

CHAPTER-I

BRIEF SURVEY OF MAINAMATI, COMILLA

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Introductory Remarks

Mainamati, the name of a village and a union, is a very familiar historic place situated in Burichang Police Station of Comilla district in Bangladesh of southeastern Bengal. It is well known due to its transferable and non-transferable archaeological evidences, which have yielded its extraordinarily rich archaeological wealth. The name Mainamati is associated with a number of local legends and ballads, which have come to light probably only a few hundred years ago. It is located about five miles to the northwest of Comilla town and is a range of small hillocks almost abruptly erupting in the middle of a vast level plain. This range extends for about eleven miles north south from Mainmati village to Caṇḍi-Mura. Average height of the hills is only 40 feet but some peaks rise up to 150 feet or even a litter more. In present times and in the recent past, there were formed a British Army Cantonment, the campus of Pakistan Academy of Rural Development (at present known as BARD), a Rādhā Kṛṣṇa temple of the Tippera peoples, and Muslims mosques and temples. A thousand years earlier there were constructed on this hillock-range a number of monasteries, stupas, shrines, palaces and religious structures.

Mainmati excavations have covered a large number of valuable archaeological artifacts which have thrown a flood of light on the history of the area surrounding these hillocks which was called Samataṭa Maṇḍala from 6th to 13th century A.D. The ancient character of the site was, first noticed in 1803 A.D. The copper-plate grant of King Raṇavaṅkamalla Harikāladeva was accidentally discovered in the course of constructing the Dhaka-Comilla Highway at Mainamati area. Since then, twelve copper-plate grants in all of various dynasties have been found from excavations in

MAP SHOWING THE DISTRICTS OF BANGLADESH



GRAPHOSMAN

this area. Some of them are in good condition and give important political, geographical and socio-cultural data for the southeast part of Bengal during these times. A study of these plates is, therefore, bound to yield very fruitful results. These plates and artifacts have often been studied individually in isolated and stray papers and articles, which are scattered in various journals. But these individual offers do not afford a coherent and comprehensive picture of the area in those times. An attempt is made in this thesis to fulfill this longstanding desideratum by bringing together all available material and trying to co-relate them and create as complete a picture of that society as possible.

SECTION-I

Introduction

This is a study of some copperplates from Mainamati-Lalmai hill range in the Comilla district of Bangladesh. We have been able to locate twelve such plates. Many of them are in good condition and refer to important political, geographical, historical and cultural data of this small area as it was about 7-13 centuries back. From historical and cultural point of view a study of these plates will yield fruitful results. Hence a close study of these plates is undertaken herein.

To understand the location of the area of the newly found copper-plates in today's Bangladesh it is necessary to get an idea of the administrative units into which Bangladesh is at present divided.

Bangladesh is bounded on north, west and east by Indian territories, in the south by the Bay of Bengal and in the extreme south-east by Burma and. The territories of Bangladesh are divided for administrative purpose into various categories as follows:

Bangladesh consists of six divisions i.e. Dhaka, Chittagong, Shylet, Rajshahi, Khulna and Barishal. These divisions are then divided into districts. These districts are

COMILLA DISTRICT



divided into Thanas i.e. Police Stations that cover some unions, which are actually small groups of villages.

In this way, for example, speaking about the Chittagong Division, it is divided into eleven districts which are named Brahmanbaria, Comilla, Chandpur, Noakhali, Lakshmipur, Feni, Chittagong, Cox's Bazar, Khagrachari, Rangamati and Bandarban.

It should be noted that the district of greater Comilla originally was a part of the Tippera (Skt. Tripura) State. At the time of the formation of East Pakistan, Tippera was divided into two areas called Comilla and Tippera; Comilla was included into East Pakistan, whereas Tippera went to India.

There are twelve Thanas in this newly formed Comilla district. According to the census of 1974, four subdivisions; Brahmanbaria, Comilla Sadar-south, Comilla Sadar-north, and Chandpur constitute the greater Comilla district. This greater district of Comilla which was formerly known as the part of Tippera, lies between $23^{\circ}-31'$ and $24^{\circ}-16'$ north latitude and $90^{\circ}-31'$ and $91^{\circ}-22'$ east longitude¹. The Tropic of Cancer passes at $0^{\circ}-58'$ south of the chief city of the Comilla district, called Comilla town. The district is bounded on the north-west by district of Dhaka and Mymensing; on the North-east by greater Shylet; on the east by the state of Tippera (which is a hill area in India); on the south by greater Noakhali and on the west by the main stream of Meghna which separates it from Faridpur, Dhaka and Mymensing.

HISTORICAL BACKGROUND OF MAINAMATI

The area of this district of Comilla was acquired in A. D. 1765. In 1790, the district of Comilla came into being as a separate district with the name of Tippera and included the whole of the present Comilla plus the mainland of Noakhali except the Islands, Taluk Amirabad and North Brahmanbaria. Taluk Amirabad was included in it in 1799. In 1811, the adjustment of the boundary between Comilla on the one side and Mymensing and Dhaka on the other was made by making the Brahmaputra and the

Meghna as the western boundary of the district. In 1830, the five parganas i.e. Sarail, Daudpur, Haripur, Bejra and Satarakhanda (a bulk of Brahmanbaria subdivision) were also transferred from Mymensing to Comilla. In 1860, the subdivision of Nasirnagar, now called Brahmanbaria, was formed and in 1879, the south western Thanas were included in the Chandpur subdivision.

In 1875, Thana Chagalnaiya in the south-east of Comilla and forming the southern division of Chakla Roshnabad, was transferred to Noakhali. When in 1905 (16th October), division of Bengal took place, Comilla went to the new province of Eastern Bengal and Assam. Finally, decades after, on the 1st October 1960, the name of the district was changed from Tippera to the more widely known one of "Comilla". At present, there are twelve Thanas in the district of Comilla i.e. Homna, Daudkandi, Muradnagar, Debidwar, Brahmanpara, Burichang, Chandina, Comilla Sadar, Barura, Laksham, Chouddagra and Nangolkot Thana. The area of the newly found copper-plates, i.e. that of Mainamati Lalmai Hills falls in the Burichang and Comilla Sadar thanas are bounded on north-west by Brahmanpara, Debidwar, Chandina and Barura Thanas; on the south by Lalsham and Chauddagram Thana and on the east by the western border of Tippera territory (India). According to the census of 1974, there are fifteen unions (and 197 villages) in the Burichang Thana and Mainamati itself is a union situated in the Burichang Thana. Mainamati union consists of the following 23 villages: Baje Baherchar, Mainpur/Bagilara, Debpur, Harindhara, Bajehora, Raypur, Kathalia, Sinduriapara, Sharifpur, Kachharitala, Jaipur, Chandsar, Akabpur, Paikpara, Namtala, Binandiarchar, Hossenpur, Sahdaulatpur, Kala-Kachua, Shamaspur, Dakshin Mirpur, Rampal and Sripur.

HISTORICAL LEGENDS AND BALLADS OF MAINAMATI

Mainamati, the name of a village and a union, is very familiar and is situated at Burichang Thana in Comilla district of Bangladesh. This name associated with a number of local legends and ballads. Probably, the Manamati was named to us only a few hundred years ago. Till today, we do not get any historical or epigraphically

evidence for the naming of this place as Manamati. But the history of it goes back to the remote past and is inseparably connected with the history of surrounding land which has come to the light in our knowledge as Samatata, a historical name indicating a land lying almost level to the seashore.

There are so many ballads, folklores and legends on the name of Mainamati, the Queen of king Manikcandra which are popularly sung in Bengal. Queen Mainamati gave birth to prince Gopicandra. Some of these songs are collected in books like *Gopicandr-ḡāna*, Vols-I and II (Pub. Calcutta University), *Gopicandr Sanyāsa* (Abdul Sukkur Muhammed) and Minachetan (Ed. by N.K. Bhattasali.) *Gopicandr-ḡāna*, *Manikcandr-ḡāna* and other such types of edition completed in 17th 18th centuries A.D. mention the name to Rani Mainamati. We have also found a number of references about ancient places and personalities of ancient Samatata area from these legends and ballads. According to Taranatha² and some of these ballads, Gopicandra was a ruler of Mrikul (now known as Meharkula in Tippera district, at present, Comilla district). Bhattasali³ thinks that Govinda Candra is identical with king Gopicandra known from some Bengali and Panjabi ballads as from a drama and from the tradition recorded by Taranatha. This Gopicand is said to have been the son of Tilakcand and the ruler of Mrikul ie the Meharkul pargana of the Tippera District⁴. But now it is known to all from the epigraphic evidence of the copper-plate of Laḡaha Candra and the copper-plate of Govinda Candra that Govinda Candra was the son and successor of king Laḡaha Candra and Queen Saubhāgyadevi. So, it is now clear that Govind Candra and Gopicand are not the same. Sircar indicated that Gopichand was the son of Tilakcand and the younger brother of Sri Candra of the Candra dynasty of Samatata. No historical evidence has been found in the light of this assumption. We have found many copper-plate grants of Candra dynasty but there is no epigraphically proof that Gopicand was the son of Tilakcand though there is a similarity between the name of Tilakcand, the father of Gopicand and Trailokya Candra the father of Sri Candra. The name of the wife of Trailokya Candra was Sri Kāncika (according to Sylhet plate) and the mother's name of Gopicand was Mainamati (according to Gopi Candrer-ḡāna, Vol-1 & II). But it is likely that the village name Mainamati has come to light from

the name of Queen Mainamati mother of Gopicand the ruler of Mṛīkul in eleventh twelfth century A.D.

APPROACHING THE SITE OF MAINAMATI

In 1871, the road construction act was stipulated (formed) and by the beginning of 20th century, the district, Comilla was well furnished with roads.

In 1820, the system of communication was formulated and by the way of this, in 1866, there was only one road i.e. from Daudkandi via Comilla to Chittagong. By 1873, there were in the then greater Comilla district 12 miles of the metalled and 616 miles of unmetalled roads besides the Trunk road. W. W. Hunter⁵ reports that by 1876, there was prepared a Trunk road from the Meghna at Dandkandi to the Chittagong boundary via Comilla district from east to west. The following roads in the district were important: (1) From Comilla to Noakhali via Lakaksam. (2) From the river Gumati to Napit bazar. (3) From Napit Bazar to Brahmanbaria. (4) A road leading to the Trunk road in between the Mainamati-Lalmai Hill ranges to Companyganj on Gumati river. (5) From Comilla to Bibirhat.

By 1969 A.D., the Roads and Highways Directorate of East Pakistan had constructed the major roads of Comilla. By 1973, the Zila Board of Comilla constructed the roads of this district. In 1969, Chandpur Municipal Committee maintained 46 short roads. Seven important bus routes were also constructed in this year.

The first Railway line of the district was opened in 1895 by the Assam-Bengal Railway, which proceeds down the east of the district for a distance of about 70 miles. The first Station in the south on this line is Gunabati, which lies at the 64 miles from Chittagong. At present, the Roads and Railways in this district are furnished nicely.

In spite of the improved roads and railways, the most common people of this district used to travel by boat between June and October, when water level in the rivers

and canals was high. Steamers, Launches and large boats move in the river Meghna, throughout the year. The important rivers of this district are the Gumati, the Dakatia and the Titas all navigable all the year round by small launches. Besides these, there are numerous Khals (canals) and Bils in this district.

For different purpose, different types of boats are in use and they are known by different names. The most common types are Gach, Kunda, Saranga, Patam, Mut, Othar, Lakhai and Morkush.

In 1899 A.D. the district had only 80 post offices. In 1909, the number rose to 130. By 1961, it was 419 and by June 1970, the total number of post offices in the district increased to 587 of which, three were Head offices located at Comilla, Brahmanbaria and Chandpur, 48 sub post offices and 536 branch post offices.

By 1967, there were six telephone exchanges in the district at Ashuganj, Akhaura, Brahmanbaria, Comilla, Daulat ganj and Hajiganj. The district had 650 main telephone lines and 190 extension lines. Trunk telephone service has been introduced throughout the district. There were 33 public call offices situated all over the district.

SECTION-II

GEOGRAPHICAL DESCRIPTION

An extraordinarily rich culture of Buddhist period lies in Mainamati-Lalmai hill range in Comilla district of Bangladesh. The famous Chinese pilgrim Yung Chwang visited Samatāṭa in between 635 A.D. to 639 A.D.⁶. From Kamarupa Yung Chwang went to south and after a journey of 1200 li or 1300 li, reached the country of San-mo-tāṭa (Samatāṭa). The pilgrim mentioned the name of six countries beyond Samatāṭa. One of these is **Kiā-mo-laṅ-kiā**. He indicated that this **Kiā-mo-laṅ-kiā** is located to the southeast of Samatāṭa and near the Bay of Bengal⁷. The name of the place, Komalā is noted in the Vāyu Pūrāṇa⁸. Most probably, the **Komalā** of Vayu Pūrāṇa is same to

Kiā-mo-laṅ-kiā of Yung-Chwang. Samuel described that "Further on to the south-east, on the borders of the Ocean, we come to the country of Kamalanka (**Kia-mo-lang-kia**)⁹. Dey Nundo Lal mentioned that **Kamalāṅka-Comilla**, it was the capital of Tipper in the sixth century A.D¹⁰. " Cunningham identified **Kiā-mo-laṅ-kiā** with the district of Comilla, to the east of the river Meghna and at the head of the Bay of Bengal¹¹. So, we can strongly conclude that the present Comilla is the **Kiā-mo-laṅ-kiā** of Yuang-Chawng.

The district of Comilla formerly known as Tippera (Skt. Tripurā). The district Tipper, according to Webster, "takes its name from the adjoining State of Hill Tipper, to which it was attached formerly. The derivation of the name is uncertain. The state annals show **Tripurā**, grand-son of **Yayati** king of the Seven Continents, whose deeds are chronicled in the Rig Veda, to have been second in the line of the kings, and the name has also been explained as the meaning either the "three cities" or the Country of **Tripureswarī**. The latter derivation is connected with an ancient legend of Hill Tripura according to which no less than 51 goddesses sprang out of the corpus of **Bhagavatī**, the wife of **Mahādeva**, and by some mysterious process dispersed over the face of the world. One of them, **Tripureswarī**, or the mistress of the three worlds, took up her residence at Udaipur, the former capital of Hill Tippera where a large temple was dedicated to her. This temple ranks as one of the great *Tirthas* or holy shrines which every year attracts hundreds of devout pilgrims.

It is, however, possible, perhaps probable, that the name is not of Hindu origin, and the author of the '**Rājmālā**' derives it from the words '**Tui-prā**', meaning in the language of the hill people as the country towards the sea. The hill men themselves pronounce the name Tipra, which would be a natural contraction from either Tui-pra or Tripura and the fact that "**Tui-mā**", the Meghna, is to this day an object of worship among the Tipperas lends colour to the former derivation; but the solutions are at the best plausible guess¹².

According to the census of 1872, the district of Tippera comprises an area of 2556 square miles and the total population of the district was 14,47,583 persons. In

MAP NO. 1

MAP SHOWING

ANCIENT GEOGRAPHIC POSITION OF BENGAL



1951, it comprises an area of 2531 square miles and the total population was 37,92,200 persons. According to the census of 1961, it comprises an area of 2594 square miles and the total population of the Comilla district was 43,88,906 persons. The density being 1,693 persons per square mile. According to the census of 1974¹³, the population of the district was 58,19,176 persons and the density per square mile was 2,245 persons.

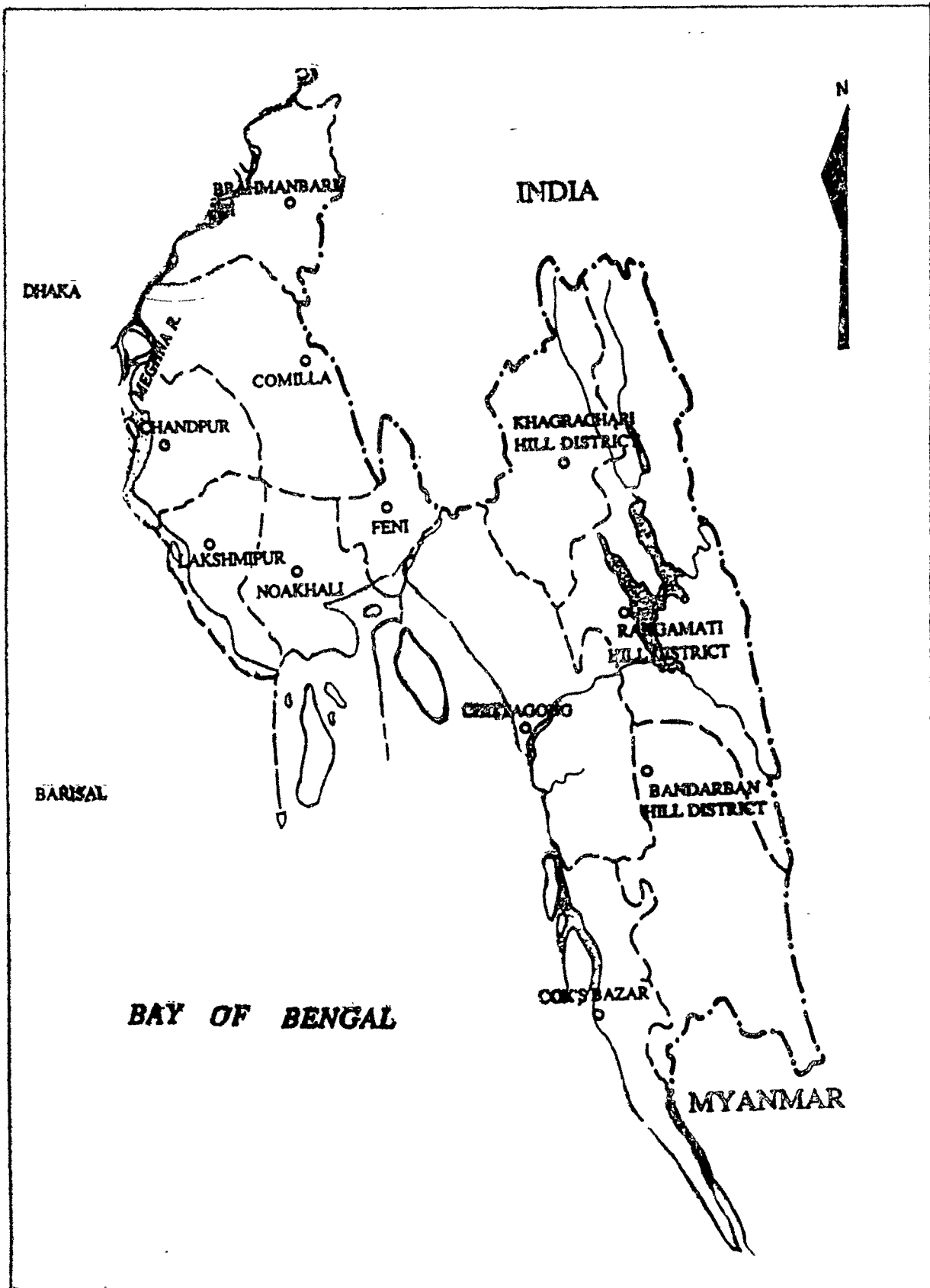
Geographical history of Comilla district is found in the ancient map of Pargitar. It mentions that Pragjyotis and Kiratas are located on northward of the southern sea of this area¹⁴. Roughly, the basin of river Lohitya was named Pragjyotis and the area of around the foot of eastern hills was named Kiratas. At present, the river Lohitya is known to us as the river Brahmaputra. The movement of the river is marked in Kiratas. So, it appears that the eastern area of Pragjyotis i.e., most of the place of Kiratas is the present Comilla district. In the map of Tomas water, the movement of the river Titas and Gumati are marked here of south-eastern Bengal. IN 1560, John. D. Byaros mentioned the location of "Trapo" in his map. There is no room of doubt that this Trapo is Tripur or present Comilla. In 1665, Syanson. D. Ababil mentioned in his map that Trapo is located on the east of Dhaka, on south of Sirot (at present Syhet) and on north of Bengal (i.e. Bay of Bengal). So it is strongly established that Trapo is Tripura and at present Comilla (part of Tripura).

In 1779, Major Rennel not only mentioned in his map the location of Tripura district but also marked the proper location of Candpur and Comilla. Generally, an ancient period, the eastern part of Bangladesh was named after Kratas. Roughly, the present movement of Meghna River indicates the western limit of this Kiratas. At that time, the river Brahmaputra was known by the name Lohitya was flowing on about the present course of the river Meghna and fell down into the sea i.e. Bay of Bengal. But the sea was not so far like today. Kiratas knew the surrounding area of the foot of the hills and the present district of Comilla is located in the midst of it.

In 1974, four subdivisions (i.e. at present three districts); Brahmanbaria, Comilla Sadar-south, Comilla Sadar north and Candpur constituted the greater Comilla

MAP NO. 4

MAP SHOWING THE CHITTAGONG DIVISION OF BANGLADESH



district. There are 21 Thanas in the greater district of which 6 are in the Brahmanbaria, 5 in Sadar-south, 5 in Sadar-north and 5 in Chandpur district.

There are 96 unions and 1,278 villages in Brahmanbaria district of which 13 unions and 112 villages are in Nasirnagar Thana, 10 unions and 82 villages in Sarail Thana, 24 unions and 413 villages in Brahmanbaria Thana; 15 unions and 355 villages in Kasba Thana; 21 unions and 210 villages in Nabinagar Thana and 13 unions and 106 villages in Bancharampur Thana. There are 81 unions and 1,144 villages in Comilla Sadar North of which 10 unions and 189 villages are in Homna Thana, 22 unions and 405 villages in Daudikandi Thana, 112 unions and 126 villages in Chandina Thana, 16 unions and 136 villages in Debidwar Thana and 21 unions and 288 villages in Muradnagar Thana.

There are 89 unions and 1,819 villages in Comilla Sadar-south of which 15 unions and 197 villages are in Burichang Thana, 12 unions and 361 villages in Kotwali Thana, 20 unions and 500 villages in Chouddagram Thana, 15 unions and 233 villages in Barura Thana, and 27 unions and 528 villages in Laksham Thana.

There are 89 unions and 1,413 villages in Chandpur district of which 22 unions and 480 villages are in Matlab Thana, 20 unions and 164 villages in Chandpur Thana, 16 unions and 167 villages in Faridganj Thana, 19 unions and 321 villages in Hajiganj Thana and 12 unions and 281 villages in Kachua Thana.

In shape, the district resembles a long and somewhat narrow triangle over 90 miles in length running between the Meghna on the west and the forest clad hills of Hill Tippera (India) on the east, with its base resting on the district of Noakhali. The country slopes down gradually from the foot of the Tippera Hill (India) towards the west, and there is also a perceptible downward inclination from north to south, which is most pronounced in the north of the district and along the banks of the Meghna. The slope in these two directions is so gradual that it no where disturbs the general aspect of the country, which presents an almost continuous flat surface. Its level is broken only by the Lalmai Hills, an isolated range five miles west of Comilla stretching for 11

miles from north to south. There are also out lying spurs from the low forest-clad hills of the Tippera State (India) which here and there fall just within the eastern border. The greater portion of the district is a rice plain, well cultivated and intersected by numerous rivers, streams and creeks which, in the south and west are tidal.

The greatest assemblage of ancient Buddhist remains in Bangladesh lies in Mainamati-Lalmai in the Comilla district. It extends for about 11 miles north-south from the Mainamati villages on the Gumati river in the north and Candi Mura near Lalmai Railway Station in the south and is about 25 miles in circumference. In its widest parts the ridge is about three miles across and its highest peaks attain a height of 150 feet in a few places, but the average elevation is 40 feet above the plains and 90 feet above sea-level; the highest peaks are Kalir Bazar and Candi Mura. Like the Barind and Madhupur Tract, this ridge represents a small mass of quasi-lateritic old alluvium. The hill is bounded by the faults on the western and eastern sides. The fault scarp on the east is up-thrown to the west and considerably dissected by drainage channels. On the west there are two parallel faults about a mile apart. Both are up-thrown on the east. The inner fault forms a well-defined valley. The outer (western most) fault has a surface throw in excess of 100 feet at several places. These highlands were formerly thickly wooded with an abundance of wild life, but land-hungry local farmers have now pushed back the forest to the highest points and to the patches of Sal trees on the slopes. Structurally this range is a horst, tilted to the east. The upper part of this horst is composed of oxidised clays and sands of pleistocene age, which rest upon beds of sandy shales, coarse ferruginous sand stones and mantled clays and sands, probably of the Tipam series. An interesting material that found all over the place is fossil wood. The eastward dip of the upper deposits are slight, but of the lower deposits are quite steep.

GEOLOGICAL FOUNDATION AND FORMATION

In Geological and land-formation art, it is mentioned as Tippera surface. Most of the areas of this plain land, in rainy season, are under 5 to 25 feet of water. In rainy season, though this land is under water but much alluvium does not settle because the flow of river Meghna does not carry much alluvium. But this sunk soil, due to much wetting, is to be favorable for good tilling.

Geological history of famous Comilla district can not be called very ancient. The stone of Miocene age has been found in deep of Lalmai range, which is very ancient stone field of this district. This age can also be mentioned as, 3-3.5 crore years-not more than this.

Geological formation of most of area of this district has been composed in Pleistocene and Holocene of present age. It is not only for Comilla district but the formation of all Bangladesh also roughly the same. So, Geological history of this district is comparatively new. Geological formation is also not called very complicated.

In view of Geological formation, whole Vaṅga basin has been divided into three parts; the Himalayas stairs of Tetulia on most north-west, is consisted of about all of north Vaṅga to which Indian stairs. Vaṅga stairs of on southeast and southeast regions is to the south. The plain land of Tripura range is located to the western side of folded mountains of the eastern side of Vaṅga basin; that means, the position of Comilla district is the eastern side of Vaṅga stairs. From earth-movement and land formation, it can be called that still now an active action is continuing.

From near the middle stage of Tertiary era that means, from Miocene Epoch, nearly 40,000 feet alluvium bed, since its starting existence till today, has been settle in this region from its bottom of a foundation. The bottom of a foundation of this district has been placed before nearly 3 crore years in Miocene Epoch. In Miocene age i.e. nearly 3.5 crore years of the beginning, lower land stone has been discovered in that stratum of the earth of subterranean region of Mainamati- Lalmai range. In

between land alluvial stones have sandstone, shale, melt stone and some beds of time. In different age, time and environment the below stratum of the earth was made by settled alluvium. Depth of it is more than 1,700 feet. This layer chiefly consists of shale but sandstone mixed with time, melt stone and sandstone have been decorated in different land stone. It is chiefly consisted of sand stone and shell and its depth is above 3300 feet to 4250 feet. On upper land of Miocene age, two chief layers are found. One of these is Bocabil and another one is Tipam. On layer of upper land stone is Bocabil and its depth is nearly 3,500 feet. Depth of Tipam is nearly 1000 feet on Bocabil. Dupi Tila stone layer of Pliocene Epoch lies on Tipam layer to which depth is near 100 feet. Red soil has been found, of Pleistocene Epoch in Mainamati - Lalmai range, on Pliocene age i.e. Dupi Tila, which is nearly 1.5 crore years old. Age of Pleistocene Epoch is 10 lack to 20 lack. Red-brown coloured soil has been found in it. The soil is soft. Yellow-brown coloured sand is also composed in it. The soil of Mainamati Lalmai range, is composed by red alluvium of Pleistocene Epoch, is reddish-brown or brown coloured. Owing to the monsoon of tropical region, the colour of this alluvium has been changed for more rain falling, temperature and passing of time. Proportion of organic substance of the clay is comparatively poor. It is a repetition of Tripura Hills and is composed by different type of clay which is different than new made alluvium clay of adjacent area. Largely the hill has been decayed and most of the place of the lower area is covered by bed of new alluvium. For digging adjacent lower land of Hills, subterranean water is found. The soil of this region is covered by Madhupur clay of Pleistocene Epoch, which, is overlain by Dupi Tila formation of Pliocene Epoch. The soil of this region is roughly called reddish-brown or yellow-brown coloured clay or sandy-soil. The existence of Madhupur clay has been observed around the bottom of Mainamati- Lalmai range. The existence of Madhupur clay is also found from northern Harashpur to southern Kasba and every hilly area of Bangladesh. There are many scattered hillocks from Kasba to south Dattasar, to which, the existence of same kinds of soil is found. There is a hillrange named Raghunanda from north Harashpur to Sahaji- bazar, to which, is found the existence of soil of Dupitila of Mainamati -Lalmai hill range.

The soil of the district varies considerably. Close to the hills, the soil even where it is not the old alluvium, partake somewhat of its nature as it continues to receive deposits washed down from them. It is very fine clay which cakes are very hard in the dry season and are capable of being used for the walls of a house. Though in such a wet climate, it is not often used for this purpose, its character shows itself by the neat ails which form the boundaries between neighbouring cultivated plots. These soils are acidic, low in plant nutrient and droughty. Further away from the hills the soil normally contains a higher percentage of decayed vegetable matter, which renders it more capable of retaining moisture. It gradually passes from a pale yellow clay to the dark soil found in Chandpur Thana, which is perhaps some of the richest and most fertile in the sub-continent. There is an abrupt change which a region is reached which is being curved and remolded by the Meghna and its branches. The soil then becomes more sandy, not necessarily less fertile but of different character. When the level has been depressed, but active channels from the Meghna have not found their way into the depression, long submersion and the action of aquatic plants have sometimes so finely disintegrated the soil that it has become a black mud as treacherous as a quick sand. In some of the beds near Bancharampur and in Brahmanbaria thana, the cultivators have to push themselves about over the soft mud on Plantain-tree stems when engaged in transplanting their boro paddy.

In 1871, brown iron ore was found in the Mainamati - Lalmai hills, but is probably not present in a quantity that is worth working.

There are abundant deposits of various types of sand including silica sand in many districts of Bangladesh of which special mention may be made of the district Comilla, Mymensingh, Syhlet. Glass making sand was deposited in heart of old rivers-channels, which was hidden in subterranean region at plain land of around the bottom of Tippera Hills. From interior land formation, it is known till today that there are found six upper folds. From the direction of geological sense, these are simple folds and were created in time of third insurgence of Himalayas and mixed up inseparably. These folds are 1. Kachuya 2. Dandkandi 3. Titas 4. Bakharabad 5. Lalmai and 6. Kalatia. And the gas is found from these upper folds in abundance. This

gas is accumulated from Titas and Bakharabad folds. Apart from these upper folds, there is an upper fold named Chandpur-Barishal in between Hatia and Faridpur region. The width of this fold is nearly fifty miles. Alluvial stone covers its upper side.

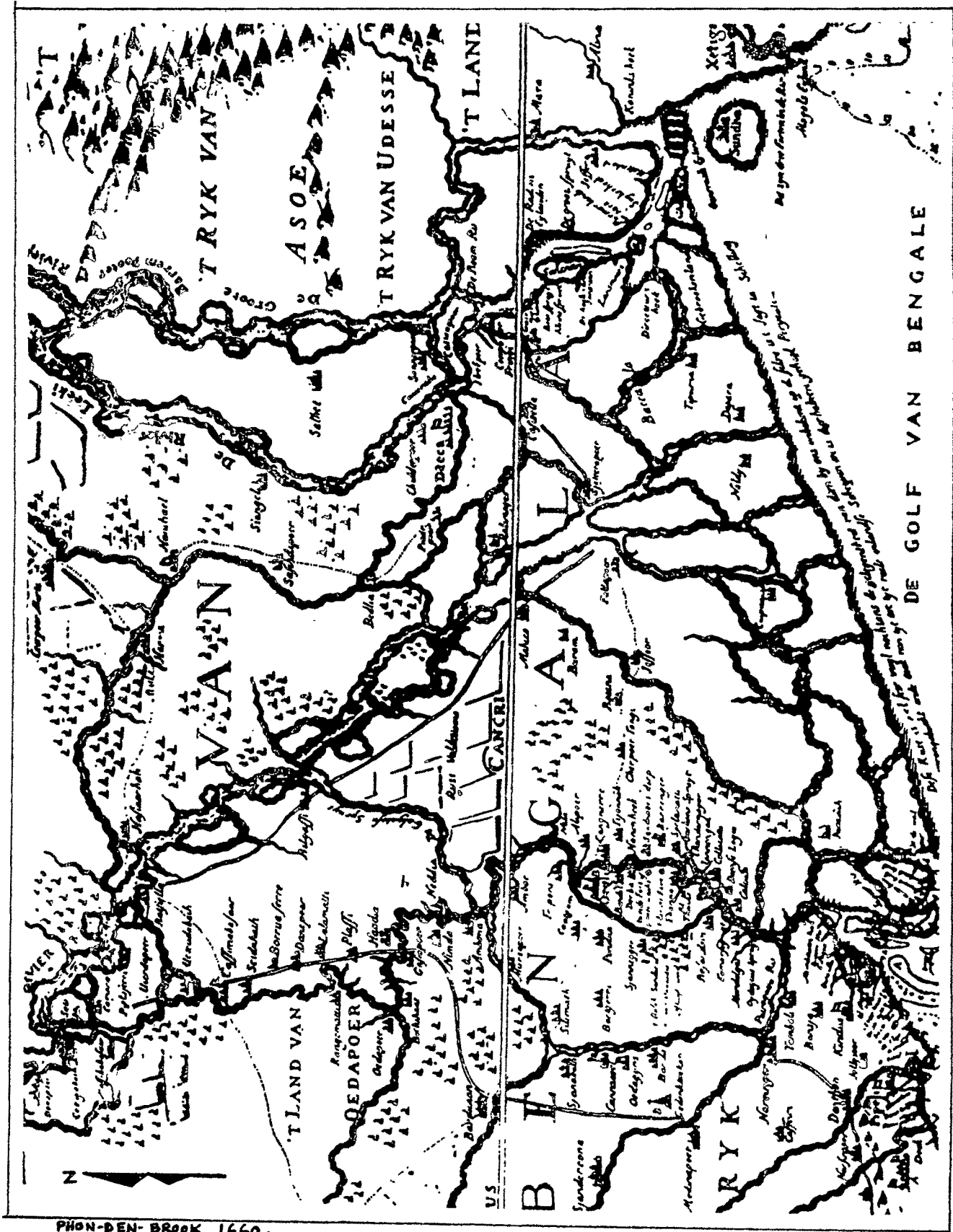
With the discovery of gas in Brahmanbaria, the natural gas industry in Bangladesh reached a new dimension. The most significant factor in the composition in that, there is no toxic contents in the Titas gas and does not require purification. The total reserve of gas in the Titas gas field is estimated to be 2.5 billion cubic feet. Supply of Titas gas to industries in Dhaka -Narayanganj belt has been started by the beginning of 1968. There is the huge requirement of this gas particularly at Siddirganj, Ashuganj and Ghorasal power plants together with the demand for the fertilizer factory at Ghorasal.

ECOLOGICAL DESCRIPTION

Every where the village sites are well- wooded but the trees are more numerous and luxuriant and their character more tropical in the south-west. The traveller who gilds down the Meghna from Catalpara to Candpur cannot fail to observe the gradually increasing richness and luxuriance in the growth of palms and other trees. Some of the villagers are buried in variable forests where the stranger may lose his way and looking round from some high place, the horizon is bounded on every side by trees. The Mainamati - Lalmai Hills were once densely wooded¹⁵. At present, an area near Kotbari has been earmarked as a forest belt, though almost the whole of Mainamati-Lalmai Hills have been cleared up and cultivation has been extended at foot hills. The Kotbari Range comprises three forest beats i.e. Comilla beat in Kotwali P. S., Rajeswar beat in Kotwali P. S. and Choudyagram P. S. and Belonea beat in Parshuram P. S. The whole of forest of this region is classified as acquired one. The total area of it in 1972-1973 was 1,901.34 acres¹⁶. But the forests were unimportant, and did not yield any revenue to the Government. A list of plants prepared in 1888 shows 49 species of

MAP NO. 2

MAP SHOWING THE RIVER SYSTEM OF ANCIENT BENGAL



PHON-DEN-BROOK, 1660.

timber trees 56 kinds of uncultivated trees and plants; 71 used in European and 198 in native, medicine, 14 giving oil, 7 used in dyeing and 4 used in tanning.

There are practically no wild animals in the district. About 100 years back, there was a good number of barking deer, leopard, tiger, wild hog and various species of wild cat on the Maimamati - Lalmai Hills in general and on the eastern border of the hill in particular. There in at present, jackals in large number, in the district and share with, vultures and crows the duties of village scavenger. The mongooses are common, but there are few monkeys and squirrels to be seen. Bird life is luxuriant. Fish eagles kites and brilliantly coloured kingfishers are common. Most of the road side and other trees in the village remain crowded with small birds, golden oriole, erected bulbul, king crows, the crow-pheasant, wood packers, sun-birds, sparrows, host of little fly-catchers and of course, the ubiquitous mania. At nightfall, the air is resonant with their clamour, and even later the silence is broken by the deep-toned hoot of the horned owl and, alas, by the too insistent note of the coppersmith and the crescendo of the brain-fever bird. The game birds of the district include jungle fowl, wild duck, teal, golden plover, and snipe, which offered fair sport in the winter months. At present, most of natural environments on geological structural formation of this district are the donation of river system. From ancient time, numerous rivers and creeks are flowing over this district helping for its formation work. After all, the rivers, from ancient time, are making contributions in natural land formation. Roughly, the five main rivers are flowing over the district of Comilla. These are (1) The Titas stream on northern portion in the district, (2). The Gumati stream in the middle portion (3) The Dakatia stream on the middle and south-western portion (4) The small Feni river stream on south eastern portion (5) The Meghna river stream on north-west and near to the western border area of the district. Of them, the Titas, the Gumati and the Dakatia have joined in to the Meghna stream. The Meghna and small Feni River fall into the Bay of Bengal. Many sub branch rivers and numerous creeks and marshes have joined into above-mentioned rivers. Most of the sub rivers of this district have been coming out from the Hills of Tripura kingdom of eastern boundary.

There are few lakes in Comilla district, but the marshes (bells) are numerous and covered an aggregate area of 92 square miles (Hunter's Account of Tippera 1876). At present, many marshes are thoroughly filled up; the following are most important marshes in the district: (1) Atkopa beel in pargana sarail, area about 1 square mile. (2) Alta. beel in pargana sarail, area about 1.2 square miles, (3) Bahjuni beel in pargana Sarail, area about 1.4 square miles. (4). Baralla beel in pargana Sarail area about 5.9 square miles, (5) Chantar beel in parpana sarail, area about 2.4 square miles. (6) Kajala beel in pargana sarail, area about 2.1 square miles. (7) Kakai beel in pargana sarail area about 1 square mile. (8) Bara beel in pargana Bardakhat, area about 2.4 square miles. (9) Bandghar beel in paragana Bardakhat, area nearly 1 square mile,. (10) Mondahari beel in pargana Nurnagar, area about 1 square mile. (11) Chandaler beel, area about 2 square miles. (12) Bariyadharer beel, area about 2 square miles. (13) Dakatia and Stabila area about 1 square mile. (14) Chhyafullakandi beel. (15) Satbaria beel in Chauddagam Thana. (16) Baidyar beel in Muradnagar Thana and. (17) Baraikuri beel.

The line of Tropic of Cancer is passed over the Comilla district. So the district is fully under tropical area. Naturally, Tropical monsoonal climate is observed here. In rainy season, it rains heavily in the district. Roughly, the winter season of this district is dry. Annual rainfall ranges from 80" to 120". In winter season, the rainfall is very poor. The average temperature is 78.7° F. in May month, the average temperature is 86° F. and winter season, in January month is 66° F. But, some times in April-may months, the temperature, is 107° F and December -February months, is 45° F to 42° F. Roughly, the climate of this district is comfortable and healthy.

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