

Historically Tracing the Shifting Courses of the Ganges in Malda and Murshidabad

Dr. Arunima Ghosh

SACT-I, Gour Mahavidyalaya, Malda.

Abstract

The river Ganges has been flowing through the areas of Malda and Murshidabad districts of West Bengal over centuries. While changing its water-courses beyond any set rules of movement, the river did devastate the riverine regions in both the districts through the occurring of the bank-erosion. Besides bringing considerable changes in the geographical locations of the concerned area, this phenomenon has made the people move from one place to another, repetitively for life and livelihood. The river has forced the existence of a territorial unit to be changed or relocated and this can be traced to be occurring over a long time-span. The growth of a civilization is deeply attached to a river, where the irony is that the river throws them into uncertainty by its haphazard movement that is unchangeable.

1. Introduction

From the ancient age, Bengal has faced various challenges from the changing course of the Ganges under various rulers. With these changes in the river course, the landscape of the affected area changed and this became a continuous process. Thus, the society consequently got shaped and reshaped by it. The shifting courses of the Ganges kept on disturbing the stable geography of the affected areas and the life of the people in accordance with it. The present research work is focused on these changes in the river-course of the Ganges, through years in Malda and Murshidabad. However, it is needless to say - that this phenomenon of changing river-courses and consequent bank-erosion could not be checked and it has continued to affect the civilization. No change could be made possible in order to control this problem to make the Ganges stable.

Methodology

While doing this study, the first step was the data collection. Both primary and secondary data were collected for the purpose of this study. The starting point for the study was the collection of both published and other available resources, particularly from books, journals, newspaper cuttings. Various maps were thoroughly gone through to understand the overall historical scenario of the course of the Ganges. Then the data related to secondary sources included comprehensive literatures survey. The research works carried out over the region have been taken into account. Also, various newspapers have been utilized, both as primary and secondary sources to get the data, related to the study.

Review of Literature

Ganga river erosion and its impact on human life has been a very interesting area to be explored by various scholars over many years. The name of the article which should be taken at first in this regard is 'The Encroaching Ganga and Social Conflicts: The Case of West Bengal, India', written by Kalyan Rudra. He has shown in his article how the course of the Ganga upstream and downstream of the Farakka Barrage continues to change unabated.

'A Report on the impact of Farakka Barrage on the Human Fabric' written by Manisha Banerjee is another source which is very helpful in understanding the whole scenario in this respect. This Report has shown how Ganga erosion has swept away large areas of Malda and Murshidabad causing large scale population displacement, border disputes with Bihar and Bangladesh, pauperization and marginalization of the rural communities living by the river and creation of neo-refugees on the chars

Another two articles, one named as 'Migration as Source of Risk Aversion Among the Environmental Refugees: The Case of Women Displaced by Erosion of the River Ganga in the Malda district of West Bengal, India' written by Priyanka Dutta and another one named as 'Women and Displacement: a case study of women displaced by Ganga erosion in Malda district of West Bengal in India' written by Brian O'Neil have drawn the issue of women suffering to Ganga-erosion.

Some articles have given important insight on the morphometric changes of the river, the changes in braidedness, sinuosity, such as 'Evolution of River Course and Morphometric Features of the River Ganga: A Case Study of Up and Downstream of Farakka Barrage' by Md Nawaj Sarif, Lubna Siddiqui, Safikul Islam, Neha Parveen, Monojit Saha, 'River Bank Erosion Hazard Study of River Ganga, Upstream of Farakka Barrage Using Remote Sensing and GIS' by Praveen K. Thakur, Shiv P. Aggarwal, Chalanika L. Salui.

The book - 'The Changing Face of Bengal: A Study in Riverine Economy' written by Radhakamal Mukherjee with an introduction by Arun Bandopadhyay is indeed a very important work in this context. The book contributes a lot in describing the gift of the Ganges in the region in the form of delta creation-old and new. It also throws light upon the agricultural decadence and public health in the early twentieth century. It is very much helpful to build ideas about the changes of the river courses in the sixteenth and seventeenth centuries.

The book 'Migration, State Policies and Citizenship' by Dr. Rup Kumar Barman has conducted a detailed study on the different category of Migration including environment-induced migration. The question of the statelessness and resettlement of the forced and voluntary migrants have also been raised in this book. The book 'Ganga-Farakka Barrage Project and Rural Economy of India' by Manab K. Bandyopadhyay has made a detailed work on the impact of the Barrage on the socio-economic sphere so far the living condition of the people is concerned.

The book 'Dui Banglar Nadikatha' written by Kalyan Rudra is also a very important work on the river-science.

The Changing courses of the Ganges in Malda and Murshidabad: A Chronological Study:

The Ganges is not only a river in India, it is an emotion. This river is regarded as holy mother and its water as an indispensable part of religious rituals. But there is another side of the flow, which is not so joyful, rather dangerous to the civilization. Like any other natural calamity, the Ganges also makes the people of its bank suffer. The erosion in this river has been in fact devastating the life of innumerable people for so

many years. The main reason working behind it is the changing course of the river. The shifting of the Ganges over centuries have forced the civilizations on its bank to move and move again to various places, like toys in its hand. From the ancient age, Bengal or the part of Bengal where Malda and Murshidabad were situated, faced various challenges from the changing course of the Ganges in various time- periods. With these changes in the river course, the landscape of the affected area changed and this became a continuous process.

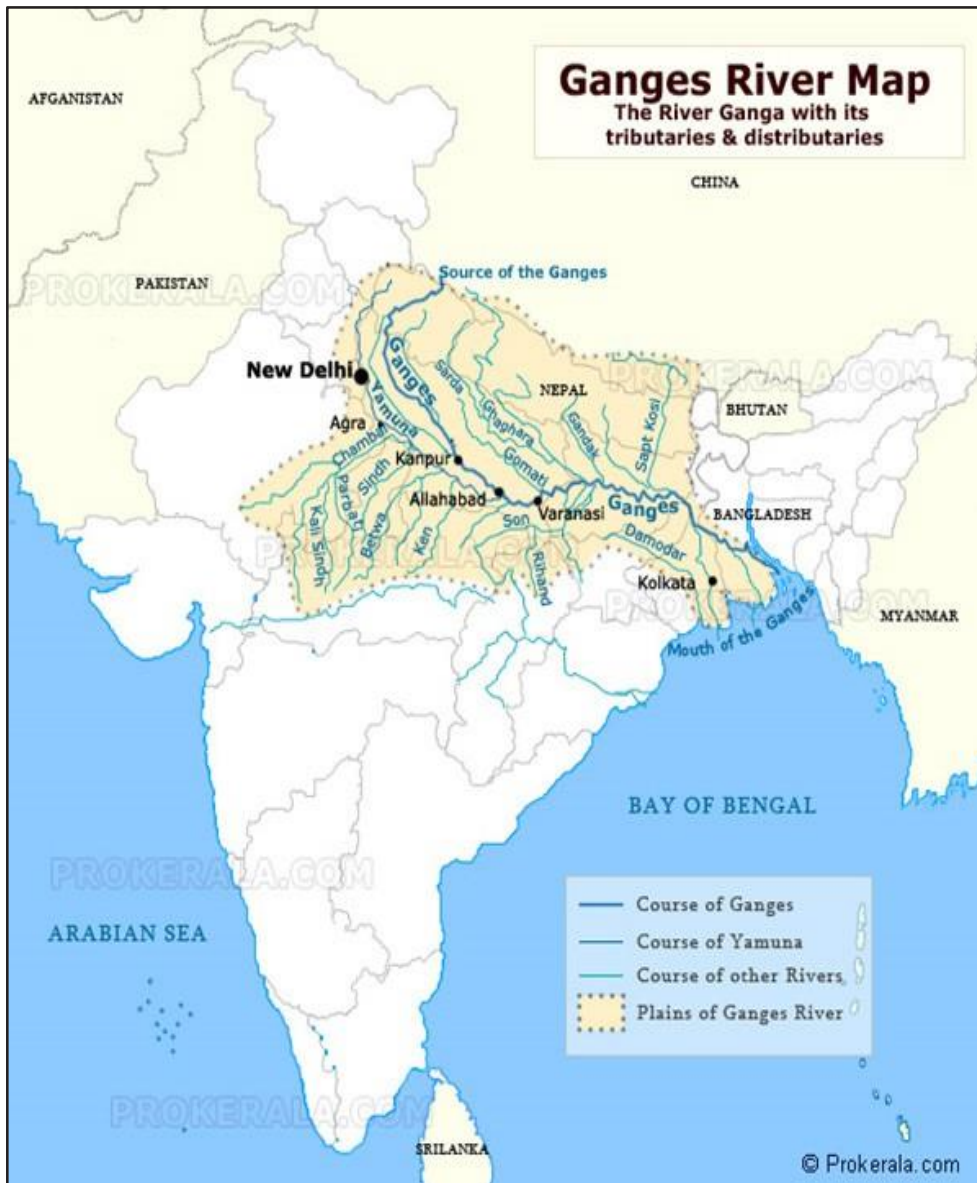


Fig 1: India



Fig 2 : West Bengal

The source of Ganges is Gangotri glacier, at the foothills of the Western Kumayun Himalayas of Uttaranchal of India. From here, two rivers are flowing- Bhagirathi and Alakananda who meet together at Devprayag, about a 150 km south of Gangotri to form the Ganga river. From Gangotri Glacier the Ganges flows down to the Bay of Bengal, covering a distance of 2525 km. After Devprayag the Ganges flows through the Shivalik mountain range and enters into the northern Indian plains at Haridwar. In the plains i.e from Haridwar to Rajmahal it flows through some populous cities such as Kanpur, Allahabad, Varanasi, Bihar etc.

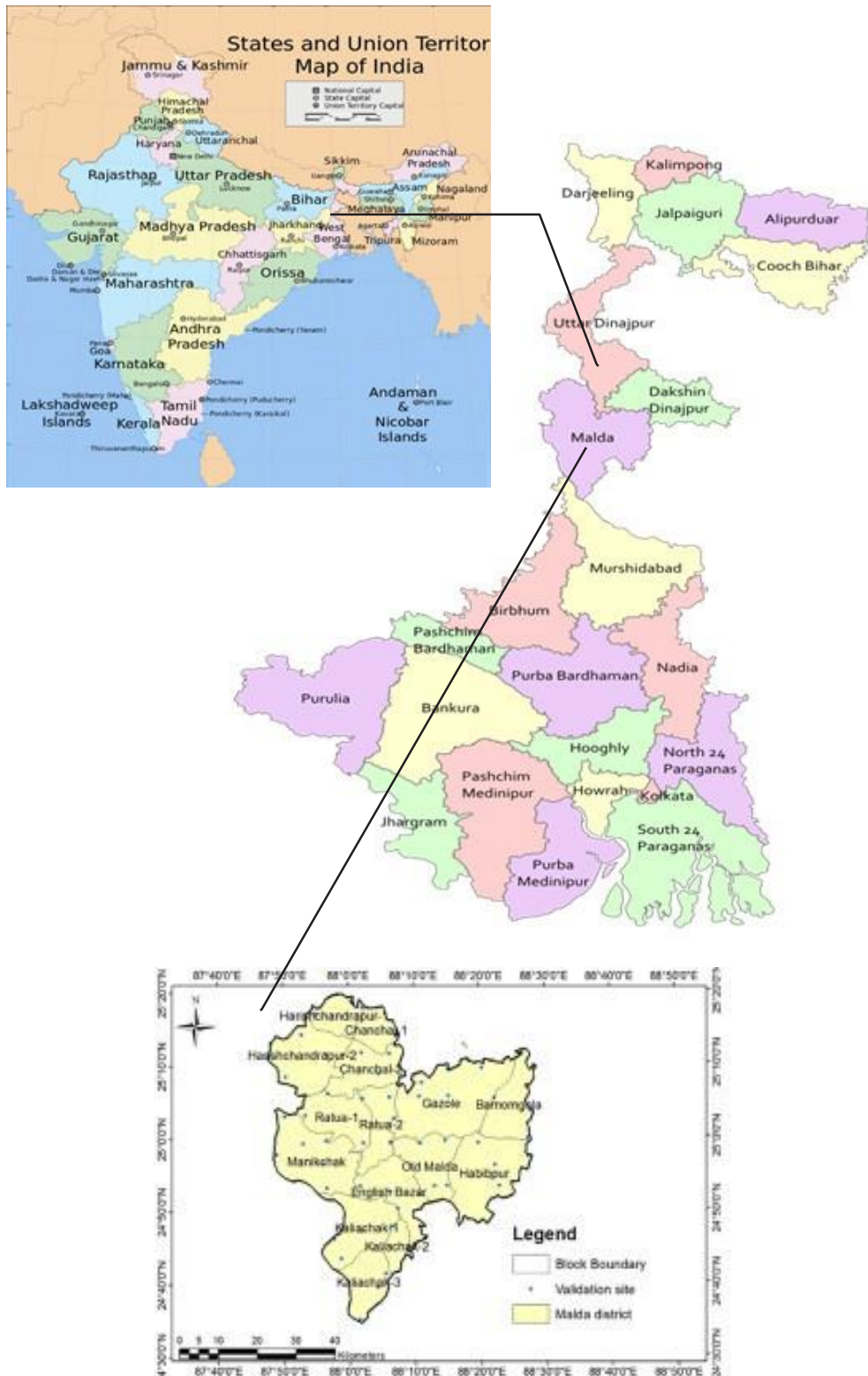


Fig 3 : Location of the study area

The district of Malda is located at the adjacent portion of the northern and southern part of West Bengal in the lower basin of the Ganges. The district is surrounded by Bihar and North Dinajpur in the north, Murshidabad in South, Bangladesh in East and Jharkhand in the west. About 76 kilometre of the river-length has been flown through Malda situated on the left Bank of the Ganges. Near its entry-point into the district,

the Ganga flows almost due-east, encountering the Vindhyan rocks of the Raajmahal hills on its right bank near Munger. After that, striking the southern edges of the old alluvial uplands in the Barind, the old river channel takes a turn southwards entering Murshidabad district through the Bhagirathi, while the main channel flows in a much more easterly direction to become the Padma after it enters Bangladesh. This point of bifurcation occurring so close to the district of Malda, makes the terrain- changes that occur at this point very much important.¹ The important rivers flowing through the District of Malda, are running mainly from the north or northwest to the south or southwest. Apart from the Ganges, Mahananda, Kalindri, Tangan, Punorbhava are the main rivers of the district. Besides, a few small tributaries and distributaries are also running through the district such as Fulohar, Bhagirathi, Pagla, Behula etc. These rivers and tributaries have also been playing important role in connection with the Ganges on the landscape formation of Malda and Murshidabad, from the very past.

The study area is situated mainly in the Diara physiographic division. Diara means newly created land by the river action. It is the alluviated land created mainly by the joint action of the river Ganga and Mahananda in the Pleistocene - Holocene period with many small depressions or lakes with alluvial flood plain.² So the area being flood-prone, has the soil very much suitable for agricultural activities. For this reason, the whole area is under cultivated lands. Here, Mango orchard cultivation is very much preferred by the local people. The areas mainly seasonally flooded are used as river bed cultivations. Mainly Kolai, Bhutta are cultivated here. The new island or new chars are mainly used as paddy cultivation.

Now to look back in history, In mid-12th century, when the Senas came to power, the new capital was Lakshmanawati (near Lakhnauti) on the west bank of Ganga, then used to flow along the channel below Englishbazar (now Mahananda) Ganga started showing tendency to shift westward, Lakshansena shifted capital southward to Nudeeyah. Over the next century, the river remained unstable, thus the capital of Sultans of Bengal was moved by Alauddin Ali Shah from Lakhnauti to Pandua in 1342. Later, during rule of Iliyas Shahi, Mahananda used to flow by Pandua. However, it is believed that Mahananda began to shift westward during the subsequent century, abandoning the site of Pandua gradually and depriving it of navigational access. The earthquake in 1505 was an added factor in this context- according to Major Hirst, due to an earthquake of 1505 AD the Ganges leaving its older course retreated southwards. Among the two distributaries of Ganga, Choto Bhagirathi and Pagla which joined each other to join ultimately Mahananda, the latter discharged into Padma later.

In this way, Pandua declined and the capital was shifted to Gaur in the mid 15th century during the reign of Nasiruddin Mahmud Shah and remained there through the next 100 years. The main flow of Ganges by this time had shifted from the east of the city to its west, leaving only a few intermediary channels that linked the Mahananda with the Ganga. Thus, gradually being extended to Southeast wards from the older site of Lakhsmanawati, the new capital of Gaur at its zenith during the time of Hussain Shah is believed to have had a population of over 2 lakhs, when it had also become a major centre of the Gangetic river-trade. However, following the conquest of Gaur by Sher Shah afterwards, the status of this major medieval city began to falter sharply, probably as the consequence of renewed river migration, the Kalindri, Pagla and Choto Bhagirathi also became moribund at that period. Thus Gaur, located then at the interfluvium between Kalindri and Bhagirathi decayed after 1555. However, the earthquake of 1505 contributed in this by creating a fault, also the increased river water of the Ganges might have contributed in this. Thus, the

Ganges, as a result of all these factors or a particular factor working behind, had left the path of Kalindri-Mahananda, to flow in a new direction. This made the Gaur to decline.

Although for a brief period between 1565-1575, Gaur did regain its earlier status of capital, evidence exists of the old drainage channels having become moribund by then, causing the frequent recurrence of plague and pestilence in Gaur around this time. The city thus rapidly lost importance and was eventually abandoned to time, and when Rannell visited the region two centuries later in 1776, he found the Ganga flowing more than 16 km to the city's west.³

De Barro and Gastaldi Provided the oldest of modern maps of Ganga delta to the Dutch explorer Matheus Vab Den Brouche of 17th century. They are the predecessors of the first correct map of the rivers of Bengal by Major James Rennell after his long survey of the Bengal province between 1764 and 1779. From all these sources it is found that 17th and 18th century where the periods of great changes so far as the course of the Ganga is concerned. Bhagirathi through which waters of Ganges used to pass from 12th to 16th century, was no longer the main stream of the river. Bhagirathi lost its connection with Ganges except only during the Rains. Padma channel was shown as a broad stream in 17th century to 18th century, carrying the bulk of water.

In the second decade of 20th century, the course of Ganga between Rajmahal and Farakka was straight and aligned in a south easterly direction. This course was described in the topographical sheet bearing no.72 P/13 (1: 63360), surveyed in the year 1922-23. Earlier Ganga flowed along different course dashing Gaur. R K Mukherjee in 'Changing Face of Bengal' (1938) stated that - leaving the Hills of Rajmahal, Ganges seemed to have passed northwards through the modern Kalindri and then South wards in the lower course of the Mahananda, east of the ruins of ancient Gaur. J.N Sarkar in 'The History of Bengal Muslim period: 1200 to 1757' expressed that (1973)-" the glories of Gauda under Hindu and Muslim rule, have been reduced to dusts and the ruins of their capital lied scattered in heaps for miles along the eastern bank of Kalindi river ,through which flowed the main current of the Ganges down to the close of the Thirteenth Century."⁴ Thus the main flow of the Ganges used to pass through Kalindri- Mahananda. Another one used to flow in the path of Ganges- Padma. Between these two, there used to flow Bhagirathi.

Thus the history of Gaur gives an account of how the changing course of the Ganges has shaped it. Centuries after centuries have witnessed the changes in the river-course in this region.

Ganga or Padma first touches the district of Murshidabad at the extreme Northern point and then flows in the South-East direction thereby forming the Eastern boundary with Bangladesh. The river has bank line of 94 km in its right bank from downstream of Farakka Barrage to Jalangi in the district of Murshidabad. Murshidabad also have witnessed major shifting courses of the Ganges in past and it continued later also. Major Colebrook in his paper 'On the courses of the Ganges through Bengal (1801) described the devastation caused by the Ganges in Murshidabad district. In the late 19th century Hunter (1876) observed that an acre of land was engulfed by the gnawing Padma within half an hour. Captain Sherwill (1858) witnessed the emergence of char lands which became inhabited, cleared and cultivated, the population increased, land revenue was collected for 10 or 12 years and then the whole fabric disappeared we been one rainy season.

In Murshidabad, near Nimitta the Padma River is treated 94 kilometres international boundary of Indo-Bangladesh. But after Farakka Barrage, the river eroded the bank towards India and accumulated silt on the other side of the bank towards Bangladesh. On the other part near Jangipur at Farilpur village, the Padma and Bhagirathi became to be closed (Manab Banerjee, 2012) due to the erosion of Padma. The erosion of Padma also has left Sankopara of Murshidabad. the railway line and National Highway - 34, from where the river became very much closer⁶ The distance of the Highway and Railway reducing day by day reflects the changing course of Ganga in Murshidabad district. In a study on the morphometric features of river Ganga, it was shown that from 1794 the distance of the stations from the river Ganga has changed drastically. It reflects the high level changing of the river course. The distance from Dhulian Ganga station has decreased from 14.64 km to 2.11 km from 1794-2017. Thus, Murshidabad also suffered from the whimsical course changing of the river.

Thus having skirted the natural barrier put up by the Raajmahal hills, the Ganga in its lower course enters a region of flat alluvial plains with largely undifferentiated terrain. Satellite imageries of this region covering the Ganga- Padma system exhibit curious geological and geomorphological features including the paleo-channels of the present river system, the abandoned channels of several extinct and near-extinct rivers, various meander scrolls, oxbow lakes and remnants of prior spill channels, as well as the limiting boundaries of older alluvial tracts, including floodplains, lineaments etc. Because of low velocity and very flat stream slope beyond this point, the Ganga like any other alluvial river begins to meander over this terrain, eroding its concave banks while depositing silt along its convex banks. So many meander scrolls are situated here. These are the paleo-channels of the river Ganga. In the drier season, these are used as a waterbody. But at the time of Monsoon, mainly period of flood, these meander scrolls are linked with each other and the main river also. By this way the water bodies are used as the intrusion of water in the settled areas. However, unlike the other alluvial rivers of the region, the Ganga is a major river that drains the entire north Indian plain. Along with deforestation and long-term changes in land use, the development of irrigation in the Upper Gangetic valleys has reduced lean-season discharge and increased flood-discharge, causing wide oscillation between the lean seasonal flow of 55,000 cusec (1558 cumec) between March-April and the maximum monsoonal discharge of 18-27 lakh cusec (51-77 thousand cumec) between August-September. Because of this huge variation between peak lean season discharge, the normal alluvion and dilluvion activities of the fluvial system are thus aggravated by frequent changes in the formation of bed channels and spill channels, leading to temporal instability within the fluvial system are thus aggravated by frequent changes in the formation of bed channels and spill channels, leading to temporal instability within the fluvial system of the lower Ganga.⁷

However, besides stating the geological factors working behind the flow of the Ganges, it must be highlighted here that the changing courses of the river had resulted in huge alteration of the features of the landscape in these areas. This situation also led to the loss of lands in the river-water which ultimately invited unending sufferings for the inhabitants. According to the report of a committee set up by Planning Commission (1996) and Irrigation and Waterways Department of West Bengal Government- due to left bank erosion in Malda between 1977- 1990 and 22 mouzas had gone in the river of Manikchak, Kaliachak 1, Kaliachak 2 of Malda. This also affected a huge number of people, who shifted to various other places including other states. In Murshidabad, Between 1988 and 1994, 206.60 square km. of land was eroded displacing a large number of families. Thus the trend of changing courses which was noticed to be occurred

in the Ganges so many centuries earlier, continued to be taking place in the same regions over a long time-span and took much more severe form as time went ahead. Ultimately it resulted in huge socio-economic changes as the forces working within it got altered.

Conclusion

This phenomenon of the changing courses of the river Ganges have reached such a magnitude over years that it has led to river-bank erosion in the study area. The amount of the river-bank erosion has also been increased to a large amount leading to the sufferings of the people further. The changing courses, besides being caused by natural causes, also has occurred by some artificial reasons also. In case of Malda and Murshidabad, the Ganges-bank erosion after 1970s particularly is largely attributed to the construction of the Farakka Barrage. The barrage, by creating an obstruction in the path of the flow of the river, has made it erode the banks in order to find a new way of free-movement. This situation led to the further increased bank-erosion in the study area. However, the natural oscillation of a deltaic river is never to be denied. This natural features of the haphazard movement of the river is something that no human-endeavor has been able to control and as a result huge amount of land have been grasped in the river-bed. This is also happened in case of Malda and Murshidabad also which have made the landscape of the adjacent area changed and the population (living there) shifted to other places. As man and environment related to each other, this scenario is quiet natural that the civilization would be affected by the changing consequences of the natural events. Nevertheless this shows the helplessness of the mankind in front of the river as it has disturbed the normal living of the people over years and has continued to do so, or rather has led to further more dangerous situation as time progressed.

References

1. District Human Development Report Malda, (Development and Planning Department, Govt. of West Bengal), pp. 171-172.
2. Sriparna Mitra, *Shifting courses of Ganga River, Its Causes and Resultant Hazards of Manikchak Block, Malda District, West Bengal*, p. 2.
3. Op. cit. p.183.
4. Jenia Mukherjee, *No Voice, No Choice: Riverine Changes and Human Vulnerability in the 'Chars' of Malda and Murshidabad*, p. 4.
5. Kalyan Rudra, *Encroaching Ganga and Social Conflicts: The Case of West Bengal*, p. 30.
6. Manab K. Banerjee, *Ganga-Farakka Barrage Project And Rural Economy of India*, p. 32.
7. Op. cit. p. 5.

Bibliography

1. Banerjee B.N., *Navigation In a tidal river with particular reference to the Hooghly river*, The Bhagirathi-Hooghly Basin, 1972.
2. Banerjee, Manisha, *A Report On The Impact of Farakka Barrage On The Human Fabric* (submitted to World Commission on Dams: Thematic Review: Flood Control Options And many other thematic reviews) New Delhi, 1999

3. Bandopadhyay, Manab Kumar, *Ganga-Farakka Barrage Project and Rural Economy of India*, (New Delhi: Uppal Publishing House, 2012).
4. Barman, Rup Kumar, *Migration, State Policies and Citizenship*, Aayu Publication, New Delhi, 2021.
5. Basu, S. K., 'A Geotechnical Assessment of the Farakka Barrage Project, Murshidabad and Malda Districts, West Bengal', Geological Survey of India, Bull. No.47, 1982.
6. Carter, M. O., *Final Report On the Survey And Settlement Operation In The District Of Malda: 1928-35*, Government of West Bengal, 1938.
7. District Human Development Report: Malda, Development and Planning Department, Government of West Bengal, 2007.
8. Mitra, Sriparna, *shifting courses of ganga river, it causes and resultant of Manikchak block, Malda district, West Bengal*, (Karimganj, Assam: Scholar Publications, 2015).
9. Mukherjee, Jenia, *No Voice, No Choice : Riverine Changes and Human Vulnerability In The 'Chars' of Malda and Murshidabad* (Institute of Development Studies Kolkata) Kolkata, 2011.
10. Mukherjee, Radhakamal, *The Changing Face of Bengal*. C.U., Calcutta, 1938.
11. Mukhopadhyay, Sutapa and Malay Mukhopadhyay, *Bank Erosion of River Ganga, Eastern India - A Threat to Environmental Systems Management*, http://www.quebec2007.ca/pdf/salle204a/seance21/articles/s_mukhopadhyay.pdf.
12. Pandve, H.T., *Climate Change and coastal mega cities of India*, Indian Journal of Occupational and Environmental Medicine, 2010
13. Parua, P.K., *Erosion Problems of the River Ganga in the districts of Malda and Murshidabad in West Bengal*, Civil Engineering Today, ASCE: Kolkata, Vol. XIII, 1999.
14. Rudra K., *Encroaching Ganga in West Bengal*, *Indian Journal of Landscape System and Ecological Studies*. Vol. 16, 1992.
15. Rudra, K., *Living on the Edge: The Experience along the Bank of the Ganga in Malda District, West Bengal*, Indian Journal of Geography and Environment, Vol. 5, 2000.
16. Rudra, K., *Problems of River Bank Erosion along the Ganga in Murshidabad District of West Bengal*, Indian Journal of Geography and Environment, Vol. 1, 1996.
17. Rudra, K., *Shifting of the Ganga and Land Erosion in West Bengal: A socio- ecological Viewpoint*, Centre for Development and Environment Policy, 2006.
18. Sarkar, Jadunath, *History of Bengal (Muslim period)*, Academica Asiatica, Patna, 1973.