

Characters of Rivers to Influence Floods in Eastern Rajasthan

***Dr. Gopal Lal Gupta**

About Study Area

The Study Region Eastern Rajasthan lies between 24°45' to 28°4' North latitude and 70°55' to 78°17' East longitude. The study region consists of Alwar Jaipur, Sawai madhopur, Dausa Karauli and Bharatpur districts of the eastern Rajasthan.

Introduction

Floods does not mean merely heavy rainfall, sometime, it is observed that one place gets high rainfall but there is no flood and the other places which receive lower rainfall have floods. In this way, heavy rainfall is not the only factor which is responsible for flood. Drainage system of an area is an important factor as is in the case of Rajasthan. The Chambal, Banas, morel, Gambhir, banganga, ruparel, Sahibi, Parvati are the main rivers flowing in this region. The meandering of rivers, braided channels, pattern of streams, paleao channels, migrated courses of river effect the run off system of reason extensively

Characters of Rivers

The characters of rivers of influence floods in various ways. The characters of rivers may be classified as under:-

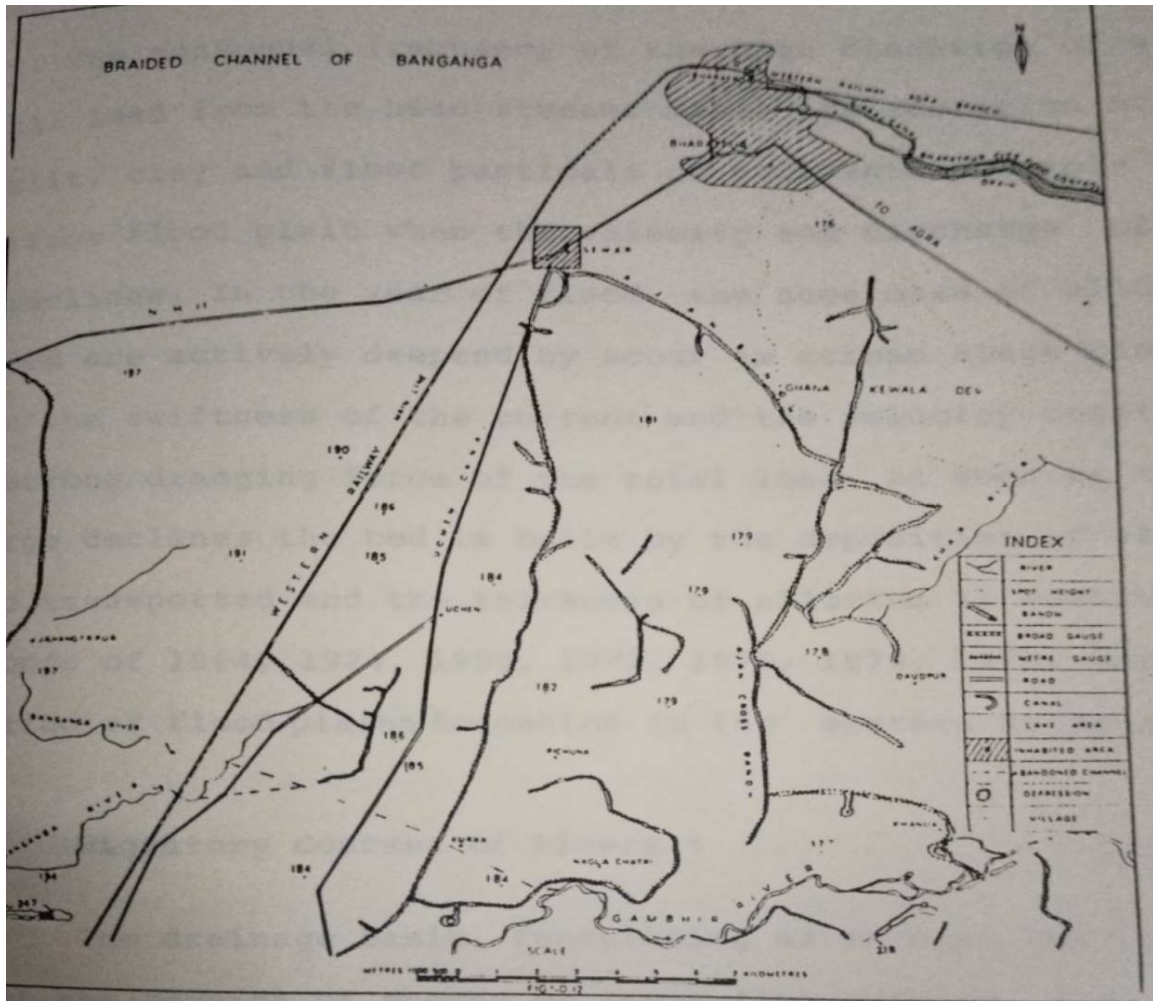
- Braided channels of Rivers.
- Paleo-flood plains of Rivers
- Migratory Courses of Rivers

Braided Channels

Braided channels are the one of important factors which causes floods. In the study area, Banaganga and Gambhir rivers braided forms The Fig a reveals only the braided channels of Banaganga river in this region. The present investigation reveals that the Banganga is a mountainous torrent with a bed of sand mixed with gravel in a semi- arid climate condition. Therefore, it brings tremendous quantity of sediments from head waters to the plains. The terrain dec- lining in slopes results in minimising capacity, an enormous quantity of load is left on this topographical juncture Consequently, the river course was chocked in this flat country and the river become braided with a number of distributaries in this part of the land area. Consequently, the Banganga and Khari rivers with their braided channels often brings flood in the region. In Bharatpur, the violent nature of these rivers has given them the name "Ghora Pachhar" or over-thrower of horses

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Paleo-Flood Plains

Paleo channels also play an important role in the initiation of flood situation in eastern Rajasthan. The flood plains are the flat lands formed from sediments deposited in a valley by a stream when it overflowed its channels. A phenomenon caused by high discharge and better run, off the monsoonal frequency of the high discharge of water with full load from the head streams makes the accretion of sand, silt, clay and finer particles of sediments possible over the surface flood plain when the velocity

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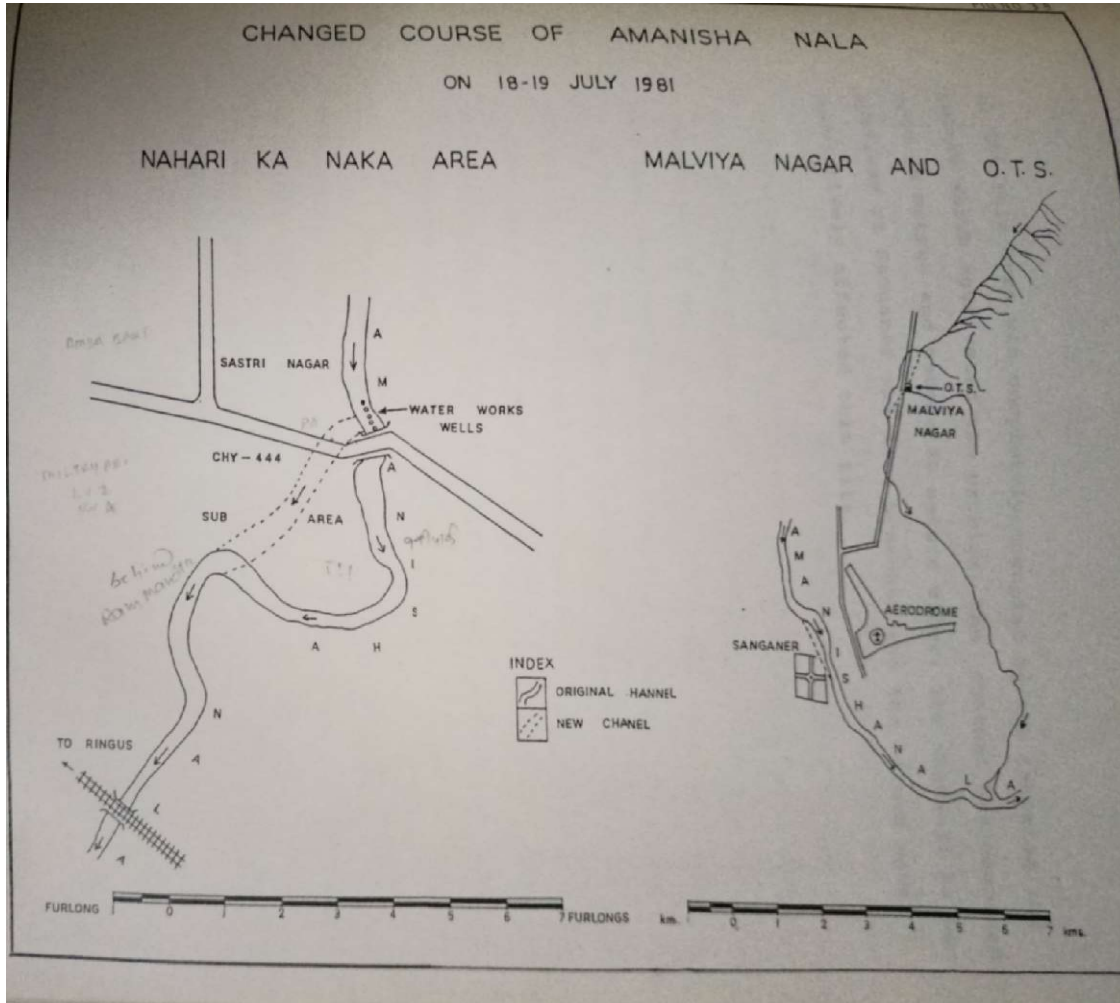
and discharge of water declines. In the year of flood, the huge mass of alluvium deposited are actively depend by scour as stream stage rises because the swiftness of the current and the velocity together cause strong dragging force of the total load. As soon as the discharge declines the bed is built by the deposition of alluvium so transported and the thickness of alluvium is reworked. The floods of 1964, 1924, 1959, 1972, 1975, 1978, 1979, were the period of flood plains formation in the eastern Rajasthan.

Migratory Courses of Rivers

The drainage basin, functioning as an open system in terms of the receipt of energy or input from climate, loss of energy or output through water and sediment lost mainly through the basin mouth has its own ecology wherein a river makes its course through its processes and maintains its flood across the region having its own channel Geometry but a little care for human establishment. The changes in a river course through natural processes at one place are supposedly compensated by proportionate changes at other places but if it is interfered by man. its ecology is disturbed and thus it turns wildly and becomes menace to human society it conspires to change it a course to delay the passage of excess of water during flood to erode its banks in irritation to a mass huge amount of its output (sediment) and inflicts a colossal loss to human life and wealth, building activity, and eventual urbanization, the channel manipulation through diversion of its course construct- Lon of bridges, barrages and reservoirs, agricultural practices etc. by men invite several hazards in the rivers system. These are disastrous floods, land slide and slumps along the banks, passive erosion, shifting of channel and even of the river course, silting of beds, deposition of silt and clay in the flood plains etc. These pose threat to human society and necessitate river regulation and flood control in the eastern Rajasthan the Banas River has changed its course. So old flood plain has more moisture and immediately reactivate. As a result, these suffered from floods in 1981 flood, Amanishah Nalah of Jaipur city (a tributary of Dhundh river) migrated from its original path because the settlement disturbed its path. The Amanishah Salah in Jhotwara area has been dammed and filled with sand and road has been constructed.

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The Amanishah Nalah near Sanganer (Fig b) shifted towards west close to the Sanganer gate and completely washed out 30 rooms of school and a paper factory The bed of the Nala here was completely occupied by the factories and houses which aggravated the problem. The channel has deepened up to 20 metres and become 40 meters wider The Khawasji ka Dam upstream of Sanganer

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was also breached and the flood water cumulatively affected this site.

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REFERENCES

1. Ramamurthi, A.S and P Subba Rao, (1983) Sahibi River Flood (1977) Inundation Mapping NNRMS, End-to-End Exerpta Hyderabad.
2. Sharma H S. and Padmaja G (1976) Quantitative Geomorphic of Morel Basin, Geographycal Review of Indian Calcutta Vol. 39. (4). 19777 pp. 353-366.
3. Sharma, H.S. (1976) Role of Geomorphology in Human Settlement. A Case Study of Jaipur, Paper Presented at Interdisciplinary Seminar on Human Ecology Unit of Rajasthan, Jaipur.
4. Sharma H.S. (1983): Environmental Degradation in Jaipur Urban Complex. pp 307-316 Environmental Management (ed.) Savindra Singh.
5. Sharma, M.L. (1986) Geomorphology of Semi-arid Region A Case Study of Gambhir River Basin Scientific Public- shers, Jodhpur.
6. Sharma N K. (1981) Mapping for Flood Control Management by Ganga Flood Control Commission, Map User's Seminar, Dahradun

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