



Study about Important Tributaries and Various salient features of river Jehlum

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The Jehlum is a large eastern tributary of the Indus. It drains areas west of Pir Panjal separating Jammu and Kashmir. The Jehlum rises from the spring of Verinag, on the northwestern side of Pir Panjal and flows in a direction parallel to the Indus at an average elevation of 5,500 feet. It drains about 2,300 square miles of alluvial lands in the Kashmir Valley and gets water from various important sources including glaciers

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located in the north of the valley. The river first flows through Dal Lake and then an even bigger lake – Wular Lake, into which it drops coarse grades of sediment. On emergence from the Wular Lake near Baramula, it runs through an eighty mile long gorge at an Average slope of 33 feet per mile. At Domel, near Muzaffarabad, the river is joined by its largest tributary, Neelum (earlier called the Kishan Ganga), which drains about 2800 square miles of hilly area lying on the eastern side of the Nanga Parbat. The Neelum drains Himalayan ranges between 15,000 to 20,000 feet high that are perpetually covered by snow and glaciers. In the lower reaches, the 150-mile long river flows through mountainous country covered by forests.

Five miles below the Domel, the Kunhar, another tributary, joins the River Jehlum, draining nearly 1,080 square miles of the famous Kaghan Valley. Sources of River Kunar lie at about 15,000 to 17,000 feet above sea level. 80% of its total length of about a 100 miles are situated in the hills where it falls at nearly 120 feet per mile, forming innumerable rapids and flowing through the Lalusar Lake. One of Kunar's tributaries also flows through the famous Saif-ul-Molook Lake. From Domel to Mangla, a distance of about 90 miles, two streams, the Kanshi and Poonch join the River Jehlum. The Kanshi is a floodwater stream draining eroded areas of the Jehlum and Rawalpindi districts. This stream carries mainly monsoon rain or seepage water. The Poonch is an important stream joining the Jehlum at Tangrot, about seven miles above Mangla. The site where the two rivers meet used to be a famous fishing spot but now lies within the storage area of the Mangla Dam.



The Poonch drains the southern sides of Pir Panjal, which ranges between 10,000 to 12,000 feet in height and becomes snow bound during winter. Its catchment area of 1,520 sq. miles is partly covered by forests. The river flows through hilly country for its entire length of 80 miles and drains the areas of Poonch, Kotli and Mirpur. The Mangla Dam has been constructed near the head regulator of Upper Jhelum Canal. From Mangla down to Rasul, several floodwater streams drain into the Jhelum. The Kahan Nullah is nearly forty miles long and drains the Rohtas area, where an auxiliary storage of Mangla Dam was considered. Suketar, Jaba Kas and Bunha are three of the many floodwater nullahs that drain into the Jhelum, through a level crossing of Upper Jhelum Canal.

(b) Important Tributaries of river Jhelum:

1. The **Vishav** is fed by the Kaunsarnag Lake which is about 3 Kms long. It joins the Jhelum below Bijbehara. Kounsarnag at an elevation of about 4000 meters above sea level in the Panjal mountains to the south of Kashmir. Ice is present in the lake even in summer.

The Vishav irrigates the Kulgam Tehsil and logs of timber cut in the forests in its upper course are floated down it to be transported to the valley.

2. The **Romushi** is another tributary of the Jhelum. It flows from Kharmarg to Pakharpur and flowing towards north-east. It joins the Jhelum at 75 deg. East longitude.

3. The **Dudhganga** is another tributary of the Jhelum that flows from Ludurmarg and rises in the central Pir Panjal near Tata Kuti Mountain. Two mountain streams, the Sangsafed and the Yachera form this river. This river flows through Batmalu Swamp near Srinagar.

4. The **Sukhang** is another important tributary. It rises near Gulmarg and irrigates a large area.

5. The **Lidar** is one of the largest tributaries of the Jhelum. It flows in a swift narrow stream from Sheeshnag Lake to the east of Pahalgam. The Lidar passes through many villages, of which



Mattan (Martand) is very famous. The Kolahai and Sheeshnag streamlets join the Lidar at Pahalgam to make it a river.

6. The **Ferozapore Nullah** is an important water-way in the western mountains of Baramulla-Gulmarg area. It collects water from many mountain streams, small lakes and springs. This mountainous area is mostly full of snow even in summer.

7. The **Sind Nullah** has its source in the Inner Himalayas at Dras and after it is fed by the Gangabal lake lying at Harmukh mountain (5150 meters), it joins the Jhelum at Shadipur. It is 96 Kms in length. The famous health resorts of Sonamarg and Ganderbal are situated on its banks. Its water is used for irrigation purposes and the 'Sind Valley Hydroelectric Power Project' uses its water at Gandarbal to produce electric power. It is navigable from Gandarbal downwards.

8. The **Flood Spill Channel** was constructed in 1904 to relieve the strain on the Jhelum in the city of Srinagar. By taking 2/3rd of the total flow in the river it helps the river Jhelum to regulate its water level while passing through the city of Srinagar. The Jhelum rises during floods and the Channel saves the city from being flooded.

(d) Major dams/barrages (with utilization categories):

- Mangla Dam, Rasul Barrage (maximum capacity of 850,000 cusecs.),
- Trimmu Barrage (maximum design discharge of 645,000 cusecs.),
- Upper Jhelum Canal (Taken out from Mangla for a design discharge of 221 m³/s.),
- Rasul- Qadirabad (RQ) Link Canal (Taken out at Jhelum from Rasul barrage for a design discharge of 538m³/s.),
- Chashma- Jhelum (CJ) Link Canal (Taken out from Chashma Barrage for a design discharge of 615 m³/s.)



(c) Various salient features of river Jehlum are as follows:

1. Length of river jehlum in Kashmir region	175km
2. Max. discharge of river near Indo-Pak border	29,600 Cum
3.The average gradient of river from verinag to Wular lake.	18 meters in 113 Km or 6250
4. Average annual rainfall (in mm).	Snowmelt accounts for 65% of the total runoff of the basin. Rainfall is torrential in the months of July-August and September. At some rain gauge stations, daily peaks of about 100 mm have been obtained.
5. Maximum-minimum temperatures in Degree Centigrade.	Subzero temperatures in the upper reaches (Jammu and Kashmir), while parts in Pakistan experience temperatures as high as 29 degrees Celsius.
6. Geographical location	32°58'42" to 35°08'022"N latitude 73°23'32" to 75°35'57"E longitude

References :

30. Salmi, T., M, Määttä, A, Anttila, P., Ruoho-Airola, T. & Amnell, T. (2002). "Detecting trends of annual values of atmospheric pollutants by the Mann–Kendall test and Sen"s slope estimates - the Excel template application MAKESENS".
- Publications on Air Quality, Finish Meteorological Institute, Helsinki. 34. Sen, P. K. (1968). "Estimates of the regression coefficient based on Kendall"s tau". Journal of American Statistical Association, 63(324), 1379–1389.
31. Somlyódy, L., Henze, M., Koncsos, L., Rauch, W., Reichert, P., Shanahan, P., and Vanrolleghem P. (1998). "River water quality modeling III, Future of the Art.



4. Water Science and Technology”, 38(11): 253-260. 32. Tripaty, J.K. and Sahu, K.C. (2005): “Seasonal Hydrochemistry of Groundwater in the Barrier Spit System of the Chilika Lagoon, India”. Journal of Environmental Hydrology, Vol.13, pp.1-9.
5. 33. Venkatesharaju, K., Somashekar, R.K., and Prakash, K.L., (2010). "Study of Seasonal and Spatial Variation in Surface Water Quality of Cauvery River Stretch in Karnataka". Journal of Ecology and the Natural Environment, Vol. 2, No. 1, pp. 001- 009.