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Geographical Catalogue of Archaeological Sites of the Part of South West Sundarban Coastal Tract, West Bengal, India

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Abstract

Humans are component elements of physical environment and settlement subsistent pattern of the people are govern by morphogenic evolution of landscape from the early time. Location of any archaeological site is deeply rooted with the local geography in any region, because the history of country is inseparably connected with its geography. The primitive people settled since ancient times on the natural landscape with the favorable geographical environment and sometimes adverse circumstances forced to abandon the settled areas. In this way, the traces of ancient human settlement take position in the natural landscape as archaeological remains. To understand the biodiversity, history, culture and even human behavior are needed to have a clear idea about the geographical environment of any region. Therefore, identification of archaeological remains with respect to local geographical environment is drastically significant. Temporal span of the available archaeological evidences from south west Sundarban region is pro-historic to the Pal-sen periods. The main aim of this study is a systematic arrangement of archaeological sites with a physiographic view.

Keywords:

Ancient settlement;
Archaeological remains;
Geographical environment;

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1. Introduction

This research work is the summarized result of archaeological, historical and geographical data's of the entire study area, which were occupied by early peoples in the past (Fig.2). Archaeology is a discipline, which deal with human activity of the past time, whereas geology and geomorphology explain the physiographic and environmental phenomena's of the landscape. In this situation, geoarchaeology can play a central role as a breeze between those disciplines for the batter understanding of the physiographic and cultural co-relation of the archaeological sites, because human's activities have left several fingerprints on our natural environment (Bandopadhyay&Mukhopadhyay, 2015). Each archaeological site should be judge in allied to the natural environment, because human are a component element of natural environment and their life and activities are conditioned and governed by it (Jain, 2014).Cost is a dynamic landscape and that is why coastal archaeology is highly diverse.The Sundarban region is a plain approximately 3 to 4 meter (Fig.3 & 4) above the sea level (ChattopadhyaySengupta, and Chakraborty.2005). The part of south-west Sundarban of South 24 Paragana district (Fig.1), is under the active delta of the Indian Sundarban delta system. The Indian Sundarbans delta is part of the delta of the Ganga-Brahmaputra-Meghna basin in Asia (Danda&Sriskanthan, 2011). This part of the Ganga-Brahmaputra-Meghna delta as we see it today came to be formed between 2500 and 5000 years ago by the silt carried by the river Ganges (Allison et al, 2003) as well as its tributaries. The blanket of Quaternary alluvium of the Ganga, and the Brahmhaputra, and their several tributaries and distributaries conceals beneath it almost all the older rocks of the Bengal basin. Various archaeological evidences have been discovered from entire Sundarban region at the time of forest reclamations in British era. Including the area of South west Sundarban. Notable archaeological sites of this region are Mandirtala, Sapkhali. Bamankhali, Pukurberia, Pakurtala ,Lat no -6, Gobordhanpur, Buraburirtat and Surandraganjetc (Table, 1& Fig.2). The recent discovery of ancient artifacts deep in the heart of the Sunderbans in West Bengal indicates that the region had human habitation as early as the third century BC, and once again refutes the claim by colonial historians that it was the British who made the Sundarbans habitable. During an exploration carried out by the Directorate of Archaeology and Museums, Government of West Bengal, in Govardhanpur and its adjacent Uttar Surendraganj, located near the mouth of the Ganga in the interiors of the Sundarbans in South 24 Paraganas district, around 500 antiquities were found, whose dates are ranging from as early as the third century BCE to as late as the 11th century A.D (Chattopadhyay, 2015). The main aim of this study is a systematic arrangement of archaeological sites with a physiographic view because History is around is the achievement of man (Nag,et.al 2007) and the man is an intellectual element of this landscape.

2. Research Method

The present work is deeply depended on the extensive literature review for the Archaeological identification of places in the study area, especially the information's are used from different

"IAR" (Indian Archaeology: *a review*), published by Department of Archaeology, Govt. of India. Field study played an important role to examining the present geographical situation of the archaeological sites and tracking GPS records. Fieldwork was conducted during winter of 2012, 2013 and 2014. Geographic information system (GIS) Technique is used for placing archaeological sites on the present map. District planning map of south 24 paragana published by National Atlas and Thematic Maping Organization (NATMO) are used. Images are joined using mosaic tool of 'Erdas Imagine'9.1 to get total coverage of the study area map. The ASTER (Advanced Space Borne Thermal Emission and Reflection Radiometer) elevation data with 30 m resolution (GCS WGS84) of 2011 is downloaded from the website of the Earth Explorer (http://earthexplorer.usgs.gov/) and it is also processed through 'Erdas', using AOI and subset tools. All unrectified raster and vector data are projected in UTM (Universal Transverse Mercator) assigning datum of WGS84 (World Geodetic Survey, 1984) using the project raster tool of ArcGIS 9.3 software to overlap these data accurately. The contours of elevation are generated using ASTER data and the spatial analyst tool of ArcGIS 9.3. Data are used from the website of central Groundwater Board (CGWB), Govt. of India (www.cgwb.gov.in), of the district of south 24 Paragana, for better understanding the general geology, geomorphology and stratigraphy of the study area. Geological Quadrangle map of Sagar (1:250,000 scale) was downloaded from the website of geological survey of India (GSI), Govt. of India (www.portal.gsi.govt.in) for preparing the general geological map of south west Sundarban part. In addition to the field survey, collecting of archaeological information and taking photographs of archaeological evidences from different museum located in the study area was also very helpful.

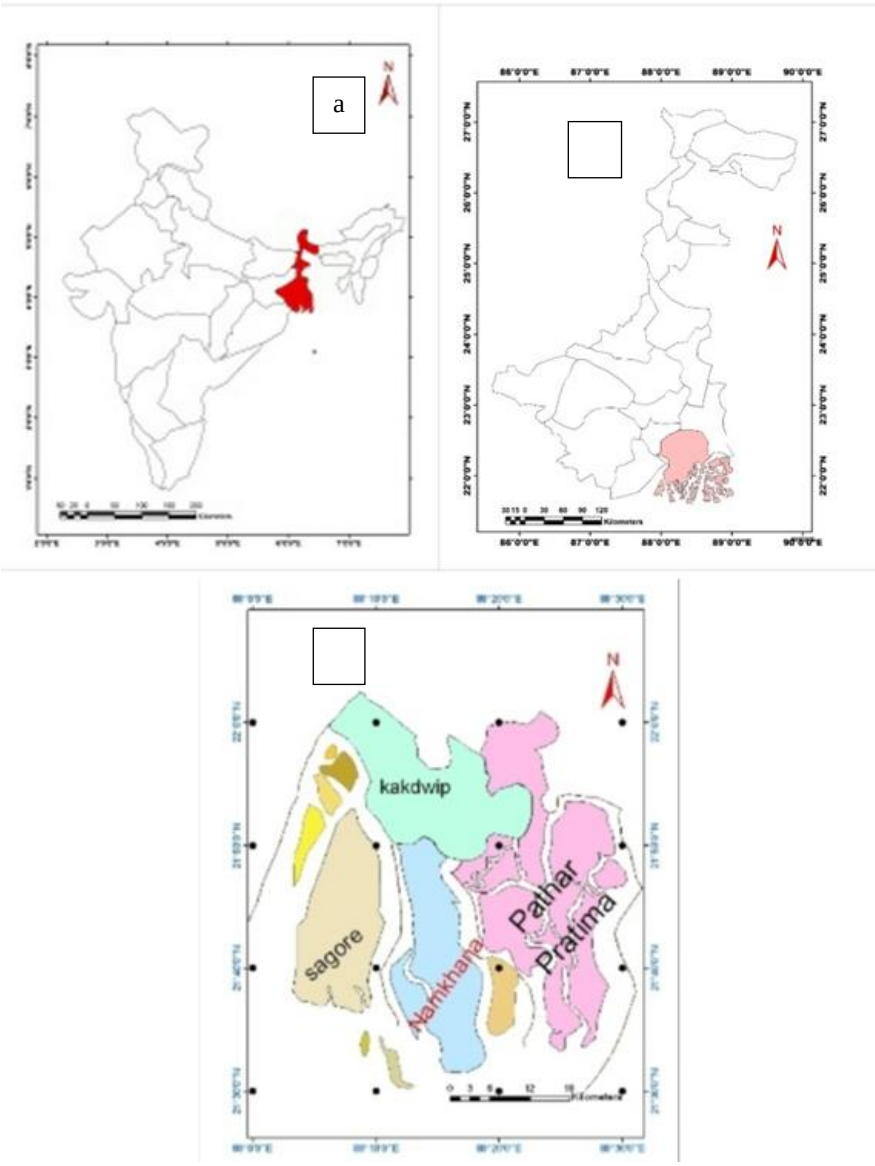

Figure. 1: Map of the study area – (a) location of West Bengal in India (b) District of South 24 Paragana in West Bengal (c) Part of South West Sundarban including the administrative blocks Kakdwip, Sagore, Namkhana and PatharPratima.

Table 1: Geographical Catalogue of Archaeological Sites of the Part of South West Sundarban Coastal Tract

Name of the site	Identification no on map (Fig, 2)	Archaeological periods	Latitude and Longitude	SOI Topographical sheet no	Elevation A.S.L in meter	Morphogenic surface	Annual rainfall in millimeter	Types of soil	Nearest river/shoreline	Name of the block, district and state	Nearest town/city	Geo-archaeological Description
A (sites catalogue)												
Mandirtala	1	Proto- Historic to Pal- Sen period	21°48°22°N, 86°6°39°E	73 C/1	~ 7	Ancient estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with strong salinity	Hooghly/Bay of Bengal	Sagar, South 24 Paragana and West Bengal	Rudranagar	The site is located on the east bank of river Hooghly. Few number of Neoliyhic Celt, non Arya 'Matrika' sculpture, thousands of beads, cast copper coins, gold coins (Middya&Khanra, 2002. Chowdhury, 2009) from eroded valley of river Hooghly. The prominent landmark of Mandirtala site is a ruins of temple, which shows at its basement, a part of the foundation with well-rounded offsets, this apparently is the base of the 'Ratha; type temple of the pala period (Chakraborty, 2001).

B (sites catalogue)	Sapkhali	2	Proto- Historic to Pal- Sen period	21°50'10"N, 86°7'4"E	73 C/1	~ 6	Ancient estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with strong salinity	Hooghly/Bay of Bengal	Sagar, South 24 Paragana and West Bengal	Rudranagar	The site is located on the east bank of river Hooghly, the place has been frequently flooded by tidal water. Proto- historic 'Matrika; portrait, copper coin, stone tools were found (Middya, 2002).
C (sites catalogue)	Fuldubi	3	Proto- Historic to Pal- Sen period	21°47'46"N, 86°5'19"E	73 C/2	~ 3	Ancient estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with strong salinity	Hooghly/Bay of Bengal	Sagar, South 24 Paragana and West Bengal	Rudranagar	Fuldubi is closed to river Hooghly. Many numbers of stone beads, sculptures of Hindu goddess were discovered.

D (sites catalogue)	
Pakurtala	
4	
Proto- Historic to Pal- Sen period	
21°53°37°N, 88°13°10°E	
73 C/5	
~ 6	
Ancient estuarine deposit (upper Holocene)	
above 1400	
Deep fine clayey soil with strong salinity	
Muriganga	
Kakdwipr, South 24 Paragana and West Bengal	
Kakdwip (6 km north)	
This archaeological site is located on the east bank of river Muriganga, river Kalnagini follow near the village and both are paleo channel of Adiganga. Notable evidences of this place are terracotta beads; small pottery vassals with basket marks, semi-precious stone beads, punched copper coin etc. (Chakraborty, 2001).	

E (sites catalogue)	
Pukurberia	
5	
Proto- Historic to Pal- Sen period	
21°50°53°N, 88°13°53°E	
73 C/5	
~ 6	
Ancient estuarine deposit (upper Holocene)	
above 1400	
Deep fine clayey soil with moderate salinity	
Muriganga	
Kakdwipr, South 24 Paragana and West Bengal	
Kakdwip	
This archaeological site is located on the east bank of river Muriganga. Proto-historic 'Yakshini', ancient terracotta sculpture, vassal characterize by Greek style were discovered.	

F (sites catalogue)	
Lat no – 6	
6	
Proto- Historic to Pal- Sen period	
21º57'4ºN, 88º9'46ºE	
Not available	
~ 5	
Ancient estuarine deposit (upper Holocene)	
above 1400	
Deep fine clayey soil with strong salinity	
Muriganga	
Kakdwipr, South 24 Paragana and West Bengal	
Kakdwip	
This archaeological site is located on the east bank of river Muriganga along an erosional surface. Terracotta sculpture of 'Matrika', different sculpture with Roman and Greek style were found from here (Chowdhury, 2009).	

G (sites catalogue)	
Rudranagar	
7	
Early Historic	
21º43º13ºN, 88º6º39ºE	
Not available	
~ 4	
Ancient estuarine deposit (upper Holocene)	
above 1400	
Deep fine clayey soil with strong salinity	
Muriganga	
Sagar, South 24 Paragana and West Bengal	
Gangasagar	
The site is located on the west bank of river Hooghly; actually Rudranagar is located on the middle portion of Sagar island. Sculpture of terracotta 'Yakshini' and many numbers of potteries were discovered in the depth of 2 meter from surface (Chowdhury, 2009).	

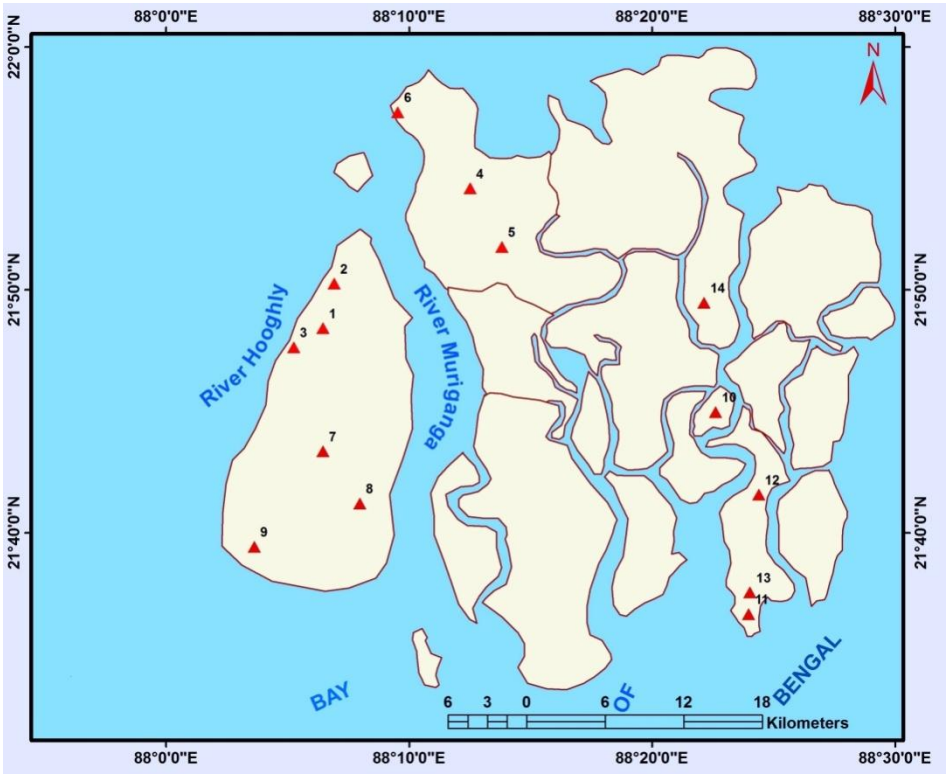

Figure. 2: Map showing the Identification No of Archaeological Places of the Part of South West Sundarban.

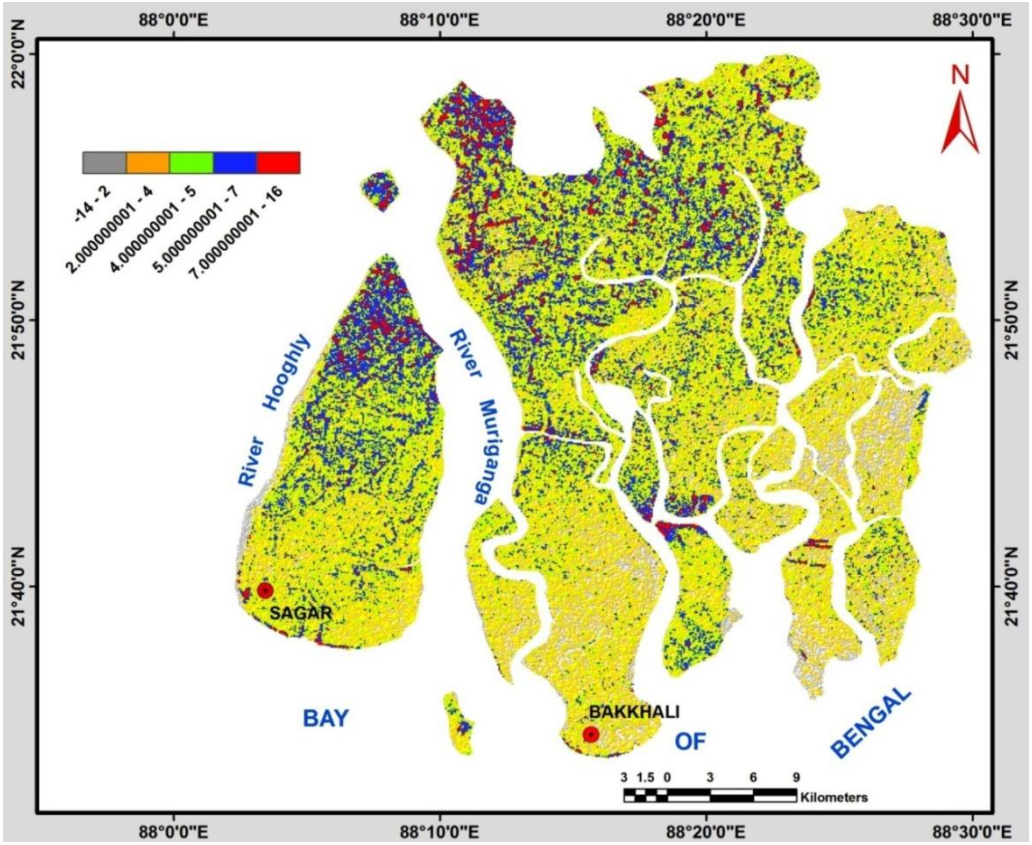

Figure. 3: Digital Elevation Model (DEM) of The Part of South West Sundarban, *Source:***ASTER DEM**, 2011.

H (sites catalogue)	Manasadwip	8	Late Historic to early medieval	21°41'13"N, 88°7'53"E	Not available	~ 4	Ancient estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with strong salinity	Muriganga	Sagar, South 24 Paragana and West Bengal	Gangasagar	Site is located on the west bank of river Muriganga. Different terracotta potteries, terracotta bricks (size, 12" *7*1 ¾"), remains of building of Pal-sen period were discovered from a local pond (Maity, 2002).
I (sites catalogue)	Sagar	9	Early Historic	21°39'28"N, 88°3'23"E	79 C/2	~ 4	Ancient estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with strong salinity	Bay of Bengal	Sagar, South 24 Paragana and West Bengal	Gangasagar	Sagar is located on the side of coastal belt of Bay of Bengal. This is a erosional surface. brocken part of ancient brick, sculpture of goddess Bishnu, pottery oots were found from here (Maity, 2002, Chowdhury, 2009).

J (sites catalogue)	
Rakshaskhali	
10	
Early Historic	
21°44'58"N, 88°22'33"E	
79 C/6	
~ 2	
Older estuarine deposit (upper Holocene)	
above 1400	
Deep fine loamy soil with moderate salinity	
Saptamukhi	
Patharpratima, South 24 Paragana and West Bengal	
Ramganga	
The site is located on the junction of Curzon creek and river Saptamukhi. This is a low elevated small island. Copper inscription of Domman Paul, broken part of the portrait of Buddha goddess are notable evidences that have been recovered.	

K (sites catalogue)	
Gobordhanpur	
11	
Early Historic	
21°44'58"N, 88°22'33"E	
79 C/6	
~ 1	
Older estuarine deposit (upper Holocene)	
above 1400	
Deep fine loamy soil with strong salinity	
Bay of Bengal	
Patharpratima, South 24 Paragana and West Bengal	
Ramganga	
Gobordhanpur is the most southern settlement are of West Bengal state located along the Bay of Bengal coast. This low elevated area have been effected by tidal flood frequently, notable archaeological evidences of this site are gold coins Gupta era and Kushan era, sculpture of 'Yakshini' of Mourya period, terracotta dolsetc (Chowdhury, 2009, Halder, 2007, Sahoo, 2007 and Barman, 2002).	

L (sites catalogue)	Surendraganj north	12	Early Historic	21°41'33"N, 88°24'21"E	Not available	~ 8	Older estuarine deposit (upper Holocene)	above 1400	Deep fine loamy soil with strong salinity	Curzon creek	Patharpratima, South 24 Paragana and West Bengal	Ramganga	The site is located on west bank of Curzon creek, physiographicaly this region is estuary margin tidal or the valley flats along the margins of tidal rivers (Paul, 2011). Sculpture of goddess Bishnu and Ganesha and substantial amount of ancient potteries were found (Mandal, 2010).
M (sites catalogue)	Buraburir Tat	13	Early Historic	21°37'32"N, 88°23'29"E	79 C/6	~ 2	Older estuarine deposit (upper Holocene)	above 1400	Deep fine loamy soil with strong salinity	Bay ofBengal	Patharpratima, South 24 Paragana and West Bengal	Ramganga	The archaeological site is located in nearby area of Bay of Bengal along the sandy and muddy shoreline. Notable evidences that have been discovered are – gold coins of Shasanka and 2nd Chandragupta, terracotta dolls etc. (Chowdhury, 2009, Halder, 2007, Sahoo, 2007 and Barman, 2002).

N (sites catalogue)	Gobindapur south	14	Late Historic to early medieval	21°49'33"N, 88°22'8"E	79 C/5	~ 5	Older estuarine deposit (upper Holocene)	above 1400	Deep fine clayey soil with moderate salinity	Bay ofBengal	Patharpratima, South 24 Paragana and West Bengal	Ramganga	Morphogeniticaly this region is an extensive tidal plain of inter-distributary regions impacted with fluvio-marine environment. Notable evidences of this place are sculpture of 'Matrika', Brocken part of 'Emphera' and thousands of pottery pots.

3. Results and Analysis

From the ancient time, there is a special relation between the characteristic of human inhabitant with local environment.Such study is focused on the interaction between natural landscape and cultural landscape of the ancient peoples across the older landscape and younger landscape of the region of Bengal basin. Favorable environment always help to select the perfect area of settlement. Present part of south west south west Sundarban, which is physiographicaly low elevated (Fig.3 & 4) coastal plain frequently flooded by tidal water with saline soil, this type physical hindrances is not suitable enough for human existence. But evidences of Chalcolithic to pal – sen period are found from this area also. This are the burning evidences of human existence in that period, it helped to build up human civilization with trade enriched cities as in it was nearest to sea.The people of early history and medieval history have shifted towards southeast direction (Fig.4)to occupy the late Holocene coastal plain and delta plain landscapes and deltaic Sundarban to maintain their trade based livelihood processes adjusting with natural landscape of sea front and river front position**.**

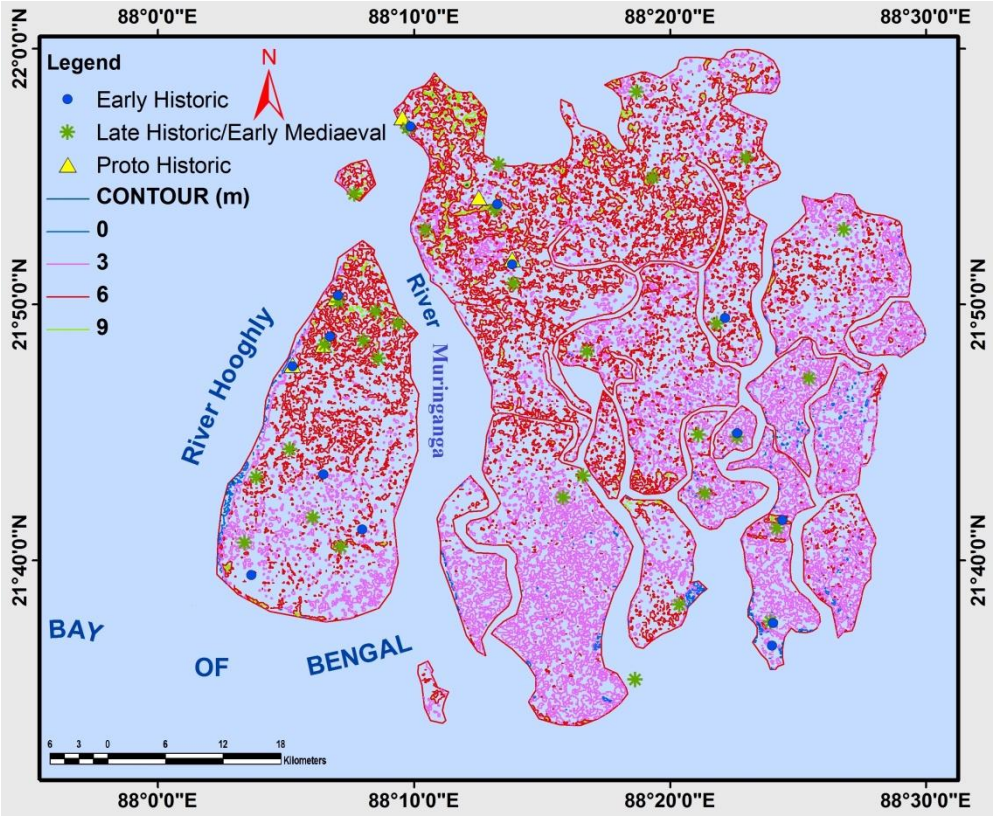

Figure. 4: Contour Map of the South West Sundarban prepared on the basis of SRTM (30m) Data, superimposed by archaeological sites. *Source*,**ASTER DEM**, 2011.

4. Conclusion

Overall findings of the present research prove that the natural landscape history of Sundarban deltaic surface have been changed over the geological period in this region of Bengal basin. Gradually the local environment of the natural landscape systems have been changed over the geological time and the ancient people, who made their habitations in different parts of the land surface on the basis of their stability and also following the livelihood of different parts of the environment, they have gradually shifted from the north east to the southeast directions.

References

[1] Allison, M. A., Khan, S. R., Goodbred, S. L. and Kuehl, S, A Stratigraphic evolution of the late Holocene Ganges-Brahmaputra lower delta plain. Sedimentary Geology, 155 (3-4) pp. 317-342, 2003.

[2] Barman, S. K., archaeological Places of Kakdwip sub Division (In Bengali), Memorandum, South Twenty Four ParaganaArchaeo-history Conventimandal.K (Ed), Baruipur, South Twenty Four Paragana, 2002.

[3] Chakraborty, D, K, archaeologicalGeographyoftheGangaplain: The lowerGanga andMiddleGanga, permanentBlack,Delhi, 2001.

[4] Chattopadhyay, B. D, Sengupta, G.Chakraborty, S. (Ed), An Annotated Archaeological Atlas of West Bengal, Vol.I, Prehistory and Protohistory, Centre forArchaeological studies and Training, Eastern India, Kolkata, 2005.

[5] Chattopadhyay, S.S, Settlement of History, FRONTLINE, http://www.frontline.in/artsandculture/heritage/settlementofhistory/ article5486821.ece, 2015.

[6] Chowdhury, K, A cultural History of 24 Paragana (In Bengali), Deyspublishing.Kolkata, 2009.

[7] Danda. A. A and Sriskanthan. G, Indian Sundarbans Delta: A Vision, WWF-India, 2011.

[8] Haldar, N. Archaeology of Kakdwip sub-division (in Bengali), Memorandum, south 24 ParaganaArchaeo-History Convention, Board of Editors, PratnaItihasCharchaSamiti, 2007.

[9] Jain.V, K, Prehistory and Proto history of India- an Appraisal- Paleolithic- Non- Harappan Chalcolithic cultures, Print World, New Delhi, 2014.

[10] Khanra, A. The Sagar – Mandirtala Museum (in Bengali). Memorandum, south 24 ParaganaArchaeo-History, Convention, Mandal, K (Ed), Baruipur South Twenty Four Paragana, 2002.

[11] Maity, J. Archaeological Evidences of Sagar Island, (in Bengali), Memorandum, south 24 ParaganaArchaeo-. History Convention, Mandal, K (Ed), Baruipur, South Twenty Four Paragana, 2002.

[12] Mandal, K. Some portrait – sculpture of Sundarban, (in Bengali), *Nabachalantika*, Kolkata, 2010.

[13] Middya, D. The south 24 Paraganas, from the light of Archaeology, (in Bengali), Memorandum, south 24 ParaganaArchaeo-. History Convention, Mandal, K (Ed),Baruipur, South Twenty Four Paragana. 2002.

[14] Nag, P. (Ed). Historical Atlas of India, NATMO, Kolkata, 2007.

[15] Paul, A.K.Man-Environment interaction in the single largest mangrove along the Shoreline of the Bay of Bengal: a case study of Sundarban, *Geomorphology of India*, ed. Sharma & Kale, PrayagpustakBhawan. Allahabad. Pp, 263-286, 2011.