

DRAINAGE PATTERN AND RIVER SYSTEM IN SANGLI DISTRICT

Dr. Ravindra K. Chavan
Arts and Commerce College,
Satara

Meena R. Chavan
Shankarrao Jagatap, Arts and
Commerce College, Wagholi

Introduction

India is one of such country in the world which is best owed with good number of rivers and tributaries. Which are helpful not only in the field of agricultural but also in inland transport system of the country. Rivers also form the basis for domestic and industrial water supply, generation of hydro-electricity, inland fishing, are responsible for deposition of fertile soil in the plains as well as formation of deltas. Some river basins are also responsible for trapping of oil and natural gas which also contribute to the list of usefulness of these rivers (Balsubramanian, 2007). Rivers are the significant sources of water and carry water and nutrients to areas worldwide. Their role is very vital in the water cycle and also as drainage channels for surface water. Rivers drain about 75% of the land surface of the Earth.

The inner valleys of some great alluvial rivers contain the sites of ancestral permanent settlements, including pioneer cities. Sedentary settlement in Hither Asia began about 10,000 years ago at the site of Arīḥā (ancient Jericho). Similar settlement in the Tigris-Euphrates and Nile valleys dates back to at least 6000 BP. The first settlers are thought to have practiced a hunting economy, supplemented by harvesting of wild grain. Conversion to the management of domesticated animals and the cultivation of food crops provided the surpluses that made possible the rise of towns, with parts of their populations freed from direct dependence on food getting. Civilization in the Indus River valley, prominently represented at Mohenjo-daro, dates from about 4500 BP, while civilization in the Ganges valley can be traced to approximately 3000 BP.

Study Region

Sangli district is located between 16°45' and 17°33' N latitude and 73°42' to 75°40' east longitude, occupies 8572 km² area treated in south Maharashtra (Fig.1). It includes tahsils such as Shirala, Walwa, Miraj, Tasgaon, Atpadi, Khanapur, Kavate Mahankal, Palus, Kadegaon and Jat. It is bordered by Sholapur district in NE, Satara in Northwest; Kolhapur in southwest and Karnataka state in east and south east. In 2000-01 two talukas i.e. Palus and Kadegaon were added by splitting the present Tasgaon and Khanapur talukas (Fig.1).

Data Base and Methodology

The data is collected from the secondary sources. Department of rural Development and Water Conservation, Geology of Sangli District, Maharashtra State Gazette Sangli District, Socio-Economic Abstract of Sangli District. Review and references of various books, journals and websites are taken for the study.

Drainage Pattern of Sangli District

Within the limits of the Sangli district the Krishna forms the main River system, though the Shirala taluka in the west may be described as belonging to the Warna and the eastern part of the district as belonging to the Bhima drainage.

Warna

The Warna originates from 6.43 km to the north of the district in the Sahyadris and after a southerly course in the western part of Shirala runs in a south-easterly direction forming the southern boundary of the district. Warna Joins the river Krishna opposite to Haripur 3.21 km west of Sangli (Fig.1)

Morna

The River Morna, a tributary of the Warna, rises from a place very near the Dhamavda hill knot and flows between the southerly and south-easterly trending spurs. Villages such as Vakurde Bk, Antri Khurd and Mangle are situated on the stream bank in the trough of the depression. On both sides of the depression, where the land rises more suddenly up the slope of the hills are situated a series of villages linked together by roads.

Krishna

The Krishna is one of the third great Rivers of Southern India. Like the Godavari and Kaveri River. It rises to the east of the Western Ghats almost within sight of the Arabian Sea and falls into the Bay of Bengal traversing the entire breadth of the peninsula. In length it is less than the Godavari, but its drainage area, including the drainage of its two great tributaries, the Bhima and the Tungabhadra is larger than that of either the Godavari or the Kaveri. "Within the district it flows for a distance of about 108 km and is joined by the Warna; and the Yerla, while the Agrani River, with a greater part of its course within the district, joins it just outside. The Krishna valley is the most fertile part of the district and on its banks which are some 30 to 50 metres above the channel bed (Fig.1).

Yerla

The Yerla has a much larger drainage area and much larger, longer and more numerous direct tributaries than the Krishna within the limits of the Sangli district. It flows north to south in a valley flanked by the Vardhangad Machchindragad range on the right or west and by the Mahimangad-Panhala. range on the left or east. Intense well irrigation is found in the valley troughs. of the Yerla and all its tributary streams unlike in the Krishna valley.

The Sonhira odha is another west bank tributary of the Yerla flowing eastwards on the northern side of the Kamal Bhairav mountain into the Yerla. The east bank tributaries of the Yerla are generally longer though somewhat drier than those of the west. The most important of them is the Kapur nala which has a good subterranean flow of water under the sands even in the dry season (Fig.1).

Agrani

The Agrani River rises just a few km above Balvadi in the Khanapur plateau and flows 3.21 km east of Khanapur deeply incised in the plateau. The narrow valley bottoms of this River and its incised tributaries are the only areas of fertile soils with facilities for well irrigation in the otherwise barren. plateau areas. The east bank tributaries of the Agrani River have cut down relatively broader valleys and hence there greater intensity

agriculture, and the villages are consequently larger and more frequent the east of River than to the west. After flowing 32.18 km in southward direction, the Agrani turns towards the south-east at Vajrachaunde in conformity with the change in trend of the Mahimangad-Panhala range, and leaves the district km below Dhulgaon to join the Krishna River.

Man

The Man River has only 16 km of course within or the border of district but along with its tributaries responsible for draining the north eastern parts of Khanapur and Miraj talukas and the northern part of the taluka into the Bhima River. Korda. The Korda River rising just to the west of Jat, flows northwards to join the Man outside the district. Along with its numerous tributary streams it drains the north-western part of the Jath taluka towards the Man. There is a remarkable development of well-irrigation in the valley troughs

Bor

The eastern part of the Jath taluka is drained principally by the Bor River. Tributaries of Bor are Dodda and Darai flows northwards and joins the Bhima River. The Bor originates on the northern slopes of the water-divide, 4.28 km to the northeast of Jath where it is known as Don and after a semicircular course on the plateau enters the lower plateau to the east by a gorge and flows via Daribadchi, where it is known as Saval. On the Jath plateau there is a southerly stream known as Kasarki, first flowing eastwards and after a small deviation to the south of the district joins the Bor River 4.28 km below village Sankh locally named as Darai.

Conclusion

After Godavari and Kaveri, Krishna is the third most important river in India. River pattern in Sangli district is dendritic. Warana, Morana, Krishna, Agrani, bor and Man are the main rivers of the Sangli district. Excluding Krishna and Warana all the rivers are flowing in drought prone region of Sangli district. Krishna is the main perennial river. On the bank of the Krishna, sugarcane is the main cash crop. Agrani river basin is famous for grapevine, pomegranate and other orchids. Warana and Morna are the main tributaries of the Krishna. The Man has only 16 km of course within the border of the district. Man river flows in the totally drought prone area.

Reference

1. Chavan R.K.(2013) : Watershed Management for Sustainable Rural development : A case study of Sangli district (Maharashtra), UGC Sponsored Minor research project.
2. Department of rural Development and Water Conservation, Sangli
3. Gautam, Alka (2009): Advanced Geography of India, Sharda Pustak Bhawan, Allahabad. District. (April 2008);
4. Geology of Sangli District, Maharashtra, Geological Survey of India
5. http://cgwb.gov.in/AQM/NAQUIM_REPORT/Maharashtra/Kavthe%20Mahankal%20and%20Miraj%20Talukas,%20Sangli%20District,%20Part-I.pdf
6. <https://cdn.s3waas.gov.in/s342a0e188f5033bc65bf8d78622277c4e/uploads/2021/01/2021010570.pdf>
7. <https://earthclipse.com/geography/rivers-formation-importance.html>

8. <https://www.britannica.com/science/river/Importance-of-rivers>
[https://en.wikipedia.org/wiki/Drainage_system_\(geomorphology\)](https://en.wikipedia.org/wiki/Drainage_system_(geomorphology))
9. https://www.researchgate.net/publication/314216345_RIVER_SYSTEMS_OF_INDIA
10. <https://www.britannica.com/science/river/Importance-of-rivers>
11. Maharashtra State Gazette of India, Sangli District.
12. Pidwirny, M., (2006): "The Drainage Basin Concept". *Fundamentals of Physical Geography*, 2nd Edition.
13. Socio-Economic Abstract of Sangli District 2006-2007
14. Thakur, Swati (2009): Rainfall Variability in Doon Valley- A Statistical Analysis. *The Indian Geographical Journal*, Vol. 83, June & December, 2008, No. 1&2.
15. Williamson, A.V. (1925): Irrigation in Indo-Gangatic Plain. *Geographical Journal*, Vol. 65.



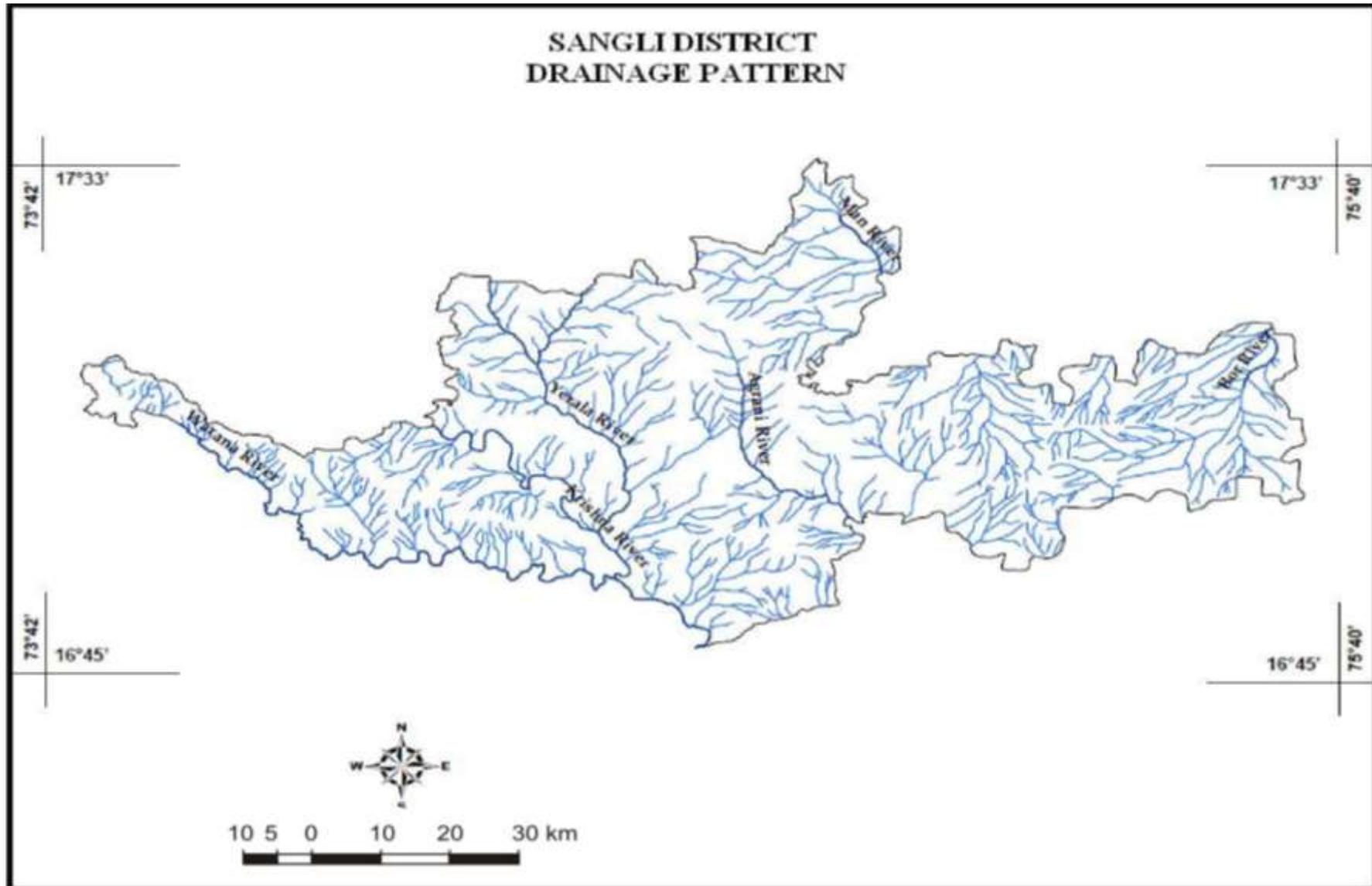


Figure:1 - Drainage pattern of Sangli District (Maharashtra)

Reference:- Rural Development and water conservation department government of Maharashtra.