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River Regime of Ghaggar River in the Mid to Late Holocene, Northern India

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It is well known that huge cities of ancient civilization, such as Mohenjo-daro, were abandoned during the post-urban Harappan period. Many reasons for the declination of Harappan culture have been estimated since 19th century, for example huge earthquake, devastative flooding, climate change etc. The Lost Saraswati hypothesis would be one of major estimations for the declination. One of the leading candidates for present remnant of lost Saraswati is the Ghaggar-Hakra River that originates in the Lower and Sub Himalayas of northwestern India. It flows westerly in the Punjab plain and disappears into Cholistan desert as a dried river bed. Naruse(1974) and Yashpal et al.(1980) said the Ghaggar had used to connect with glacial area in the Higher Himalayas through the Sutlej or Yamuna River course, however been disconnected by piracy due to crustal uplift or rejuvenation of adjacent river. We have tried to examine the hypothesis from the view point of chronology of flood plains and sand dunes distributed along the Ghaggar River. We resulted that the Ghaggar was not the mighty Saraswati during mature Harappan period because sand dunes on either side of the Ghaggar had been formed before that.

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Keywords: India, Ghaggar River, Holocene, Indus Civilization, Harappan Culture, OSL dating