

# Drainage System In Sutlej – Yamuna Divide during Harappan Age

**Dr. Sunil Kumar**

Lecturer in History

**Abstract:** Drainage system of Sutlej-Yamuna divide is important in Indian sub-continent because it has perennial river system during proto-historic times. This area is so cradle of Indian civilization. So this study throws light on this. The important rivers of this area was Saraswati, Yamuna, Drasdwati, the Nai Channels, Markanda. Some changes also occurred in these river channels during Harappan age. But with this these rivers channels give an new idea to the Indian Civilization.

**Keywords:** Harappan, Sutlej-Yamuna Streams, Courses, Desert.

**Introduction:** The drainage map provides a picture of a region apparently rich in rivers, but excepting the two bounding rivers, i.e. the Sutlej and the Yamuna none of the streams is perennial.<sup>1</sup> The only river of any importance traversing the middle of the Divide is the Ghaggar, which though perennial in its upper course, becomes dry after flowing for only a short distance from the hills. All the other streams which flow in a southwesterly direction, although at present have broad sandy courses scarcely below the surface of the country, had even a hundred years ago a more permanent character and well defined banks. They must have therefore, flown for longer distances than they do now.<sup>2</sup> The important streams from the west to the east are the Budki, Jainta Devi K. Rao, Patiali Rao, Sukhna Rao, Ghaggar, Dangri, Begna, Markanda, Chautang, Saraswati and Rakshi. Ultimately almost all these streams unite in the Ghaggar. The streams flowing towards the north in Gurgaon district from the Aravallis are short with highly fluctuating regime; notable among these from west to east are the Dohan, the Kasavti, the Sahibi and the Indori.<sup>3</sup>

## Some Important Rivers of Divide are:

### Apaga:

Cunningham identifies it with Oghavati and takes it to be a branch of the present day chitang separating from the main stream a few miles west of Ladwa and ran past Palwal, Pabanava and Kaithal before being lost in the sand<sup>4</sup>. The old course of the Apaga below Kaithal has been traced along Guhla, Ujhana, Dhamtan, Pirthala, Lohariyan, Sotar, Palsar, Fatehabad, Jodhka, Shahpur Begu, Cauburja to Modia Khera,

below which it joined the Saraswati sea in ancient times and the Trnabindu lake of later times. When the lake got filled up, it went further past. Mallekha, Kotli etc. and jointed the Ghaggar-Saraswati at Mauja Khera<sup>5</sup>. Dr. Silak Ram observes that at Karnauli, 5 miles west of Fatehabad it has two dried up courses. The eastern branch went past Karnauli. Gilham, Ding and Ludesar, while the western branch went past Patti, Jodhkan, Suchan, Bajekam, Shahpur Begu, Chanburj, Natar, Madho Singhana, Mallekan and then to other<sup>6</sup>

### **Yamuna:**

Yamuna runs north-south forming the eastern boundary of the state of Haryana and joins the Ganga at Allahabad after running an independent course of nearly 1360 km, but in early times it appears to have run a more westerly course. Raikes<sup>7</sup> is of the view that the course of the Yamuna was captured alternately by the Indus and the Gangetic system. Suraj Bhan notices the dry bed of the Yamuna from Indri along Gagsina, Munak, Safidon, Seenk, Baghru, Kirsola, Paoli, Farmana, Seman, Singhwa, Chang, Mitathal, Tigrana and Tosham passing through Haryana<sup>8</sup>. The course traced by Dr. Suraj Bhan below Safidon, runs north-south and is lost in the desert near Tosham. Dr. Silak Ram<sup>9</sup> has pointed out that the course of the Yamuna below Safidon ran past Asan, Barah, Jind, Rakhigarhi, Sisai, Chanat, Maiyad, Satrod, Tokas and Siswal. After entering Rajasthan it took a westerly course and reached Bhatner and fed the course of the present Hakra and ultimately fell into the sea. He further points out that the old course of the Yamuna, now known as west-Yamuna canal, was fed below Jind by the Rigvedic Drsadvati (Chitang Nala) which was joined by the Saraswati (Ghaggar) near Bhatner. Then the Yamuna-Drsadvati-Saraswati fell into the western sea.

### **The Nai:**

Flowing north-south this river has been identified with the Rigvedic Anumati<sup>10</sup>. It is formed by more than one branch of the Drsadvati flowing southwards between Munak and Seenk in Karnal district. It, then, runs almost down south to Gohana, Rohtak, Kahanaur and Hassangarh. After that, the stream running south-east past Sura-Kiloi, Dadri, Sondhi, Mundakhera and Ravata falls into the main marsh of Najafgarh near Delhi. The stream of the Nai is joined by Duhan-Sahibi and the Krsnavati between Marot and Bilochpur in Jhajjar district.<sup>11</sup> **The Duhan:**

It originates near Jaipur hills and flows westward in Rajasthan territory. Entering Mahendergarh district of Haryana, its course runs north-east for about 50 kms. and thereafter it is lost and only after heavy rains it hardly reaches now-a-days upto Dadri. According to Bhargava, it used to flow quite frequently towards north and then turn eastwards to join a stream of Krsnavati (Kasavati) and Sahibi between Marot and Bilochpur villages in Rohtak district and adopting an eastward course, it fell into the Nazafgarh lake and after receiving rain floods it joins the Jamna in Delhi<sup>12</sup>.

**The Sahibi:**

It rises from Mewat hills near Ajitgarh and Mohanpur in Rajasthan. Following Alwar boundary and then crossing Alwar near Shahjahanpur the stream enters Rewari near Pataudi to Jhajjar district on reaching this point it divides into two branches at village of Kutani in Rohtak and reunites near Sondhi. From the reunited stream turns to the north and joins the combined stream of Nai-Kasavati-Duhan which further passes into Delhi territory where it meets the Yamuna through a channels. <sup>13</sup>

**The Kasavati:**

The Krshavati, another river having its source in Jaipur hills, is the correct name of Kasavati. It is still designated near Narnaul, but above and below Narnaul areas it is corruptly named Kasavanti and Kasavati respectively. According to Bhargava, the river Kasavati has derived its name from the Rigvedic Krsnas who lived in its valley <sup>14</sup>

It rises in Jaipur hills, five miles east of Manvada and Nim Ka Thana in toravati area. It first runs north-north west, passing through one mile east of Narnaul, turning eastward reaches Dahina in Rewari. Following the same direction it joins the Sahibi near Kasni village in Jhajjar district. Then these combined streams run halfway between Bilochpur and Marot in Jhajjar district, where it meets the combined course of Duhan and Nai. After heavy rains it falls into Nazafgarh lake and further through a channel the Jamna near Delhi.

**The Markanda:**

Markanda has also an ancient origin emerging from Sirmur-Shivalik, it takes a south-west course and enters Ambala district near Kala-amb. The Nakti also join it in the north of Sherpur village. Then it reaches Shahabad Markanda and after following a southern course joins Saraswati about 5 kms south of Pehowa. The confluence of Sarusa Jheel at this place is also known as Arun confluence Sangam after the ancient name of Markanda. It distinguishes itself from the streams by having huge deposits of silt.

**The Indori:**

The Indori had its source in Mewat hills near the old fort of Indore. It divides into two branches near Nuh in Gurgaon district. The main branch falling into Sahibi Nadi on Southern boundary of Rewari, and the other branch, after collecting water from many other rivulets, spreads over this plain track near Bhora, and finally this branch also falls into Sahibi near Pataudi.

**The Naiwal:**

The Naiwal drainage system is complex and far from being understood in terms of its history. Three principal courses are generally presented, labeled the west Naiwal, Naiwal and East Naiwal, which begin just to the east of the Ropar, near the point where the Sutlej enters the Punjab plains. Three dry beds run more or less parallel to one another, passing through Bhatinda district. The streams never meet, but join a common

bed as a broad depression that runs east west to the north east of Hanumangarh. Following this short, but broad route, the joined Naiwal then enters the main Saraswati beg.

Wilhelmy<sup>15</sup> has proposed that the three Naiwal courses are early evolutionary stages of the Sutlej, with the gradual northwestern migration of this river. This places the eastern branch as the earliest and the west as the latest. Capture by the Beas river than moved the stream much further to the north, prior to the Sutlej taking its present day middling course.

These views of the Naiwal may be to simplistic Landsat imagery shows a far more complex set of river beds and fluvial features that may not form three well defined courses at all<sup>16</sup>. This is largely an empirical problem and it should be create accurate maps of these features through an examination of Satellite and other an imagery, combined with ground checking. In any event the drainage across this portion of the Punjab was important in forming the modern Sutlej river.

### **The Drisadvati or Chautang –**

The Drisadvati or Chautang appears to be the present stream which sizes in the east hills east of Bilaspur and continues south-westwards through eastern Ambala, Karnal and southern Hissar districts passing the east of Thanesar and west of Jind.<sup>17</sup>. It then enters to Rajasthan. The well known archaeological sites of Siswal, Sothi and Nohar is on it. Ferozshah's western Jamuna canal flowing through part of its valley. In Rajasthan beyond Bhadra, it flowed through the town of Nohar, and further down, past the site of the modern village of Rawatsar, from where the northern sand bank of the river becomes visible.<sup>18</sup>. Its bed further west is now a complete wasteland, till it can be seen to have met the Saraswati at a place about three miles north of Suratgarh, with the sites of Kalibangan and Rang Mahal occupying places of prominence at this strategic junction. It is now a dry river, in some places its bed approaches five kilometers in breadth.

### **The Satlej:**

Satlej river was known as Satudri in Rigveda. Greeks have recorded the name of this river as Gagros and Hydespes. In the Nirukta of Yaska, Markandeya and Bhagvat Puranas this river is mentioned. Emanating from lake Mansarovar on the southern slopes of Kailash in Tibet Satlej or Langchham Khabab at an attitude of 4640 m. MSL flowing westward, crossing the border of China, enters into India at Shepkila and flows through Shimdang, Rampur, Bilaspur, Bhakra, Anandpur, Ropar and meets the river Beas at Hari Ke Patan and then meets Indus near Mithankot<sup>19</sup>

But there is evidence that in ancient times it passed by Malaout and Abohar (Distt. Ferozpur) and joined the ancient Saraswati near Phulra, now known as Fort Abbas and then the combined rivers passed through the middle of Bahawalpur District, where it is known as Hakra or Wahind and discharged its water through the channel of the eastern Nara into the Rann of Kutch. The river Beas also did not meet the Sutlej at Hari Ke Patan as it does row. The ancient course of this river can still be traced near Patti, Kasur, Chunian and Depalpur through Lahore and Montgomery (now Saiwal) District, now both in Pakistan; where it originally

used to join the chenab near Shujabad<sup>20</sup>. This may be the cause of not finding any Harappan sites on its present course, except its upper course near the Siwaliks.

### **Ghaggar-Hakra-Saraswati:**

The present Sarsuti or Sarasvati rises from the Siwalik-hills, in the Sirmur at a point intersected by 30°23' N latitude and 77°19' E longitude spreads out on the plains at Zadh Budri in the Ambala district and pursuing south-west course through the Karnal district passing by Shahabad keeping its course a few miles west of Thanesar. In the Patiala district it meets the Ghaggar river in latitude 29°51' N and longitude 76°5' E. The combined course continues further beyond present Sirsa and Bhatner from where it now loses to carry water. A little above present Suratgarh the river receives another affluent which rising from the hills in the north-eastern corner of the Ambala district flows through east of Thanesar in Kurukshetra district and crosses the Fatehabad district<sup>21</sup>. Then it enters in Pakistan. Upto the Indo-Pakistan border it is known variously as the Ghaggar<sup>22</sup>. Hakra and Sotra<sup>23</sup>. From this point onward, it takes a south-westerly course into Bahawalpur and is known as the Hakra or Wahind. After entering Sind, it twins southward and flows in that direction right down to its mouth in the Rann of Kutch, and is known variously as the Narra, Hakra or Sagara, Wahind and Dohan. For the greater part of its course, the bed of the Hakra runs parallel to, and east of, that of the Indus.

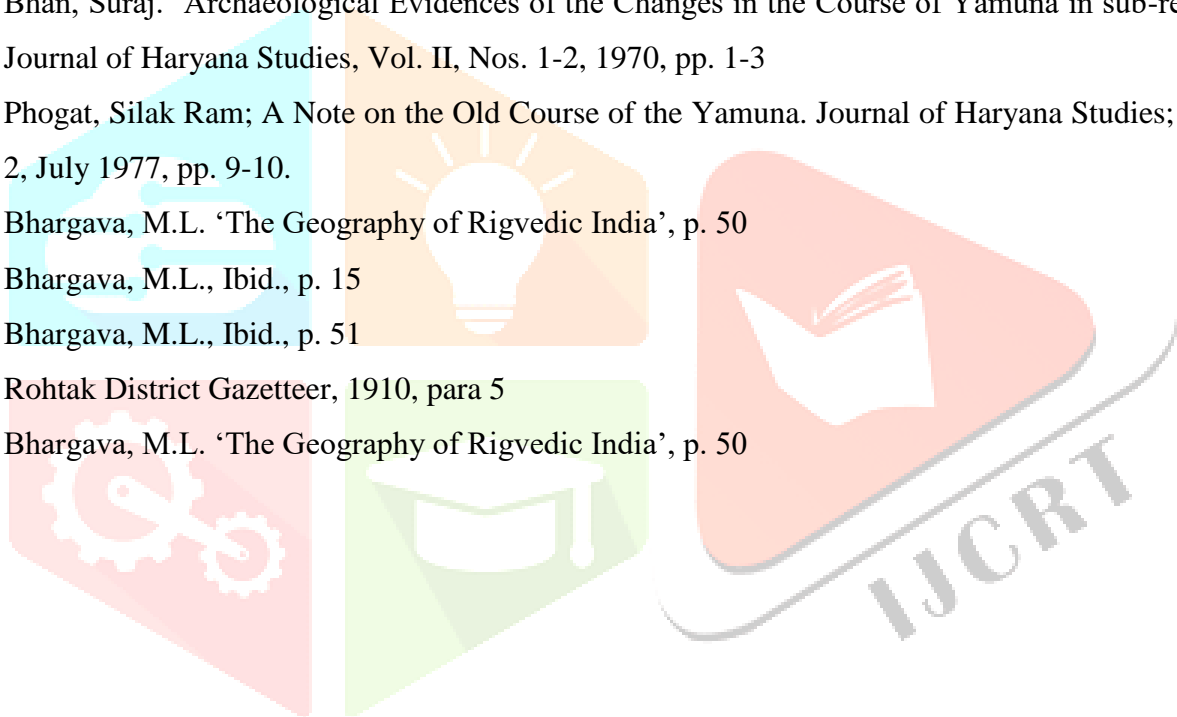
The width of the Hakra bed varies from 3 to 10 km in different parts of its course. It was obviously, therefore, a very large river during its lifetime. But now it is only a rain fed river. The cause of the disappearance of the Saraswati may be attributed to physical causes such as westward shifting course of the Indus, deforestation and gradual rise (Tectonic events) in the catchment area of the Saraswati<sup>24</sup> and aggression of sand from the Thar desert. The chain of tectonic events which diverted the Satlej westward and the Palaeo-Yamuna south-eastward was perhaps also responsible for the subsidence near Marot and Berivala into which the Ghaggar seems to have vanished. This alone can explain the 'death' of such a might Palaeo-Yamuna, were weaved away from it by the Indus and the Ganga, respectively.<sup>25</sup>

### **Y-Series of Channels – The Unname River East of the Ghaggar**

There was once another river to the east of the Ghaggar, which was frequently changing its course. Three of these courses have been traced Y<sub>1</sub>, Y<sub>2</sub>, Y<sub>3</sub>. The Y<sub>1</sub> channel was connected to the Ghaggar. Later it followed the ½ courses merging with the Chautang, which later met the Ghaggar near Suratgarh. The third course (Y<sub>3</sub>) flowed further east and south east. Finally joining the Ganges, probably through the Chambal. When this Y<sub>3</sub> river shifted further east, it left the various lakes in its course which now lie north of Bharatpur. It is probable that it was the Y<sub>3</sub> river which eventually took the course of Yamuna<sup>26</sup>. The presence of archaeological sites in the vicinity of these palaeo channels make it possible to date their active, wet periods (till PGW period).

**References:**

1. Jauhari, A.S. Growth of Early Urban Settlement in the Sutlej-Yamuna Divide in National Geographical Journal of India, 1962. p.1
2. Jauhary, A.S., op. cit., p. 5
3. Singh, R.L., op. cit., p. 89
4. ASIR, Vol. XIV, p. 89
5. Bhargava, M.L. 'The Geography of Rigvedic India', pp. 63-64.
6. Dr. Silak Ram 'Archaeology of Rohtak and Hissar Districts' (Haryana) unpublished Ph. D. Thesis, Kurukshetra University, 1972, p. 16
7. Raikes, Robert, Antiquity, Vol. II, Nos. 1-2, Jan-Dec. 1972, p. 2
8. Bhan, Suraj. 'Archaeological Evidences of the Changes in the Course of Yamuna in sub-recent Times'. Journal of Haryana Studies, Vol. II, Nos. 1-2, 1970, pp. 1-3
9. Phogat, Silak Ram; A Note on the Old Course of the Yamuna. Journal of Haryana Studies; Vol. III, No. 2, July 1977, pp. 9-10.
10. Bhargava, M.L. 'The Geography of Rigvedic India', p. 50
11. Bhargava, M.L., Ibid., p. 15
12. Bhargava, M.L., Ibid., p. 51
13. Rohtak District Gazetteer, 1910, para 5
14. Bhargava, M.L. 'The Geography of Rigvedic India', p. 50



15. Wilhelmy, Herbert, urstromtal am ostrand, ed., Glazialmarphologic, Glacial Marphologia, Zeitschrift Fur Geomorphologic supplement bend 8, 1969, p. 76-93
16. Pal, Yash, Baldev Sahni, R.K. Sood and D.P. Agrawal, 1980. 'Remote Sensing of the 'Lost' Saraswati River'. Proceedings of the Indian Academy of Sciences (Earth and Planetary Sciences) 89 (3), p. 317-31
17. Hunter, IGI, Vol. XXVI (Atlas), plate 32, Bartholomew, OISA, p. 22. 'Survey of India Deptt. Map, Delhi (Hind 5000, Sheet NH 43, 6<sup>th</sup> edition, 1945, Scale I; 1,000,000
18. Gupta, S.P. 'The 'Lost' Saraswati and the Indus Civilization, p. 101
19. Dikshit, K.N. 'Nature of Harappan Wares in Sutlej Valley'. Potteries in Ancient India, ed. By B.P. Sinha, p. 57.
20. Krishnan, M.S. Geology of India and Burma, pp. 24-25). This may be the cause of not finding any Harappan sites on its present course, except its upper course near the Siwaliks.
21. The Imperial Gazetteer of India, Vol. XXVI (Atlas) Plate 32
22. Ghosh, A., 1952. 'The Rajasthan - Desert its Archaeological Aspect, Bulletin of the National Institute of Sciences of India I, p. 37-42.
23. Oldham, C.F., 1893, 'The Saraswati and the Lost River of the Indian Desert'. Journal of the Royal Asiatic Society, p. 49-76
24. Ali, S.M. 'The Problem of Desiccation of the Ghaggar Plain', p. 45-52.
25. Gupta, S.P. 'The 'Lost' Saraswati and the Indus Civilization, p. 177
26. A Contemporary Perspective) ed. G.L. Passehl, p. 226.