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Field analysis of water bodies of Dauki River basin in Rarh tract Murshidabad

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Abstract

The rivers of the Rarh tract of Murshidabad are older than The Ganga, Bhagirathi Rivers. Those founded the base of the district. A shield from Chotonagpur plateau extender up to Canning of south 24 Parganas. Rarh region extended part of Chotonagpur plateau, the slope of the terrain is the channel of river Bhagirathi. The changing physiographic setup in different geological ages shifted the flow direction of rivers of the Rarh tract in Murshidabad. For the aforesaid reasons, the presence of small & big river channels is the main water resource for irrigation. As the groundwater sources are limited, moreover percolation rate is high, the undulating Pedi plain fails to hold the water of rainy seasons. For this reason, agriculture is not possible in many locations.

Introduction

River Bhagirathi has been bifurcated the triangle shape of the district Murshidabad. The physical reason of Pedi planation of Rarh tract. The old flow of the Ganga River was the present Bhagirathi channel. In geological ages the old Ganga/Bhagirathi channel many times, changed its courses.

Bagri lies among the Ganga, Bhagirathi and Jalangi River. In geological history, the Bagri tract was constituted by Mahananda river alluvium. Which is how the marked channel ridges. Shifting of Ganga, Bhagirathi, and Jalangi occurred many times. The old alluvial carried by Mahananda/Jalangi river build the foundation of the Bagri tract of Murshidabad. At present condition; human activity seriously affected the zone from the shortfall of groundwater. I tried to analyze the problems related to the terrain character. With the help of satellite images.

Rising, and increasingly widespread incidence and levels of pollution, surface and groundwater sources in different parts of Murshidabad is a matter of grave public concern. Pollution of the Ganga attracted nationwide attention. But the problem is more widespread. As per the report of NEERI (National Environmental Engineering Research Institute), 70 percent of available water in India is polluted. The picture of water pollution is uniformly gloomy. Even our large perennial rivers like the Ganga are today heavily polluted.

In the Bagri tract of Murshidabad, almost all the Bills are polluted for the rapid growth of urbanization and increase of population are the main reasons. Groundwater pollution, which is more dangerous because it is more difficult to reverse, is also becoming a major problem. Its seriousness is illustrated by the prevalence of arsenic poisoning in Bengal as well as in the Bagri tract of Murshidabad. Moreover growing salinity problems and the prevalence of high levels of pesticide residues in groundwater in several areas and bills of the district.

The scientists from Jadavpur University estimate that 38 million people in eight districts of West Bengal are exposed to health risks from the high arsenic content of groundwater.

The National water policies (Ministry of Water Resources, 1987) declared Economic development and activities including agricultural, industrial, and urban development should be planned with due regard to the constraints imposed by the configuration of water availability. But all

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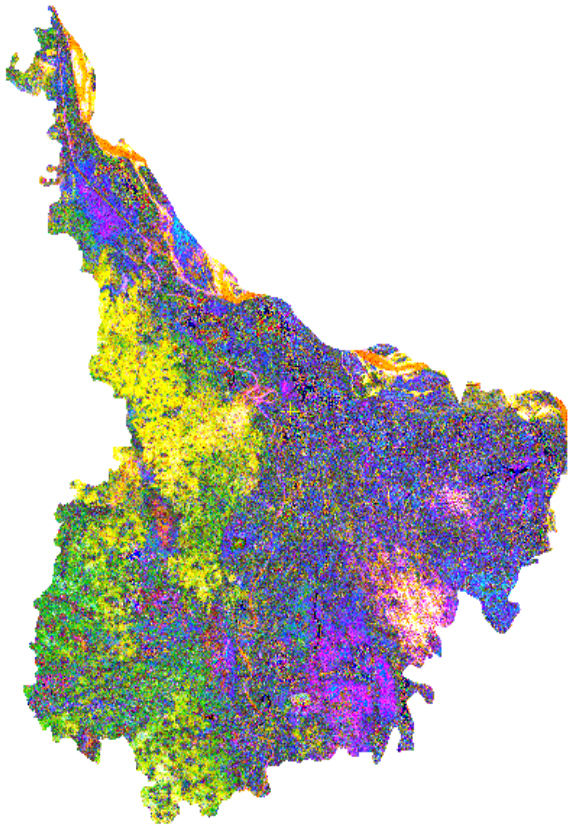
in paper no effective measure has yet been implemented. All the department political sector. NGO's are concentrated in papers and meetings.

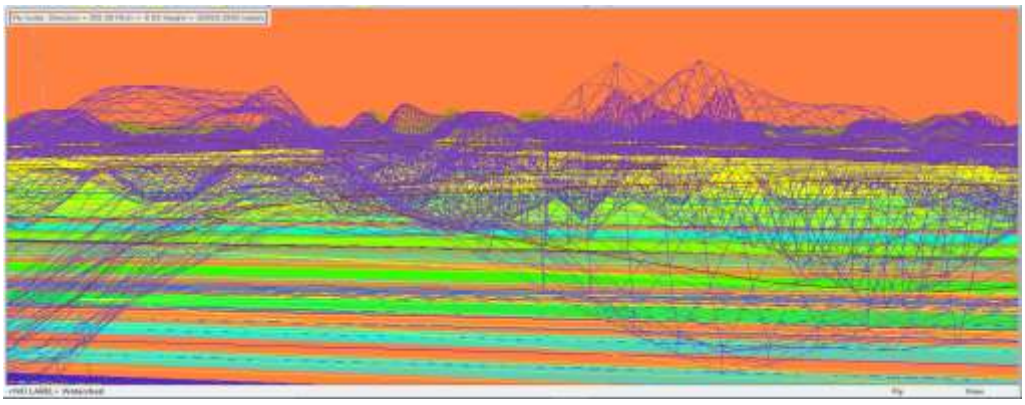
- Map of Murshidabad in MS



Land sat 6 MS image 2006 Scale 1:30,000 R-2 G-3 B-4

1. **Dauki River**- Season blocked due to the unauthorized settlements. In most cases local political interest for the vote is related. Due to the stagnation of flow per rainy season, 80% of the extended links with unknown water bodies are the cause of flooding in rainy seasons. Due to the soil character yield rates are not very high

– Dauki TIN View



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Dauki represents the critical view in TIN format. This method critically analyzes the slope of the topography. As the location is close to the eroded Pedi plain, the porosity of soil is high.

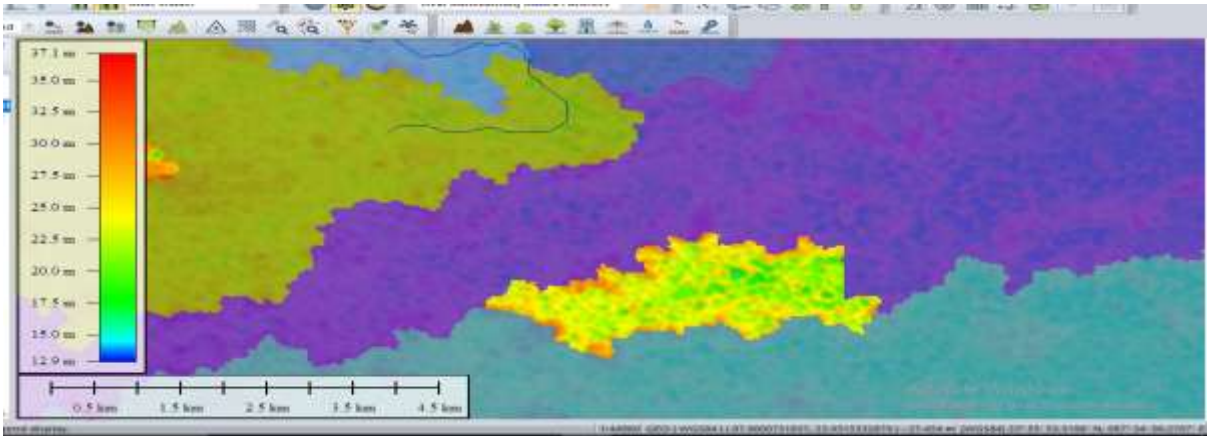
– Dauki 3D view

Dauki represents the slope of the terrain character &the elevation nature of the place viewed from any type of aircraft.

– Dauki MS FCC 2:3:4 RGB

The natural view of vegetation in MS format. RGB value 234 in FCC. For more detailed requirements color bands may be changed.

– Dauki River



To analyze the water storage & small stream catchment area demarcation of the flow of water is helps the agricultural activity & other water resource management.

– Dauki Contour

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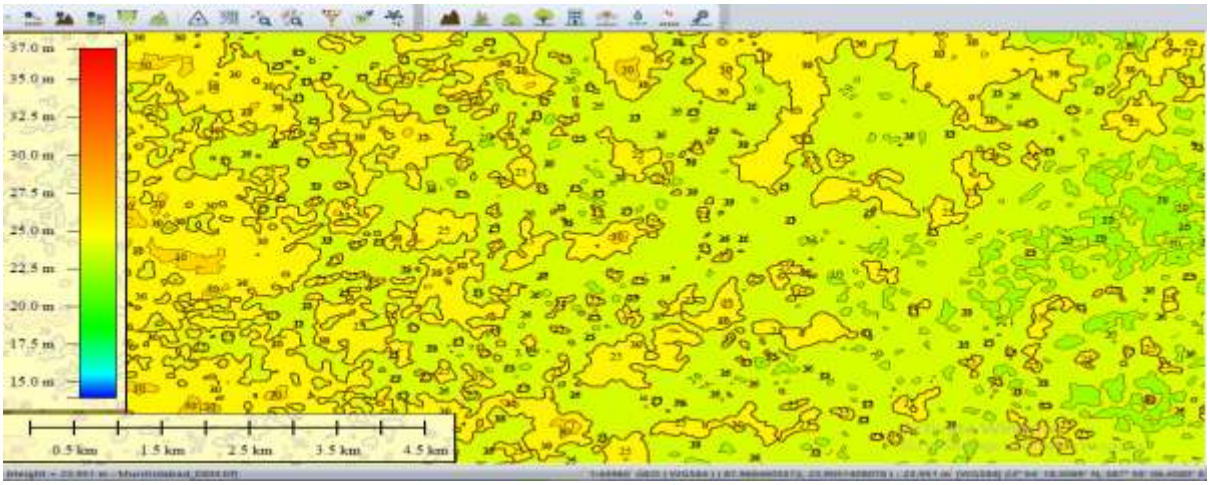
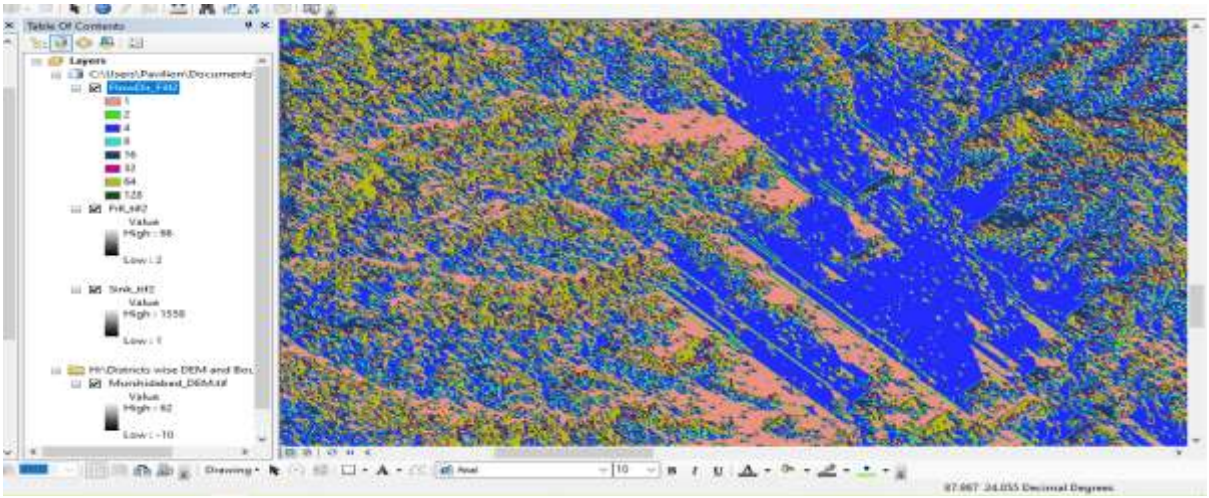


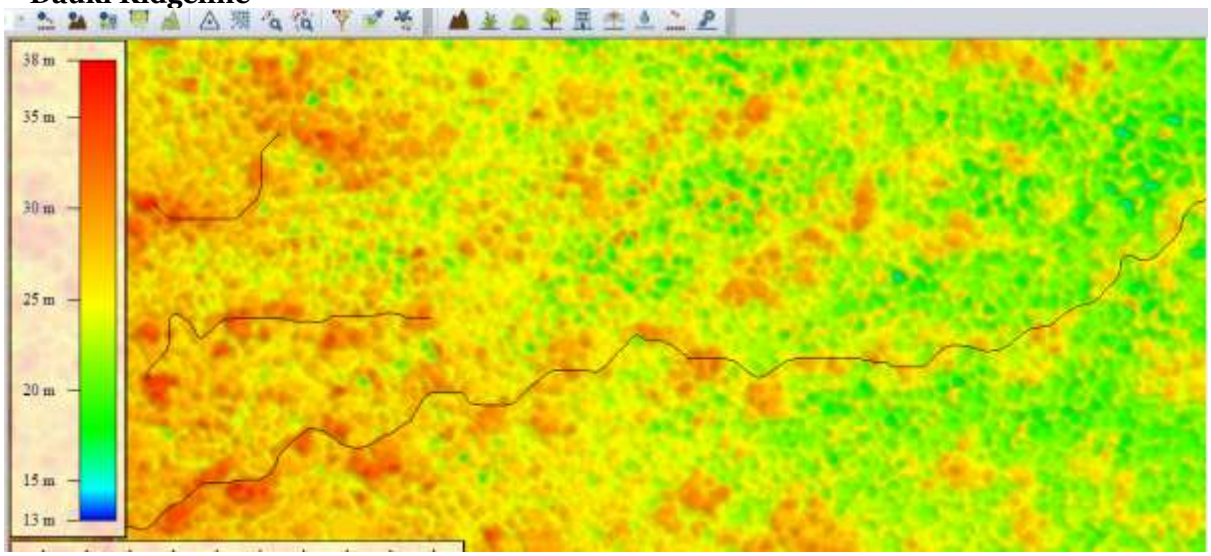
Critical contour analysis from mean sea level/ benchmark very important source of any terrain analysis. The location within the Rarh tract where the nature of runoff is mainly guided by terrain characteristics.

Dauki Flow Direction



The flow direction of water is the most important factor of agriculture & urban planning. The estimation of runoff & pore point location is important for water resource management.

– Dauki Ridgeline



Ridgelines are the history of the old river channels, those lines represent the past flow direction & nature of the formation of terrain.

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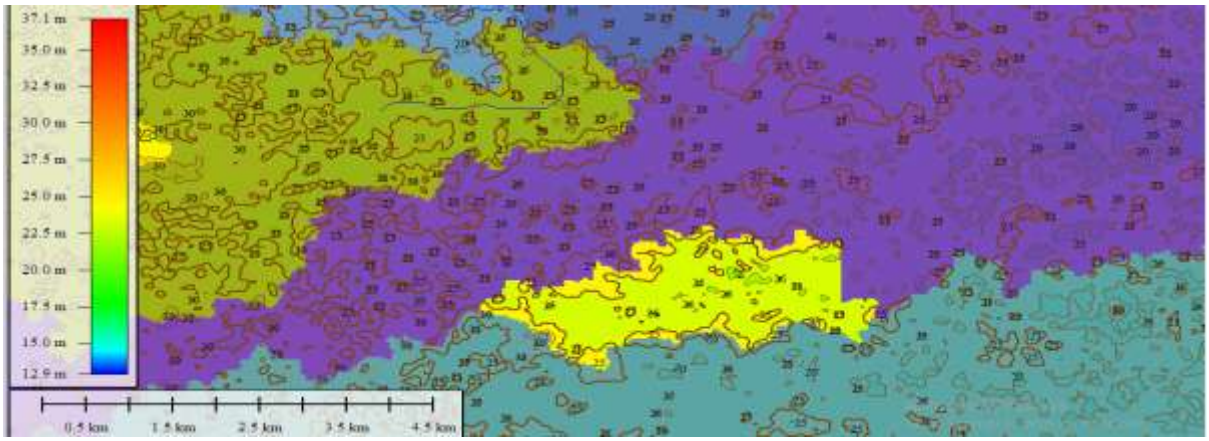
– Dauki Watershed



This small river channel is the main outlet flow line of water during rani, for any type of construction or land reforming this type of data source is important.

Conclusion –

In course of fieldwork for more than 3 days, the character of the Rarh tract of Dauki river basin of Murshidabad was recorded by Note cam Apps. The main problem is the scarcity of water for agriculture & flood during the rainy season. The source of groundwater is limited. The typical porosity nature of soil fails to store water within. Moreover, the growth of the population increased the water demand. Small villages are now increased to large villages. Thus the demand for economic activity increased. The primary activity of agriculture is now restricted to a fixed point for the scarcity of water. The proposal of check dams on a small & large scale may meet the scarcity of water in dry seasons. Two-phase agriculture is possible by the installation of small check dams can easily solve the problems & can increase the job opportunities for the farmers to increase the agricultural activities throughout the year

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- Purbogram Flow direction is close to Garulia. The total amount is meager, main flow at least.
- Purbogram contour indicates the terrain character. Scale on the left represents the nature of the slope & pour point. To construct check dams.
- Purbogram TIN, representing the nature of slopes & heights to locate the suitable site for check dam. Color in scale indicates the heights.
- Purbogran water shade. Scale provided the area of catchments of small streams. The terrain is not suitable for basin formation in natural processes for the formation character of the surface.

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- The 3D view of Purbogram direction pitch =0 = height from 50.000meter. This imagery analysis represents the terrain character in the TIN surface model.
- Purbogram 3D general view of slope analysis direction 327.30 pitch = Height 50.000, meter representing the aerial view of the Purbogram landscape.
- Program 2018 Decembers. FCC RGB 123. Presenting the analysis of vegetation. Index of the LULC, with graphic constants. The frequency of RGB may be modified according to need. The Scatter plotter line represents the variation of plants according to the index.
- Purbogram Flow direction.The general slope towards the east. This flow direction also represents the nature of the slope in the terrain.
- Monigram Flow direction is guided by the nature of the topography. The uneven formation of slopes influences several locations.
- Monigram TIN 3D surface model representing the character of undulation & general gradient.
- Monigram Ridge lines represent the past formation of a slope by erosion. The old water flow of stream links of order vide stroller was dendritic.
- Monigram contour representing the slope & nature of Pedi plain, Scale in left providing the altitude by various colors.
- Monigram landscape represents the nature of the surface in cloudy weather. Direction 292.21 = Height 50.000 meter. Pitch =0.
- Monigram Flow direction is mainly towards east & southeast, small amount flow at southwest.
- Sagardighi MS. FCC, RGB 234, December 2018, representing the LULC, the nature of vegetation is almost nil. Very small
- Sagardighi Flow direction, Major flow towards the east, in pleases according to terrain formation towards the southwest. The location once was covered by the flood plain of Ganga. Due to the tectonic effect, the location reformed.
- Sagardighi MS. FCC RGB 234, December 2018 in infra-red band representing the barren land of the terrain. Small forest trees are visible.
- Sahardighi TIN representing the slope of the landscape Elevations are presented I scale at left. Undulation is the common feature of the land.
- Sagardighi MS. FCC. RGB 234, Low-pass filter mode 11-11 used for edge detection of the terrain.
- Sagardighi contour. The undulation of the terrain is not very high, but may be noted as a high tableland.

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