

## *The Plagues and Stagnant Water*

*Moses brought plagues upon Mitsrayim which forced the Pharaoh to give permission to the Hebrews to leave. These plagues are parallel to ill-omens appearing at Dwarka..*

The Pharaoh refused to let the Hebrews go and instead increased the quota of work they had to do as mentioned above. Then Moses brought a series of plagues upon Mitsrayim. The first plague was of the water of the river becoming “blood.”<sup>i</sup> We know though that water does not turn into blood. Thus we looked at the alternative meanings of the Hebrew word for “blood.” We found that the word also means “silent or still.”<sup>ii</sup> We accept this meaning because a river could possibly stop flowing. The plague therefore could be of the water of the river becoming still or stagnant. This could be the Hakra River which had become stagnant at that time as we shall show in the next section of this chapter.

Sarna explains this plague in terms of the flow of red colored sediments carried by the Nile River.<sup>iii</sup> Indeed, the Nile carries red colored sediments as it recedes from the floods.<sup>iv</sup> However, the Nile does not match with the other plagues that we shall discuss shortly.

John I Durham, author of the volume on the Book of Exodus of the Word Biblical Commentary suggests that water of the river had become putrid because of a miraculous act by God.<sup>v</sup> A water becomes putrid when it does not flow and does not absorb oxygen; the fish then do not get adequate oxygen, they die and begin to decompose. The miraculous act by God, therefore, need not be of making the water putrid directly. Instead, the miraculous act could be of stopping the flow of the River of Mitsrayim, which then led the river to become putrid.

The second plague was of frogs. These animals live in the swamps.<sup>vi</sup> The frog population may have increased due to the river having become a swamp due to the reduction of flow.

The third plague was of lice. Not washing clothes leads to the development of lice which live in the seams and folds of clothes.<sup>vii</sup> This indicates that fresh water for washing clothes was not easily available.

The fourth plague was of flies. Animal excrement and garbage are the breeding places for these insects.<sup>viii</sup> Non-availability of water for cleaning areas of habitation could have led to this plague.

The sixth plague was of boils. These are caused by bacteria or fungi found on the skin surface.<sup>ix</sup> This again indicates a lack of clean water for bathing.

Thus, the first plague directly indicates stoppage of flow of the river, the second plague tells of creation of swamps due to the same, and the third, fourth, and sixth plagues indicate a shortage of clean water. These five plagues indicate that the River of Mitsrayim had become stagnant at that time.

### *Holy Ash and Locusts*

*The ash thrown by Moses to bring the sixth plague of boils matches with the ash of the holy fire burnt by the Hindus, and the plague of locusts matches with the Indus Valley being the breeding ground of these insects.*

Hindus burn a “holy fire” for invoking the gods to help them achieve their ambitions. Figure 1 gives a photo of the lighting of such a fire for the conservation of the Ganga River.



Figure 1: Holy fire at Digoli Temple, Pauri. Photo: Author, 2009.

The ash from the fire is believed to have miraculous properties and applied on the forehead of the worshipper. Moses may have thrown such holy ash into the sky to bring the sixth plague of boils.<sup>x</sup> Cultures of West Asia do not suggest the burning of such holy fires to the best of our knowledge. Durham, therefore, explains this event in theological terms only.<sup>xi</sup>

The eighth plague of locusts also fits the Indus context. A report by the Food and Agriculture Organization of the United Nations indicates that the Indus Valley was one of the summer and winter breeding areas for locusts as shown in Figure 2. In comparison, only migrating locusts affected Sudan, located south of Egypt.<sup>xii</sup> Thus, locusts were more prevalent in the Indus Valley; and it is more likely that locusts attacked Mitsrayim located here.

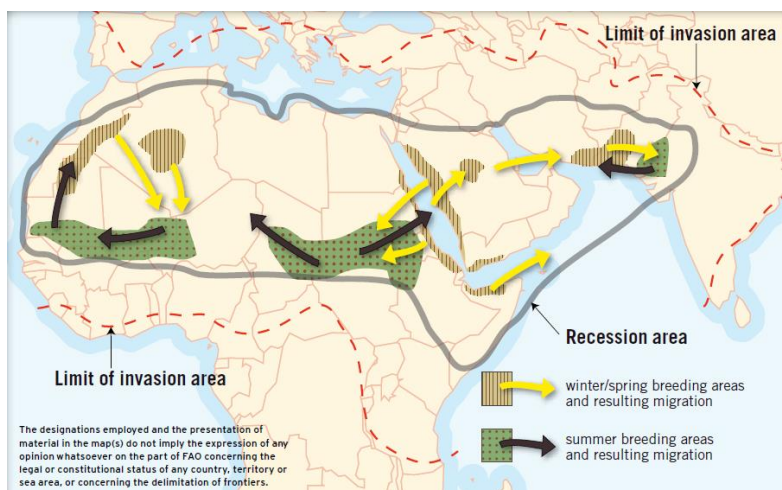


Figure 2: Distribution of locusts, 2002. Photo: Food and Agriculture Organization.<sup>xiii</sup>

The fifth plague of disease, the seventh plague of hail, the ninth plague of darkness and the tenth plague of death are of a general nature and not amenable to a geographical identification. In conclusion we find that five plagues indicate that the River of Mitsrayim had stopped flowing, and the plague of locusts suggests Mitsrayim was located in the Indus Valley. Therefore, we looked for a river that had stopped flowing at c. 1500 BCE in the Indus Valley.

## The Stagnant Hakra River

*The Hakra River had stopped flowing at the time of Moses. The Yamuna had similarly become a pond at that time as we shall show in section “**Error! Reference source not found.**” on Page **Error! Bookmark not defined.***

Our search for a river that had become stagnant in the Indus Valley around 1500 BCE led us to the Hakra. This river was fed by the rivers of Haryana. We give a picture of the paleochannels of Haryana in Figure 3. We have marked five west-flowing rivers in this picture. Four of these, namely, the Ghaggar, Markanda, Sarsuti and Somb are seasonal rivers that emerge in the foothills of the Himalaya Mountains and are fed by springs. The fifth river—the Chautang—emerges from the high Himalayas and is a perennial snow-fed river. People call this river Yamuna in her hill stretches, Chautang in her upper reaches in Haryana, Ghaggar or Hakra in her middle reaches in Rajasthan, and Hakra in her lower reaches in the Sindh Province of Pakistan where she emptied into the Rann of Kutch as shown in **Error! Reference source not found.** on Page **Error! Bookmark not defined.**

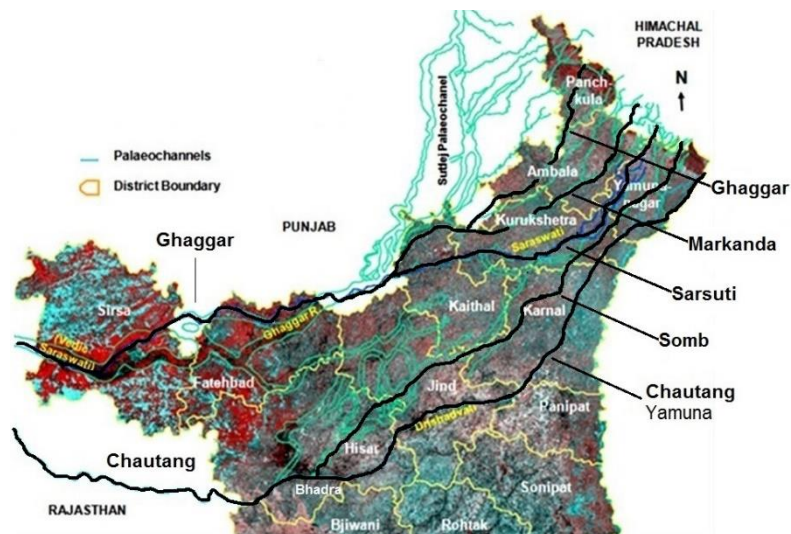


Figure 3: Paleo-channels of Haryana. Paths of the rivers darkened by the author. Photo: B K Bhadra.<sup>xiv</sup>

Sometime around 1500 BCE, the Yamuna migrated eastward. Geologists have suggested that a tectonic uplift led to the Yamuna abandoning her westward flow through the Chautang and her starting to flow east to the Bay of Bengal as she does at present as shown in Figure 4.<sup>xv</sup> The eastward migration of the Yamuna deprived the Hakra of the only snow-fed perennial source of water she had.

One tributary of the Chautang was the Somb. Previously she flowed along the course of the present day Western Yamuna Canal and joined the Chautang at Bhadra as shown in the bottom of Figure 3 above. Mr. Balram Sharma has written a book on the history of Bhadra. He said that local tradition holds that the confluence of three rivers, namely Somb, Hiranyavati, and Drishadvati, lay at Bhadra. This confirms that the ancient Somb flowed into the Chautang.<sup>xvii</sup>

The Somb also migrated at this time and started to flow east along with the Yamuna. The migration of the Somb is marked as Line (1), and the migration of the Yamuna is marked as Line (2) in Figure 5. Now only the rivers Sarsuti, Markanda and Ghaggar fed the Hakra. These are small rain-fed rivers. Therefore, water in the Hakra became less and it could have become stagnant.

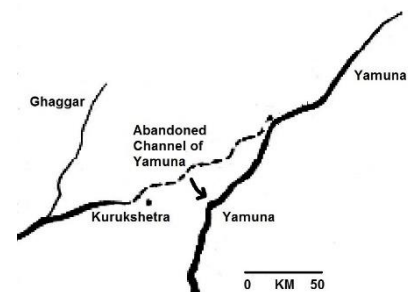


Figure 4: Abandoned channel and present path of the Yamuna. Photo: Adapted from Valdiya.<sup>xvi</sup>

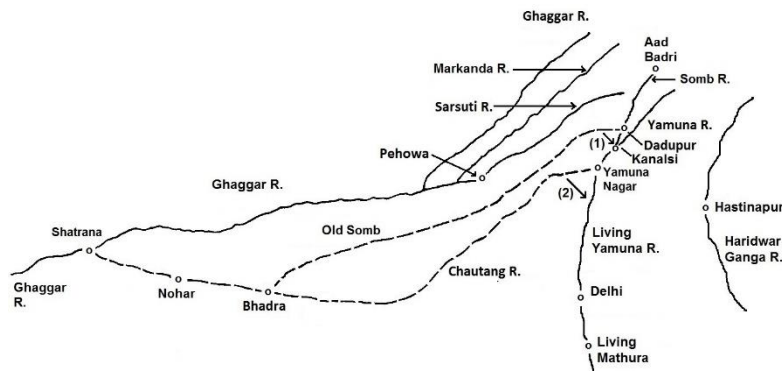


Figure 5: Eastward Migration of Yamuna and Somb, c. 1500 BCE. Dashed lines indicate past flows. (1) Somb abandoned its course to Bhadra and joined the Yamuna at Kanalsi. (2) Yamuna abandoned its course through the Chautang and flowed east through Delhi.

Many archaeological sites are located along the Hakra. We homed in on Chanhu Daro by looking at the period of habitation at these sites. Habitation here began at c. 2500 BCE and ended at c. 1500 BCE.<sup>xviii</sup> The habitation was “massive” though declining at c. 1500 BCE.<sup>xix</sup>

<sup>i</sup> Bible, *Exodus* 7:20.

<sup>ii</sup> The word “dam” is derived from the word “damam” which means to be “dumb..., to stop; to perish; to cease, to be cut down, to rest, to be silent, to be still...” (Strong’s 01818, 01826).

<sup>iii</sup> Sarna, *JPS, Exodus*, Page 38-39.

<sup>iv</sup> American Red Cross, Receding Nile reveals damages in flood-ravaged Sudan, [reliefweb.int/report/sudan/receding-nile-reveals-damages-flood-ravaged-sudan-0](http://reliefweb.int/report/sudan/receding-nile-reveals-damages-flood-ravaged-sudan-0), 30 Aug 2001, Retrieved July 20, 2016.

<sup>v</sup> Durham, *Word, Exodus*, Page 97.

<sup>vi</sup> The Hebrew word for frog is “ts@phardea” which has its origin in “a word elsewhere unused, meaning a swamp” (Strong’s 06854).

<sup>vii</sup> National Institutes of Health, Body Lice, [www.nlm.nih.gov/medlineplus/ency/article/000838.htm](http://www.nlm.nih.gov/medlineplus/ency/article/000838.htm), Retrieved July 24, 2013.

<sup>viii</sup> Ogg, Barb and Soni Cochran, Insects, Spiders, Mice and More, University of Nebraska, <http://lancaster.unl.edu/pest/resources/flies015.shtml>, Retrieved July 24, 2013.

<sup>ix</sup> National Institutes of Health, Boils, <http://www.nlm.nih.gov/medlineplus/ency/article/001474.htm>, Retrieved July 24, 2013.

<sup>x</sup> Bible, *Exodus* 9:8.

<sup>xi</sup> “The disease... cannot be identified, of course, and attempts to make such identifications serve only to obscure the miraculous nature of the mighty act... the point of these awkwardly described ‘inflamed swellings breaking into septic sores’ has much to do with theology and little to do with medicine” (Durham, *Word, Exodus*, Page 122).

<sup>xii</sup> El-Kouny, Nada, Farmers brace for locust invasion in Egypt's Nile Delta, 26 Feb 2013, [english.ahram.org.eg/.../Egypt/.../Farmers-brace-for-locust-invasion-in-Egypt-Nile-...](http://english.ahram.org.eg/.../Egypt/.../Farmers-brace-for-locust-invasion-in-Egypt-Nile-...), Retrieved July 20, 2016.

<sup>xiii</sup> Food and Agriculture Organization, Emergency Prevention System EMPRES, Desert Locust Component Strengthening, Locust and Other Migratory Pests Group, Rome, [www.fao.org/ag/locusts/common/ecg/1344/en/EMPRESbrochureE.pdf](http://www.fao.org/ag/locusts/common/ecg/1344/en/EMPRESbrochureE.pdf), Retrieved July 29, 2015.

<sup>xiv</sup> Bhadra, B K, and J. R. Sharma, “Satellite Images as Scientific Tool for Sarasvati Palaeochannel and its Archaeological Affinity in NW India,” RRSC-W, NRSC/ISRO, Dept. of Space (GOI), CAZRI Campus, Jodhpur-342003.

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<sup>xv</sup> The Yamuna flowed west between 2500 and 1750 BCE, east between 1750 and 1100 BCE, westward during 1100 to 500 BCE, and eastward between 500 and 100 BCE (Chakrabarti, *The Problem...*, Page 27).

<sup>xvi</sup> Valdiya, K S, “River Piracy: Sarasvati that Disappeared,” in S Kalyanraman, Editor, *Vedic Sarasvati River and Hindu Civilization*, Aryan Books International, New Delhi, 2008, Figure 8.

<sup>xvii</sup> Hiranyavati and Drishadvati defy identification. The author of Figure 3 identifies the Drishadvati with the Chautang as marked by him in small letters on the picture. We do know though that the Yamuna flowed through the Chautang as given in Figure 4. Therefore, Chautang was the Yamuna, not the Drishadvati. We would like to remind the reader that we have identified the Drishadvati with the Sagarmati at c. 3200 BCE in **Error!**

**Reference source not found.** on Page 52. The tradition of the Drishadvati flowing in Haryana may be from an unspecified later time.

<sup>xviii</sup> E J H Mackay “found evidence for a considerable amount of craft activity at the site during the Harappan period (2500–1900 BC).” He “also investigated the Post-urban Harappan levels at the site (1900–1500 BC) and, in particular, his exposure of the remains of the Jhukar habitations...” (Possehl, Gregory L., “W. Norman Brown – Americans Excavating in British India” *Expedition Magazine* 50.2 (July 2008), Penn Museum, July 2008, <http://www.penn.museum/sites/expedition/?p=8807>, Retrieved November 27, 2015).

<sup>xix</sup> Miller, Heldi J, A New Interpretation of the Stratigraphy at Chanhu-daro and the Jhukar Phase, in *South Asian Archaeology*, edited by C Jarrige and V Lefevre, Page 253-256, ADPF, Paris, 2001.