region that is highly vulnerable to climate change. The region is already experiencing rising temperatures, changes in precipitation patterns, and more extreme weather events. These changes are having a significant impact on agriculture in the Teesta River basin.

Rising temperatures

Rising temperatures are causing the growing season in the Teesta River basin to become longer. However, they are also making it more difficult to grow certain crops. For example, rice, which is a staple crop in the region, is sensitive to high temperatures. Rising temperatures are also increasing the risk of pests and diseases, which can damage crops and reduce yields.

Changes in precipitation patterns

Changes in precipitation patterns are also impacting agriculture in the Teesta River basin. The region is experiencing more frequent and severe droughts and floods. This is making it more difficult for farmers to plan and manage their crops. Droughts can lead to crop failure, while floods can damage crops and soil.

More extreme weather events

More extreme weather events, such as hailstorms and cyclones, are also impacting agriculture in the Teesta River basin. These events can damage crops and infrastructure, and lead to loss of life and livelihoods.

Impact on agriculture

The combined effects of climate change are having a significant impact on agriculture in the Teesta River basin. Farmers are finding it more difficult to grow crops, and yields are declining. This is leading to food insecurity and poverty in the region.

Adaptation measures

Farmers in the Teesta River basin are adapting to climate change in a number of ways. They are planting drought-tolerant crops, using water more efficiently, and diversifying their livelihoods. However, they need more support from governments and development agencies to adapt to climate change and build resilience.

Climate change is a major threat to agriculture in the Teesta River basin. It is important to take action to reduce greenhouse gas emissions and support farmers to adapt to climate change. This will help to ensure that the people of the Teesta River basin have access to food and nutrition in the future.



[Source: scroll.in]

Challenges Faced by Teesta River

The Teesta River, flowing through the Eastern Himalayan region, faces a myriad of challenges that impact its ecosystems, communities, and the overall environment. Here are some of the key challenges:

- Water Sharing Disputes:** One of the most significant challenges is the water-sharing dispute between India and Bangladesh. The two nations have struggled to reach a consensus on the equitable distribution of the Teesta's waters. This dispute affects the livelihoods of communities on both sides of the border and has strained diplomatic relations.
- Hydropower Development:** The construction of hydropower projects along the Teesta's course has altered its natural flow, potentially causing downstream impacts. These projects aim to generate electricity but may lead to issues like altered river dynamics and reduced water availability for downstream users.
- Riverbank Erosion:** Changing river patterns and increased sedimentation due to deforestation and land-use changes have led to riverbank erosion along the Teesta. This poses a threat to agricultural land, infrastructure, and communities residing near the riverbanks.
- Ecological Concerns:** The Teesta River basin is home to diverse ecosystems and wildlife, including several endangered species. Altered flow patterns and habitat destruction due to development projects can have adverse effects on the river's ecological balance.
- Climate Change Impact:** Climate change has led to erratic rainfall patterns and glacial melt in the Himalayas, affecting the Teesta's water flow. This uncertainty in water availability adds complexity to the water-sharing dispute and impacts the river's overall health.
- Socioeconomic Impact:** Disruptions to traditional livelihoods, such as fishing and agriculture, due to changes in the river's course and water availability have socioeconomic consequences for communities that rely on the Teesta for their survival.

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[Source: The Third Pole]

Addressing these challenges requires a comprehensive, multidisciplinary approach that takes into account the needs of both upstream and downstream communities, environmental conservation, and sustainable development practices. Cooperation between India and Bangladesh is essential to finding equitable solutions to the water-sharing dispute and managing the Teesta River's resources sustainably in the face of changing environmental conditions.

In conclusion, while the Teesta River confronts a range of challenges, these obstacles also provide an opportunity for cooperation and sustainable management. With collective efforts and responsible practices, we can ensure that the Teesta continues to flow as a lifeline, nurturing the lands and lives it touches for generations to come. In our next blog, we will discuss the [Damodar River](#) of West Bengal. Stay tuned!