

Chapter 4

Research Setting

Research setting refers to the detailed information of an area where the study was conducted. The study area generally comprises of a particular geographical area viz. a state, district, block or gram panchayat area selected according to the convenience of the investigator who possess adequate knowledge regarding the location, communication facility etc. of the locality so that he can easily approach each and every corner of the area for data collection. Besides the investigator must also have the basic knowledge about the socio-demographic background of the people so as to have an easy understanding of their knowledge, attitude and behaviour. Thus, a study on Enterprise Ecology in Agribusiness certainly demands a local unique with natural set up, demography, crop ecology, institutional set up and other socio-cultural milieus.

Area of Study:

The area of investigation of this study is situated in the state of West Bengal located in the eastern part of India. The State of West Bengal in eastern India has a unique social, cultural and ecological background, which influence the living standard and behavioural patterns of the people in many ways. The area of investigation belongs to the Haringhata block of Nadia district, Ausgram † block of Burdwan district and Habra ‡ block of North 24 Parganas district.

Profile of the State West Bengal

West Bengal was created as a one of the constituent state of the Indian union among the 29th states in India on 15th August, 1947 as the result of partition of the undivided British Indian province of Bengal into West Bengal. West Bengal is situated in the north eastern part of India and lies between 21°37'-27°10' north latitude and 85°51'- 89°53' east longitude.

It is flanked by the Bay of Bengal on the South, Sikkim on the north, Assam on the east and Bihar, Jharkhand and Orissa on the west. It also has common borders with the three neighbouring countries viz. Nepal and Bhutan in the north and Bangladesh in the east. The tropic of cancer runs across the middle of the state and passes through four districts viz. Bankura, Burdwan, Nadia and Purulia. The state has a total geographical area of 88,752 sq. km. representing only 2.7% of the total area of India. It is territorially divided into 19 districts i.e. Coochbehar, Darjeeling, Jalpaiguri, Uttar Dinajpur, Dakshin Dinajpur, Malda, Murshidabad, Hoogly, Howrah, Nadia, Birbhum, Burdwan, Bankura, Purulia, 24 Pargana(N), 24 Pargana(S), Purba Midnapur, Pashim Midnapur and Kolkata. There are more than 341 Community Development blocks in West Bengal. There are 3354 Gram Panchayats and more than 42000 villages in West Bengal.

In 1947, when India became independent Bengal was partitioned between India and Pakistan. India's share came to be known as West Bengal and Pakistan's share was called East Pakistan. Later, the state of Cooch Behar, French enclave of Chandranagore and some parts of Bihar were added to West Bengal. West Bengal represents the lands that possess a distinct culture with its indigenous art and crafts and make it an important part of the Indian Union.

Table 2: General Information of West Bengal

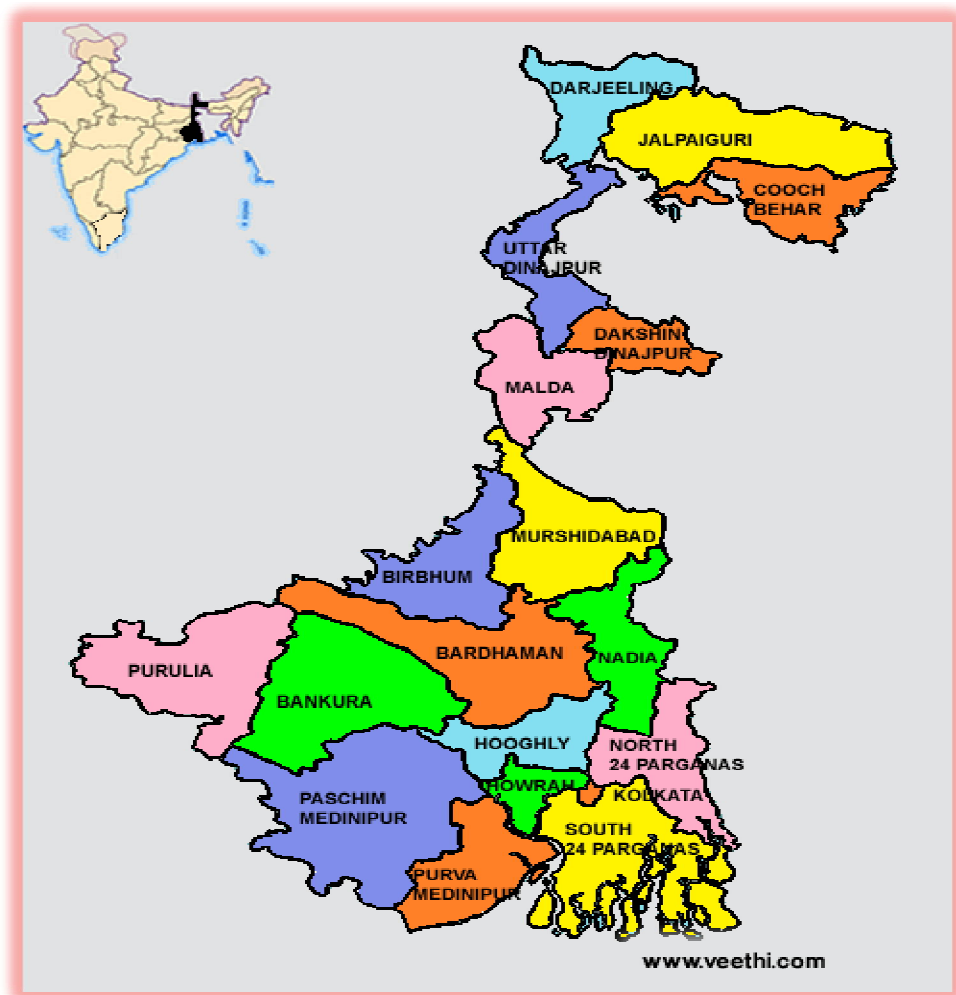
Total population	91,347,736
Male	46,927,389
Female	44,420,347
Population growth	13.93%
Sex ratio	947
Population density	1029/ km ²
Literacy rate	77.08%
Male	82.67%
Female	71.16%
No. of Sub divisions	66
No of Blocks	341
No of Gram Panchayats	3354
Inhabited Villages	37945
Area (Sq. Km.)	88752
% of Electrified Villages	83.6

Source: Office of the Register General and Census Commissioner 2011, Ministry of Home Affairs, GOI.

(http://censusindia.gov.in/2011-prov_results/prov_data_products_wb.html)

Climate of the state:

In terms of the standard climate types, tropical climate viz. humid, sub humid, semi arid and arid occurs over different regions of the state. Its climate is very much influenced by monsoon rains which, in turn are of two types (I) South-West monsoon during the rainy season and (II) North-East monsoon during the winter season. Rainfall in West Bengal averages about 1750 mm, ranging from 2500 to 3500 mm in Dooars and Tarai regions to 1200 to 1800 mm in the plains. The maximum and minimum temperatures recorded during March to October are 30-40°C and 16-26°C respectively in the plains while in the hills these are 15-20°C.



Map-1: Political map of West Bengal

Source: Veethi, The face of India (<http://www.veethi.com/places/west-bengal-state-28.htm>)

The Geographical Distribution of Burdwan (District) :

Location of area:

The district is located in the Bengal delta bound by the Ganga Bhagirathi. The district lies between 23°53' North latitude and 22°56' South and 88°25' east latitude and 86°48' west latitude. The district is bounded by the district Murshidabad on north and northwest, Kathie and Rajshahi have around the east and north east of the district. The district is bounded by the district north 24 parganas in the South and South Eastern part. The total area of the district is 7024 Sq. K.M. sq.kms. The headquarters of the district of Burdwan .

Population

In 2011, Burdwan had population of 7,717,563 of which male and female were 3,966,889 and 3,750,674 respectively. In 2011 census, Burdwan had a population of 6,895,514 of which males were 3,588,376 and remaining 3,307,138 were females. Burdwan District population constituted 8.46 percent of total Maharashtra population. In 2011 census, Burdwan District was at 8.60 percent of Maharashtra population.

Geographical and physical features :

The entire district of Burdwan lies in the alluvial plain of the Ganga and its tributaries. The role of forest in the economy of the district is 7024 sq km only which accounts for 0.33 percent of the total area of the district.

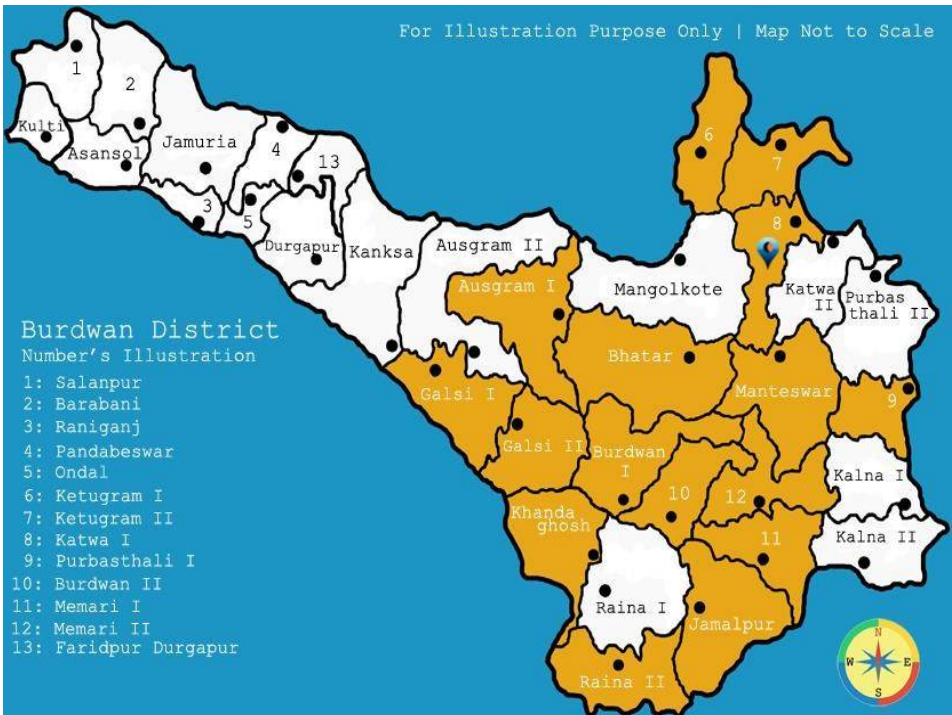
River, and others water ways :

The river system in Burdwan includes the Bhagirathi-Hooghly in the east, the Ajoy and its tributaries in the north and the Dwarakeswar, the Damodar and its branches in the south-west. Besides, there are innumerable Khals and old river beds all over the area. The notable rivers and khals are

Damodar, Bhagirathi, Barakar, Ajay, Dwarakeswar, Nonia, Singaram, Tamla, Kukua, Kunur, Tumuni, Khari, Banka, Chanda-kanki nala, Behula, Gangur, Brahmani, Khandesvari, Karulia nala, Dwaraka or Babla, Koiya nala, Kandarkahal, Kanadamodar, Kananadi, Ghea, Kakinadi etc.

There are many tanks, wells, canals, swamps and bils are found all over the district. Within the Damodar Valley region, there are around 17000 tanks. The Durgapur barrage and Mithon dam have formed two large reservoirs at the south-western and western periphery of the district.

Map-2: Political map of Burdwan district



Map-3: Political map of Ausgram I-Block

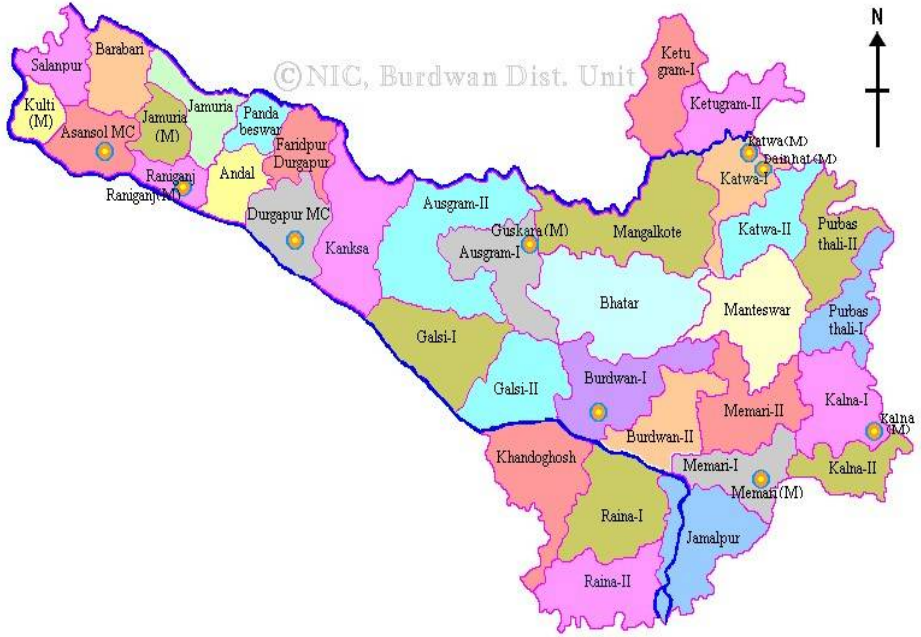
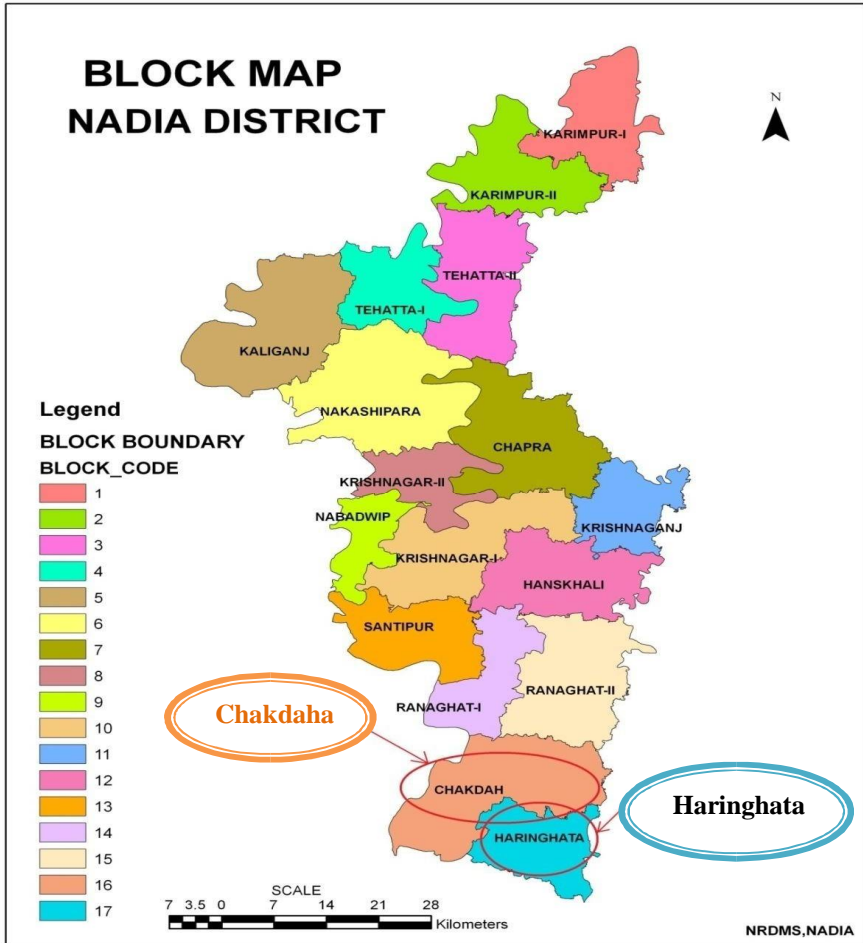


Table 3: Ausgram-I Block at a Glance:

1	Name of the Block Office	Ausgram-I Block	
2	Number of Gram panchayat	7	
3	Number of Mouza	61	
4	Number of Village	7	
5	Total population	106850	
	Male	54675	
	Female	52175	
6	Total area	222.34Sq km	
7	Net irrigated area	25309.9 ha	
8	Flood prone area	---	
9	Soil type	Sandi lome , sandy, red and Latrite	
10	Water supply	No	Area cover
	A) Deep tube-wells	--	--
	B) River lift irrigation scheme	4	100
	C) Shallow tube-wells	--	--
	d) Tank	1295	2510
	e) Other source	River	100
11	No of house hold	22265	
12	No of Primary	92	
13	No of High school	11	

14	No of temple/ masjids	21
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Map 4: Nadia District

Profile of the Nadia District:

Most districts in West Bengal take their name from the headquarters station of the district, but Nadia district takes its name not from Krishnagar, the

headquarter but from Nadia or Nabadwip hallowed by the memory of Lord Shri Chaitanya Mahaprabhu who was born here on 18th February, 1486.

Location:

Nadia is situated between 22°53" and 24°11" North latitude and 88°09" and 88°48" East longitude and about 390027 Sq. Km. in Area, this District is linear in shape with orientation of North-South. The District is Approximately 46 ft. above the mean sea level. The Tropic of cancer divides the district in two parts.

Boundary:

The geographical boundary of Nadia district comprises Bangladesh in the East, Bardhaman and Hugli district on the West, Murshidabad district on the North and North West and North 24 Parganas towards South and South East. Situated on the main rail route connecting Howrah/Kolkata and New Jalpaiguri (NJP) including parts of North Eastern states, the Nadia district can easily be accessed by rail. The major railway stations are Nabadwip Dham, Ranaghat and others with regular trains to Kolkata/ Howrah/ NJP/ Guwahati.

Climate, Geography and physical factor:

Based on Climate, Soil and Physiographic the South Asia Project Department, World Bank (1997) reported six agro climatic Zones of West Bengal. Among them New Alluvium Zone is the biggest Zone with highest cropping intensity and crop diversity covering the western parts of Malda and Dakshin Dinajpur, Southern parts of Uttar Dinajpur, eastern part of Murshidabad, Hoogly, Burdwan and Howrah, entire Nadia and northern part of North and South 24 Parganas Climate of this zone was tropical moist sub-humid with rainfall 1427.4 mm, air temperature maximum 35.0 ° C

and minimum 15.6 ° (annual normal) Soils of this zone are derived from recent alluvial deposits brought down by the river Ganga, and its tributaries hence called inceptisol. Soils are deep, well drained, texturally fine loamy, neutral in reaction, with high base saturation and CEC and medium to medium low NPK Rice is the main crop cultivated in this zone over different land terrains and seasons. Aus, Sesame and Moong in pre-kharif or early wet season; jute and aman rice in kharif or wet season and wheat, different oilseeds & pulses, potato etc. are mainly grown in this zone. Boro or summer rice and sugarcane are also important crops commonly cultivated by the farmers Zonal adaptive Research Station (New Alluvium Zone) (ZARS) started functioning in the month of October 1978 with its headquarter at Krishnagar (88°3' N 23°24' E and 15 AMSL) to look after the agricultural problems and to adopt new agro techniques in this zone.

Table 4: General Information of Nadia district:

Area	3,927 Sq. Km
Total Population	5,168,488.
Male	2,655,056.
Female	2,513,432.
Sex Ratio	947
Population density	1,316 per sq. km.
Population growth rate	12.24 percent
Proportion to West Bengal Population	5.66%
Total literates	3,524,073 people.
Male literates	1,906,966.
Female literates	1,617,107.
Average literacy rate	75.58percent
Male literacy rate	79.58percent.
Female literacy	71.35 percent

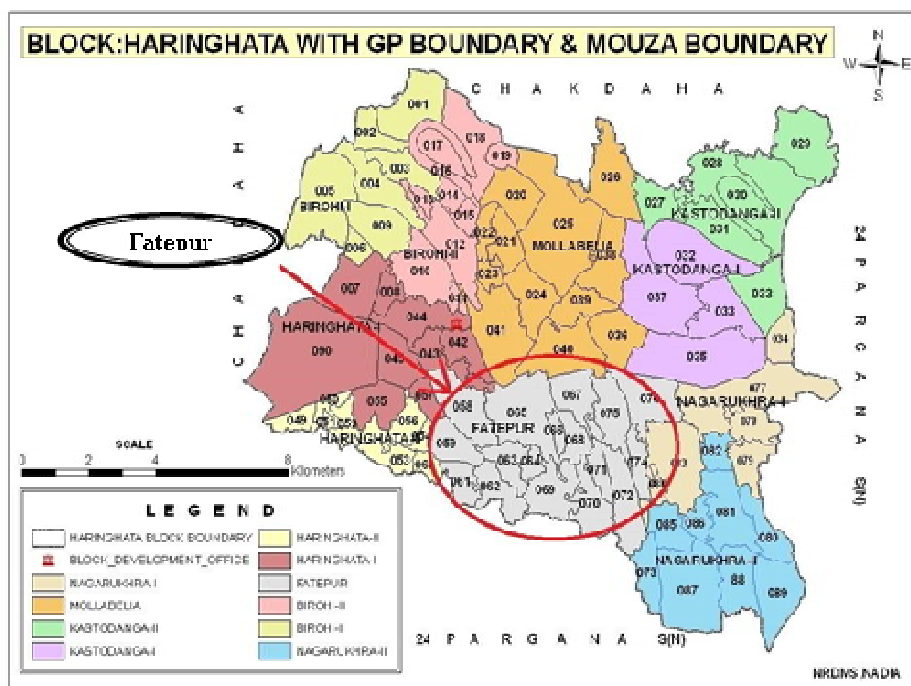
Table 5: District Profile of Nadia:

Geographical Area	3927 Sq. Km Sub-
Divisions	4 Polices
stations	21 C.D. Blocks
17 Panchayat Samities	17 GramPanchayats
187 GramSansads	2639 Mouzas
1406 Municipalities	8 Wards
186	

Table 6: Educational Facilities and Public Health of Nadia:

No. of Primary School	2515
No. of High Madrasah	231
No. of Higher Secondary school	135
No. of Degree College	15 (1 women + 14 co-ed)
Professional & Technical College	12
No. of University	1
No. of Agricultural University	1
Child education centre	171
District Hospital	33
Sub-Divisional Hospital	2
State General Hospital	3
Rural Hospital	7
New Primary Health Centre	50
Sanatorium	2
Chest Hospital	1

Map 5: Haringhata Block



Haringhata Block at a glance:

Haringhata is a town in Kalyani subdivision of Nadia District in the Indian state of West Bengal.

Geography:

Haringhata is located at 22.95N 88.57E. It has an average elevation of 10 meters (33 feet). Haringhata community development block has an area of 168.59 km².

Gram panchayats:

Gram panchayats of Haringhata block/ panchayat samiti are: Birohi 1, Birohi 2,

Fatepur, Haringhata 1, Harinhgata 2, Kastodanga 1, Kastodanga 2, Mollabelia, Nagarukhra 1 and Nagarukhra

Table 7: General information of Haringhata Block:

Block area	170.32 sq km
No. of Gram Panchayats	10
No. of Gram Sansads	129
No. of Mouza	87
Population	2, 29,826
Male	1, 11,733
Female	1, 18,093
% of literacy	74.92%
% of male literacy	79.50%
% of female literacy	70.08%

As per 2011 census report

Table 8: Educational Facilities & Health Facilities of Haringhata Block:

No. of Primary School	120
No. of Secondary School	8
No. of Higher Secondary School	10
No. of Colleges	1
No. of Child Education Centre	34
No. of Library	2
Govt. Hospital	1
Govt. Health Centre	3
Govt. Clinic	30
Dispensaries	4
Family welfare centre	30

Profile of North 24 Parganas District :

1. General Characteristics of the District:

The district of North 24-Parganas with its administrative headquarters at Barasat comprises five Sub-divisions viz. Barasat, Barrackpore, Bongaon, Bashirhat and Bidhannagar. The district is bounded by Nadia district in the north, South 24-Parganas in the south, Bangladesh in the east and Hooghly district in the west and the river Hooghly and Kolkata in the west also. The district of North 24-Parganas has an international border with Bangladesh in the east spreading for about 230 km. The district with an area of 4034 sq. km has a population of 8934286 as per 2001 Census

and thus shows the highest density with 2182 persons per sq. km. among all the districts in the State.

2. Location & Geographical Area:

The district lies between 23°52" N and 22°16" N latitude and 89°5' E and 88°20' E longitude. The geographical location of the district is shown in the table below.

Table 9: Location of the district North 24 Parganas.

Latitude		Longitude	
North	South	East	West
23°52" N	22°16" N	89°5' E	88°20' E

Source: Banglar Mukh(westbengal.gov.in)

3. Topography:

The district North 24-Parganas falls within the new alluvium sub-region of the lower Gangetic Plain (Zone-III) considered most fertile for crop production. The soil type varies from sandy to clay sandy loam being the predominant ratio of high: medium: low land is 17: 33: 39. The soil of northern part of the district is sandy, in the central middle part it is sandy with clay loam and in southern side it is clay loam. The physiography of the district is mostly plain. The main rivers of the district of North 24-Parganas are Ichhamati, Kalindi, Raimangal, Dansa, Borokalagachi, Benti, Haribhanga, Gourchar, Bidyadhari, Hooghly, etc. Ichhamati is the longest among these rivers. It enters the district through Bagdah block in the north of the district from Nadia and flows south through Bangaon, Swarupnagar, Baduria, Bashirhat-I, Hasnabad and Hingalganj. This river flows into river Kalindi and Kalindi in turn flows into Raimangal. It indicates the borderline between India and Bangladesh during its course of flow from Bashirhat to Hingalganj. River Hooghly lies between Hooghly and North 24-Parganas districts. Besides, Sunderban deltas make many rivers flow in this region due to high tidal water entering from Bay of Bengal.

4. Climate:

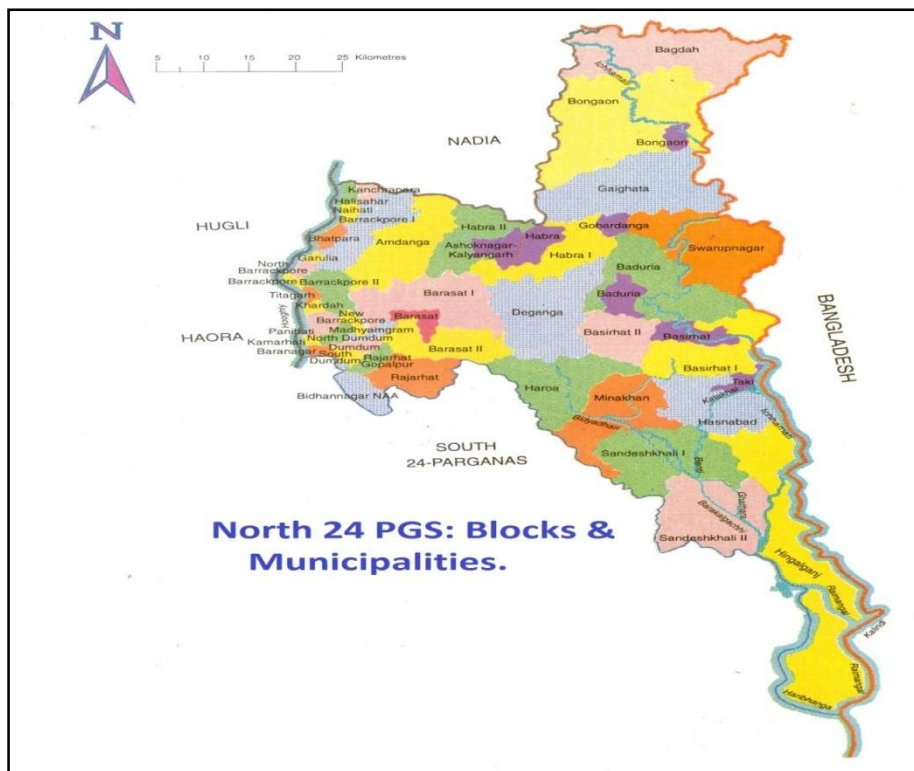
The climate is tropical, like the rest of the Gangetic West Bengal. The hallmark is the Monsoon, which lasts from early June to mid September. The weather remains dry during the winter (mid November to mid February) and humid during summer. Annual rainfall 1,579mm (Normal), Temperature 41 °C in May (maximum) and 10 °C in January (minimum), Relative humidity between 50% in March & 90% in July.

Table 10: District profile of North 24 Parganas:

DESCRIPTION	NUMBER
Sub-Divisions	5
Blocks	22
Panchayat Samities	22
Gram Panchayats	200
Mouzas	1,606
Municipalities	27
Non-Municipal Towns	33
Police Stations	35
Inhabited villages	1,599

Source: Banglar Mukh (westbengal.gov.in)

Map-6: Political map of the district, North 24 Parganas.



Source: Veethi, The face of India (<http://www.veethi.com/places/west-bengal>).

Table 11: North 24 Parganas District(Census 2011):

Description	2011	2001
Actual Population	10,009,781	8,934,286
Male	5,119,389	4,638,756
Female	4,890,392	4,295,530
Population Growth	12.04%	22.69%
Area Sq. Km	4,094	4,094
Density/km2	2,445	2,182
Proportion to West Bengal Population	10.97%	11.14%
Sex Ratio (Per 1000)	955	926
Child Sex Ratio (0-6 Age)	956	958
Average Literacy	84.06	78.07
Male Literacy	87.61	83.92
Female Literacy	80.34	71.72
Total Child Population (0-6 Age)	957,973	1,054,338
Male Population (0-6 Age)	489,824	538,612
Female Population (0-6 Age)	468,149	515,726
Literates	7,608,693	6,151,527

Male Literates	4,056,046	3,440,748
Female Literates	3,552,647	2,710,779
Child Proportion (0-6 Age)	9.57%	11.80%
Boys Proportion (0-6 Age)	9.57%	11.61%
Girls Proportion (0-6 Age)	9.57%	12.01%

Source: Banglar Mukh(westbengal.gov.in)

Profile of Habra-II Block:

- 1. Geography:** Habra II CD Block is bounded by Haringhata CD Block in Nadia district in the north, Habra I CD Block in the east, Barasat I CD Block in the south and Amdanga CD Block in the west.^{[1][2]}
- 2. Climate:** Rainfall - 1,579mm(normal),Temperature - Max 43   in May and Min 9   in January, Relative Humidity - Between 50% in March & 90% in July, Soil Status - varies from sandy to clay loam.
- 3. Demographics:** As per 2011 Census of India Habra II CD Block had a total population of 176,490, of which 140,675 were rural and 35,185 were urban. There were 90,466 (51%) males and 86,024 (49%) females. Population below 6 years was 19,756. Scheduled Castes numbered 31,665 and Scheduled Tribes numbered 4,075.

As per 2001 census, Habra II block has a total population of 149,803 out of which 77,014 were males and 72,709 were females. Population of the rural areas in the block was 134,322 and that of the urban areas was 15,471. Habra II block registered a population growth of 22.24 per cent during the 1991-2001 decade. Decadal growth for the district was 22.40 per cent. Decadal growth in West Bengal was 17.84 per cent.

Table 12: General information of Habra-II block :

No. Of Gram Panchayats	8
No. Of mouza	80
Total geographical area	13232.04 ha
Net cropped area	3491.71ha
Cropping intensity	300%

Source: Office of the ADAHabra -II

Table-13: Habra-II block,Census Report 2011:

Items	Total	Male	Female
Population	149803	77041	72709
Literates	127039	68148	58891
Average Literacy (%)	81.05	54	46
Sexratio	943		

Source: Office of the ADA Habra-II