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Drainage Pattern in Akola District

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Introduction:

The success of vertical drainage depends upon the presence of favorable aquifer and water table for lifting the ground water on a sustained basis and the favourable quality of water that could be re-utilized for irrigation purposes. From the hydrological point of view the point of the view of the Purna valley falling in the district could be divided in two categories. (i) The fresh water tract - this tract occupies the Northern part of the district close to the Gavligarh range covered by the boulders and debris. Here abundant supplies of fresh water are available at a depth of 3 to 5 meters from the surface. (ii) Saline Tract - the salinity map of the area reveals that the chloride content increase in general towards the Purna river from either edge of the Purna Vally

Surface drainage is the disposal of excess rain water over ground surface through an open drainage system with an adequate outlet. Surface drainage is helpful where (i) Soils are deep with low infiltration rates where (ii) intensity of rainfall is high where (iii) terrain is level to nearly level and where (iv) the water table is high. Any bore or well from which underlying water is extracted either under pressure or through mechanical lifts can be defined as vertical drainage.

Surface water that is the water on the surface of Land, represents the drainage from the Land and part of the rainfall that is absorbed by the soil also becomes surface water by its discharge when it seeps into hills and runnels. The portion of rain or snow that penetrates deeply becomes the ground water recharge and it is discharged into the streams slowly. The surface water is by for the most important means for providing substantial irrigation which stabilizes and improves agro climatic life in an area that has otherwise plenty of land potential.

Drainage Pattern:

The river-wise analysis of the draiange is as below:

A) Purna :

The only perennials stream of the Penghat plain the Purna rises in the South facing scarps of Gavligad hills in the district of Amravati. It flows Westwards through the district, forming the Northern boundary of murtizapur, Akola and Balapur tahasils and the Southern boundary of Akot Tahsil. Though perennial the river is the not navigable. Its channel in many places in 30 meter deep and 200 meters wide. The banks are of sort alluvium. A large number of streams rising in the scarp to its North and to its South Join the river and drain the region with a fairly densest work. Most of these tributaries are pools of water during hot weather developing swirling floods during rains. The river has a length of about 100 km. in the district. The immediate banks of the Purna river are badly broken and dissected by a strong hill erosion and undercutting of Banks. The right bank in general is at a higher level than the left bank which seems to be the main reason for a large number of rural settlements being found on its Northern banks. The aggraded valley of Purna has many streams developing a sub parallel drainage to the Main river before their confluence with the main river

Katepurna :

The Katepurna, rises in the Northern slopes of the Ajanta ranges about 20 km. East of Barsitakli an elevation of 320 meters. It mainly flows North in a non perennial channel. It joins the main river on the left bank of the village Batori. It has an overall length of 100 k. m. in the district. The river in its lower course turns by sharp bends West wards and North wards. Its immediate banks are mostly liable to flooding.

Uma :

The Uma rises in the extreme Southern parts of Murtizapur Tahsil near the village poho and flows to the North. The river almost from the source is perennial. It has fairly straight course braided in the section and crossed at many point by fords. Its joins the Purna near the village Durgaved about 10k.m. up streams of the Katepurna confluence after. Flowing sub-parallel to the main river on its left bank for about 10 k.m. The river has low banks throughout and a narrow channel and is liable to flooding

during the rains. The river flowing entirely within the district, has an overall length of 60 k.m. Unlike the other tributaries of the Purna. This river is perennial flowing through a generally better watered region.

Morna :

The Morna river rises in the Washim Tahsil near Shirpur village and flows through and open and flat country of the plateau, before passing through the large village of Medsi on the edge of the plateau. From here the river goes through the ghats in a romantically picturesque country with sharpe bends between interlocking spurs developing a deep valley with a cliff face on the other bank and wide alluvial flats on the inner bank before entering into the Penghat plains. In this section the Purna-Akola-Khandwa- railway line closely follows the river and sticks to the narrow large adjoining the valley side and crosses the river at or less than four different places to gain a foothold from one side of the deep valley to the other.

Descending down from the scarp, the river flows through a fairly gently slopping country with a perennial channel on its bed. It skirts past the down of Akola Just after it is joined on its right bank by the tributary, Indrupa. In its Lower course the river has developed extensive meanders and cut off loops, unlike many other left bank tributaries of the Purna. It develops a sub-parallel course for nearly 20 k.m. village Andura. The length of river 113 k.m.

Mun :

The Mun river rises in the Northern Ajanta scarps of the Chikhali Tahsil of Buldhana district and flows East ward through the Ghatbori resence forest area to enter the district of Akola. Mun makes excallent meanders and of ox-flow lakes in wide plains its immediate are highly quellied. Its tributary Uttavli, and Vishwamltri meets to mun in the region. Particularly it flows though Balapur Tahsil. Mun joins the Purna river near the village of Khajikhed on its left bank. It forms for quite some distance the boundary between Buldhana and Akola districts.

The right bank tributaries joining the Purna from the North are comparatively smaller hill torrents draining the foot hill slopes of the Melghat of these the Nagzari. The Gautami, Widruba and the Shahanur river are the most important tributaries. The

left bank tributaries are more important than the right bank ones and the main river itself flows closer to the Northern scarp slopes than the Southern one.

Penganga :

The Penganga river rises in the Deulghat hills of the Buldhana plateau and flows East to enter Akola district in its South Western parts in Washim Tahsil near the village wakad. The river has an overall length of 100 k.m. in its course through the district. Initially, it flows through a rolling plateau country in a narrow chanel less than 100 meter wide with sharp bends. It forms the boundary between the district and Parbhani from the village Warud Topha down stream till its exit into the Yawatmal district. In this section, where it forms the boundary, the river, bed is wider and rugged and the river channel itself is braided. The river turns at sharp bends, suggestive of the joint control of the bed rocks. In its entire course through the district, the river is non perennial. It has many tributaries within the district which are also non perennial. The Kas river in Washim tahshil and flows South to join the Penganga near the village Masla. The Adol river flowing past Shirpur and the Chandrabhaga are other small tributaries.

Pus :

The pus river rises in the South Eastern part of Washim Tahsil and descend down the rugged plateau edge through a series of sharp bends controlled by the Penta gonal joints in the basalt, before leaving the district to enter Yawatmal district near the village Rui. The scarp on its banks has retreated by parallel recession to develop wide alluvial flats that are dotted with villages in the deep valley bottom, and are enclosed by hills to remain isolated in many parts. Its significant source tributary Bopalpandi river also rises in this district.

Adan :

It rises the Eastern part of Washim Tahsil and then flows towards East through the Northern parts of Mangrulpir Tahsil before entering into Darwha Tahsil of Yawatmal district. The Arna and its tributary, the Kapti, rises in Mangrulpir Tahsil and flow East in the Southern parts to enter in Yawatmal district.

Lakes and Tanks :

These are not many perennial tanks or take depressions within the district in the Penghat plains. A few are found around the villages Mardi and Purda both in the foot hill slope of Akot Tahsil, around the villages Banbada Budrukh, Kutasa both in the Shahanpur valley and Ghusar and Akkatwada both in a minor tributary valley on the left bank of the Purna. A few deep perennial tanks are fround in the trap country of the Washim plateau around Karanja, waked and Risod. All these appears to be small basins like depressions collecting the rain water from amphitheatre like basins and supplemented springs.

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