

## CHAPTER I

# PHYSICAL ASPECTS

The district of Dinajpur lies between  $24^{\circ} 55'$  and  $26^{\circ} 23'$  north latitude, and  $88^{\circ} 2'$  and  $89^{\circ} 19'$  east longitude, in the Rajshahi Commissionership of the province of Eastern Bengal and Assam. The area of the district is 3,946 square miles, its greatest length from north to south being 105 miles, and its greatest breadth near its southern end between the Karatoya and the Mahananda rivers being 76 miles. Its population at the census of 1911 was 1,687,863 souls. The chief town, from which the district takes its name, is situated about the centre of the district, on the left bank of the Punarbhaba river, in  $25^{\circ} 38'$  north latitude, and  $88^{\circ} 40' 46''$  east longitude.

**GENERAL  
DESCRIP-  
TION**

According to Buchanan Hamilton, Dinajpur is said to signify the abode of beggars and is identical with Dinwaj, a Raja of which, Gonesh, usurped the Government of Gaur. The name appears originally to have applied more particularly to the locality in which the present Rajbari is situated, and a possible explanation of it may be that some forgotten prince, Dinaj or Dinwaj, was the original founder of the Dinajpur family, and gave his name to the site. In Rennell's Description of the Roads of Bengal and Behar, published in 1778, it is given the alternative name of Rajganj. This

**ORIGIN OF  
NAME**

## PHYSICAL ASPECTS

name till survives in one of the wards of the town.

### BOUNDARIES

The district is bounded on the north-east by Jalpaiguri; on the north-west and west by Purnea; on the east by Rangpur; on the south-east by Bogra; on the south by Rajshahi; and on the north-west by Malda. The Nagar river forms its natural boundary on the Purnea side, while the Karatoya separates it from Rangpur for about 50 miles on the south-east.

### GENERAL CONFIGURATION

The General appearance of the country is flat, sloping gently southwards, as is shown by the trend of the rivers. In the south and portions of the west of the district the curious formation known as the Barind, geologically classed as old alluvium, makes its appearance. The characteristic of this is an undulating country interspersed with ravines. The elevations are nowhere worthy of the name of hills, the highest ridge not exceeding 100 feet, but they make nevertheless a considerable alteration in the appearance of the country, which elsewhere consists of the flat alluvial plain characteristic of the Gangetic delta. The ravines vary from shallow stretches of low land, suitable for growing rice, to deeper depressions bearing a resemblance to old river-beds and sometimes containing water. These latter are locally called Kharis. The ridges are commonly covered with scrub jungle and stunted trees.

Another marked feature of the district are the tanks, especially numerous in the south, where wells are comparatively little used. These vary in size from splendid stretches of water, which might justly be called lakes or meres, to small and insignificant ponds. The vast number of these has given rise to the supposition that at some former time the country was more populous than it is now. This is probably correct, but at the same time the desire of the well-to-do Bengali to perpetuate his memory and propitiate the Deity by digging a new tank, and his corresponding disinclination to re-excavate an old one, may have something to do with it. Most of these tanks have fallen into neglect and overgrown with reeds, lotus, and other aquatic plants.

Old writers make mention of the large number of marshes or *bils*, formed by the overflowing of the rivers, to be found in the district. It is possible that since those days the face of the country has gradually undergone a change, as nowadays it would be impossible to speak of such marshes as a feature of the scenery. They do indeed exist, and in the

## GAZE-TERRITORY OF THE DINAJPUR DISTRICT

rains some of them are of considerable extent, but their number is small compared with the size of the district.

In the absence of hills it is hard to trace natural divisions, but there are many points of difference between the north and the south of the district. The former is broken up with patches of tree jungle and clumps of bamboos; the cultivated areas are smaller in size, and the villages consist of scattered homesteads embowered in luxuriant vegetation. To the south the country is more open; clumps of trees are comparatively scarce; the villages are often clusters of houses situated on bare ridges or on open river banks, and the prevailing toddy and date-palms give a peculiarly oriental character to the scenery.

The general direction of the main rivers is without exception from north to south, and the ultimate destination of all is the Ganges. Their beds are as a rule well below the level of the surrounding country and it is only in exceptionally wet years that they overflow their banks to any great extent. Wide spread inundations, such as are of annual occurrence in the districts of the Dacca division, are almost unknown in modern times, though they appear to have been common enough a century or so ago. In the rainy season the main rivers, such as the Nagar, Punarbhaha and Atrai, are navigable by good-sized country boats to about as far north as Dinajpur town, or a little above it, but in the dry season, or for some eight months in the year, the points up to which they are navigable by large boats are very much lower down and most of them are fordable almost throughout their entire course through the district. There is good reason to suppose that the main rivers are gradually becoming shallower through silting up. The immediate cause of this is the sluggishness of their currents throughout the greater part of the year. The river channels are well marked and fairly constant, though there is evidence that in the past this was not always so, and that changes of course occasionally took place. Into the main rivers flow many small streams or *khals*. These are navigable by small boats in the rains, but throughout the greater part of the year they are either dry, or dwindle to a succession of pools. Generally speaking the rivers and streams are of little use for purposes of communication, and even in the height of the rainy season travelling is done by bullock cart.

The following is a brief account of the principal riv-

### NATIONAL DIVISIONS

### RIVER SYSTEM

ers, proceeding from west to east :-

**NAGAR**

The Nagar takes its rise at a place just north of the Atwari outpost, where the districts of Dinajpur, Purnea, and Jalpaiguri meet. It takes a south-westerly course, and forms the boundary between the Purnea and Dinajpur districts until it joins the Mahananda, a distance of nearly 90 miles. Its bed is rocky in the upper reaches, but becomes sandy lower down. The lower portion of its channel is deeper than those of most of the other rivers in the district, and is hardly fordable even in the dry weather. There are no places of any great importance on its banks, except the police outpost of Atwari, and the small mart of Jagadal near the main road to Kishenganj in the Purnea district. Shortly after its junction with the Nagar the Mahananda throws out a side branch, which, entering the district, follows a winding course never far removed from the Mahananda and finally joins the latter about 12 miles lower down. The channel is called the Nagar and is generally unfordable throughout the year. It is joined by the Gamar river near Itahar. The principal tributary of the Nagar is Kulik, which rises in a marsh about six miles west of the head-quarters of the Thakurgaon subdivision, and after running through the thanas of Ranisankil, Hemtabad and Raiganj, falls into the Nagar, a short distance above the junction of the latter with the Mahananda. Near its southern extremity it passes the important trading centre of Raiganj, the principal jute mart in the district.

Smaller tributaries of the Nagar are the Tirnai, the Nuna and the Kayeh, the first of which passes close to the Baliyadangi police station and joins the Nagar about 26 miles from its source while the latter two enter it lower down.

**MAHANANDA**

The Mahananda, after flowing through Purnea, is joined by the Nagar at a place on the Dinajpur boundary in the jurisdiction of the Itahar police outpost. From there it forms the boundary between Dinajpur and Malda for about 20 miles. The large and important village of Churaman, the home of one of the principal zamindars, is situated on its eastern bank.

**CHHIRAMATI**

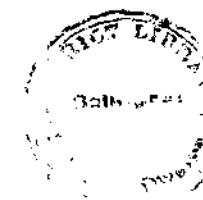
The Chhiramati takes its rise in a marsh on the common boundary of the Pirganj and Kaliyaganj thanas, and after passing close to the Kaliyaganj police station, and forming the boundary between the Kaliyaganj thana and the Itahar outpost on the one side, and the Bansihari thana on the other, flows into the Malda district after a course of

some 30 miles. It is a sluggish stream of little importance, with no tributaries. The village of Patiraj, the most important market in the south-western part of the district, is situated on its right bank.

The Tangan enters the district on its northern boundary from Jalpaiguri, and after passing through the thanas of Thakurgaon, Pirganj, Kaliyaganj and Bansihari, and skirting that of Gangarampur, passes into the Malda district, where it joins the Mahananda. Its entire course in Dinajpur district is about 80 miles. The channel of this river is rather narrow, with steep banks, and is sandy in its upper reaches. In the rains fair-sized country boats can come up almost as far as the headquarters of the Thakurgaon subdivision, which is situated on its left bank. Besides Thakurgaon, Shihole and Bansihari are the only places of any importance situated on its banks. The former is the centre of a weekly market of some note, while the latter is only noteworthy as being the site of the local police station. This river is connected, about the centre of the Thakurgaon subdivision, with the Punarbhaba by a rather interesting canal called the Ramdanra, said to have been constructed by Raja Ramnath of Dinajpur as a means of communication between two of his country seats, Gobindnagar and Prannagar.

The Principle tributaries of the Tangan are the Ghoramara, a small streamlet rising near Ruhiya, and joining the Tangan at Mandalpara, a few miles below Thakurgaon, and the Tulai, which, rising in the jurisdiction of Pirganj, and passing through the small mart of Birol, joins the Tangan in Bansihari thana.

The Punarbhaba rises from a marsh called Brahmanpukhur in the Thakurgaon thana, and after passing through Birganj thana and entering the Kotwali thana is joined by the Dhepa, a mile or two above the town of Dinajpur. Notwithstanding the fact that the Dhepa is the larger river, the name of Punarbhaba is given to the combined streams from this point onwards. Leaving Kotwali thana the river enters that of Gangarampur, near the headquarters of which it sends off a branch called the Brahmani, which after a course of 18 miles rejoins the parent stream on the Malda border. A few miles below Gangarampur the two channels are united by a canal. On nearing the boundary of Malda the river turns due south, and runs parallel with this for about 20 miles through a stretch of low-lying country

**TANGAN****PUNARBHABA**

called the Duba, from its being subject to inundation in the rainy season, till it enters Malda, a few miles below the important grain mart of Nithpur. Its ultimate destination is the Mahananda. The Punarbhaba is navigable by country boats during the rains as far as its junction with the Dhepa and even higher. At other times of the year its upper reaches are shallow and easily fordable, but during its course through the Duba its channel narrows and deepens and is never fordable even in the height of the dry season. The town of Dinajpur is situated on its left bank. Besides Dinajpur and Nithpur the most important places on its banks are Gangarampur and Nayabazar. The former is a thana headquarters, and the latter an important trading centre. A considerable export trade in paddy and rice is carried by this river, the principal collecting centres being Nayabazar and Nithpur.

**DHEPA**

The Dhepa takes its rise in a marsh called Saselapiyala in the Thakurgaon thana, a few miles north of the source of the Punarbhaba. Entering Birganj it is connected near the thana headquarters with the Atrai by a canal called the Malijol. This canal was dug by a Muhammadan chief named Sadut Ali, and previous to 1787-8 (the year in which the Tista, of which the Atrai is a branch, changed its course), carried a considerable volume of water. Of recent years it, like the Dhepa itself, has silted up, and is never navigable for large boats even in the rains. The only places worth mention on the banks of the Dhepa are Birganj, the thana headquarters, but otherwise unimportant, and Kantanagar, where is an old and interesting temple now in process of restoration by the present Maharaja of Dinajpur. The bed of the river is broad, sandy and shallow. When it is in flood large boats can sometimes get up as high as Birganj. In the dry season it is easily fordable anywhere. Besides the Dhepa the Punarbhaba has several small tributaries, of which the Narta, the Sialdanga, the Hanchakatakhal, and the Nuna may be mentioned. They are none of them of any importance.

**ATRAI**

The Atrai enters the district on the north-east near the village of Joyganj and, flowing southwards for some 84 miles through the thanas of Birganj, Kotwali, Balurghat and Patnitola, enters Rajshahi in the extreme south. Passing through Rajshahi it finally joins a branch of the Ganges called the Baral in the Patna district. It is said that the

present Atrai was at one time the main channel of the Tista, but in 1787-8 this latter river changed its course and made its way to the Brahmaputra through the Rangpur district, thereby greatly diminishing the volume of water passing through the Atrai and its sister channels the Jamuna and Karatoya. Under orders of the Governor-General in Council an attempt was made in June 1889 to restore the Tista to its original channel, but was abandoned as impracticable six months later. Since those days the importance of the Atrai has suffered still further diminution from a tendency to silt up noticeable in many Bengal rivers, the action of which has been hastened by the raising of the level of the river-bed in the earthquake of 1897. Notwithstanding, it is still the most important river in the district, and in the rains carries a considerable export trade in grain. Its channel is wide, shallow, and sandy and its stream sluggish. At the time of the Revenue Survey in 1863, it was described by Major Sherwill as constantly changing its course, but of recent years such changes, if any, have been slight. During the rainy season it is navigable for large boats throughout its course in the Dinajpur district. During the rest of the year it is fordable. The principal towns on its banks are Joyganj, Khansama, Kaugaon, Samjhia, Kumarganj, Patiram, Balurghat and Patnitola. Most of these are important grain marts, though with the diversion of the main stream of the Tista, and the silting up of the river, their importance has considerably diminished. Khansama, Kumarganj, Balurghat and Patnitola are police headquarters, and of these Balurghat is also the administrative centre of one of the three subdivisions of the district.

A short distance to the east of Kantanagar the Atrai throws out from its western bank a branch called the Gabura, which passing close to the town of Dinajpur rejoins the main stream near Kaugaon, after a course of about 15 miles. About 5 miles below the offshoot of the Gabura the river throws off from its opposite or east bank another branch called the Kankra, which also rejoins the parent stream a little above Samjhia. The important mart of Chirirbandar, which is also the headquarters of the police outpost of that name, stands on the left bank of the Kankra. During its course through the district the Atrai is joined by several small streams, of which the Old Atrai and the Ichhamati on its eastern bank are the most important. Both these rivers

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enter the district to the east of Khansama. The former joins the Atrai about 12 miles below this town while the latter joins it at Patiram some 36 miles in a straight line lower down.

## JAMUNA

The Jamuna is a small river, said to have been, like the Atrai and the Karatoya, one of the original channels of the Tista. It enters the district from Rangpur some miles north-east of Parbatipur, and flowing almost due south passes into Bogra near Hilli, and finally joins the Atrai in the Rajshahi district. Its course in Dinajpur is about 65 miles. The channel of this river, though narrow, has a fair depth, and is navigable for good sized country boats during the rainy season for a considerable portion of its course in the district.

Parbatipur, Phulbari, and Berampur are situated on its banks; all are marts of some importance and the first and second are also thana headquarters. Dr. Buchanan Hamilton speaks of its tributaries, the Tilai and the Chita, but these are streamlets of very little account.

## KARATOYA

The Karatoya is one of the old channels of the Tista, and forms the eastern boundary of the district for about 50 miles, separating it from Rangpur and finally passing into the latter district at the extreme south-eastern corner of Dinajpur. The course of this river is tortuous in the extreme. So many modifications have taken place in its channel and the name changes so often that it is a matter of great difficulty to trace its exact course. It is however generally accepted under one name or another as forming the boundary of the two districts. Sir William Hunter describes this part of the country as a maze of old water-courses and stagnant marshes and he is not far wrong. An old branch of the river, sometimes called the Kalanadi or Moranadi, which was once the main stream, passes close to the village of Nawabganj, where the thana of that name is situated on its banks. This old channel spreads out into a large *bil*, a few miles north of Nawabganj, and is almost stagnant. It is deep and muddy in places, and elsewhere shallow and sandy. This channel as well as the main channel is navigable by medium sized country boats during the rains. The principal places on the banks of the Karatoya are Nawabganj, already described as on the old channel, and Ghoraghat, the centre of a police outpost and a considerable mart, a few miles below the junction of the old and new channels.

The Karatoya has no important tributaries on the Dinajpur side, but east of Nawabganj it is joined by a considerable stream, the Khorubuja, from Rangpur.

There is some doubt as to whether the Atrai or the Karatoya was originally the main stream of the Tista, but there is evidence to show that the latter, shrunken as it now is, was at one time a very considerable river. Sir William Hunter says that "It formed the boundary between the Bengal and Kamrup kingdoms at the time of the Mahabharat, and since that epoch has generally marked the eastern limit of the rule of the successive Bengal dynasties."

From the point of view of the geologist the district is exceptionally uninteresting. Almost the whole area is covered by alluvial deposits of recent formation. In the southern half of the district the soil consists of a clayey silt, ash coloured in appearance, locally called *khair*. This, a soft sticky loam in the rainy season, hardens almost to the consistency of cement in the dry weather, when it is unsuitable for vegetation. In the northern half of the district and on the banks of some of the principal rivers in the south, the soil consists of a sandy loam mixed, towards the north, with gravel. This goes by the local name of *pali*. An interesting geological formation called the Barind occurs in this district in common with other parts of Eastern Bengal. This belongs to the old alluvium, and briefly described, is composed of beds of stiff reddish brown clay, yellowish on the surface. The nodular limestone deposits, a frequent source of material for road metal in some parts of India, occur in this to a small extent. Pisolitic ferruginous concretions are also found.

Forests, properly so called, are almost entirely absent from Dinajpur, with the exception of one or two patches of tree jungle on the banks of the Tangan river in the north of the district. These patches are the survivals of once extensive tract of forest which is said to have extended from a point some distance south of Thakurgaon right through the Jalpaiguri district to the Himalayas. The characteristic of this tree jungle is the presence of large forest trees interspersed with short thorny varieties and scrub, which render it dense and impenetrable. The Prannagar jungle in the Birganj thana was at one time a fairly thick forest, notorious as the haunt of dacoits and tigers, but it is now greatly shrunken in size, and is rather a collection of scattered clumps

of trees than a forest.

Coppices of sal (*Shorea robusta*) are fairly common throughout the district. A long list of these might be given, but it will suffice to mention that on both banks of the Tangan in the north of the Pirganj thana, and that to the west of the Punarbhaba in the south of the Kotwali thana, which are perhaps the largest in size. Common as it is, the sal tree never attains a good growth in this district. It is stunted, gnarled, and of small girth, and compares very unfavourably with the fine sal trees of the Assam forests. A reason for its stunted size may be the common practice of burning the undergrowth in these coppices in the beginning of the hot season, to provide grazing for the village cattle. The timber is used in building, but is by no means first class.

Notwithstanding the want of true forest, Dinajpur is by no means deficient in vegetation. The northern half, especially, might fairly be called well wooded. The roads are bordered with trees of all sizes and varieties, amongst which the most conspicuous are the banyan (*Ficus indica*), the peepul (*Ficus religiosa*), the pakar (*Ficus infectoria*), the simul or cotton tree (*Bombax malabaricum*), the nim (*Melia indica*), the tamarind (*Tamarindus indica*), the mango, the jack (*Artocarpus integrifolia*), the babul (*Acacia arabica*), the Indian plum or ber (*Zizyphus jujuba*), the champak (*Michelia champaca*), and the hijal (*Barringtonia acutangula*). The villages are embowered in greenery, clumps of wild bamboos are to be seen on all sides, and the banks of the rivers and old tanks are overgrown with thickets of shrubs and bramble. The southern portion of the district is more open and palms such as the palmyra or *tal*, and the date-palm or *khejur*, are much in evidence, and give a distinctive note to the scenery. In parts of the district, especially in the neighbourhood of some of the large *bils*, stretches of grass jungle are found. The most extensive of these is the tract of country called the Duba extending along the Punarbhaba river from the extreme south-western corner of the district well into the Gangarampur thana. Here are to be found many species of grasses and reeds, such as the *ikra* (*Saccharum arundinaceum*) which when set upright and plastered with mud makes an excellent house wall; the *nagormutha*, a species of tall grass with a triangular blade or stem, used for making sleeping mats and elephant

*gadis*, the *khaskhas* (*Andropogon muricatus*), a plant with an odorous root, used in many parts of India for making screens, which, when moistened, form a pleasant protection against the west winds of the hot weather; the sun grass, called in the vernacular *san*, which is the best material for thatching. Tamarix and *Rosa involucrata* are also common, the latter bearing a great resemblance to the English wild-rose. In this district the ubiquitous bamboo usurps to some extent the place of reeds, for building, fencing, making fish traps, and other purposes. The *nal* (*Phragmites roxburghii*), a species of tall reed with a feathery top, and the *sola* (*Aschynomene paludosa*), a plant from whose root a fine white pith, greatly used for making sun-helmets, floats for fishing nets, etc. is obtained, are common in many of the old tanks. The former is a marked feature of the fine old tank called Mahipal dighi, forming as it does a thick belt all round it. The finest trees in the district are undoubtedly the figs. Many magnificent examples of the banyan and peepul are to be seen, and they afford a grateful protection from the sun in the hot weather. Perhaps the finest specimen of the former is to be found at Hemtabad, a favourite camping ground for touring officers, and several tents can be pitched with ease beneath its shade. The *simul* or cotton tree is common, and attains a fine growth, and in the months of January and February, when ablaze with large crimson blossoms, presents a splendid appearance, in striking contrast to the blue of the sky. The tamarind, a handsome tree with spreading acacia-like foliage of beautiful shade of green, is also frequently met with. A curious belief prevails about this tree that when planted close to human habitations it is liable to cause malaria. I cannot vouch for the truth of this belief.

An account of flora of Dinajpur would be incomplete without some description of the bamboo, so common in the district and utilised for so many purposes. Of these the *bara bans* is the largest, most valuable, and most generally cultivated. It is used for posts, rafters, beams and sometimes for firewood. Another valuable bamboo is the *jati bans*, also greatly used in building for making battens, cross-pieces, etc. The *makla bans* is chiefly employed in making mats and baskets but is also used for making ceilings, and is said to be more immune to the attacks of white-ants than any other kind. The *kanta bans* or thorny bamboo gener-

ally grows wild, though it is also sometimes grown near tombs and monuments for ornament, on account of its beautiful feathery tops. It is very strong and is utilised in making fences and spear shafts.

Two species of cane, a thick and a thin variety, probably *Calamus latifolius* and *Calamus gracilis*, are found in the district in woods, and in thickets near villages where the soil is sufficiently rich and moist. The thin variety is employed for baskets and wicker work. The thick variety is not much used.

Flowers, as distinct from tree blossoms and certain flowering creepers of the convolvulus family, are not common in the district, and do not deserve any special mention.

FAUNA,  
MAMMALS

With the exception of leopards, the larger mammalia are becoming very scarce in Dinajpur. Major Sherwill in his Revenue Survey Report, concluded in 1863, speaks of tiger, buffalo, barah singha or swamp deer, hog deer and badger, as common. The Prannagar jungle in the Birganj thana was some 30 years ago so notorious for tigers that no traveller would pass through it at night, or even in the daytime, if alone. It is said that the nuisance became so great that special guns were issued to shikaris in that neighbourhood for the destruction of these animals, and hunts were organised by the officials and zamindars, with the same object. Nowadays the tiger, equally with the buffalo and the swamp deer, is only a memory, though in the low-lying marshy country on the Malda border, in the south-west of the district, rumours of tiger are sometimes heard. An occasional hog deer is sometimes, though rarely, met with in the same locality. Leopards are still fairly common in most parts of the district. They are generally found in the neighbourhood of villages, and have their lairs in the thickets surrounding old tanks, and in old graveyards. The ruined remains of temples, mosques, and dwelling houses, so often found overgrown with jungle in the vicinity of towns and villages, are favourite haunts of these animals. They levy a considerable toll on the cattle and goats of the villagers, but rarely attack human beings. Instances of man eating by leopards are uncommon, though wood-cutters and persons gathering firewood in the jungle are sometimes attacked by one of these animals, whose siesta they have probably disturbed. Wild pig are nowadays rare except in the western and north-western thanas near the Purnea border, where they

do a certain amount of damage to the crops. Various kinds of wild cats, such as the ordinary wild cat (resembling the common Indian domestic cat but larger and fiercer), the tiger cat, the civet cat, and the fishing cat (*Felis niverrina*) are common enough. The last named, locally called *mach biral*, a large sized spotted animal with a short tail, is found in marsh-land and thickets bordering rivers, swamps and old tanks and feeds principally on fish and wild fowl. The various members of the cat tribe are very destructive of small game and will occasionally devour calves and kids. Jackal, fox and mongoose are common. The crab-eating variety of the latter is sometimes seen, and is probably identical with the badger spoken of by Major Sherwill, as it bears some resemblances to that animal. Hyaena are nowhere mentioned as indigenous to the district, but in May 1909 an unmistakable hyaena was seen in the Bansihari thana. Hares are found in the grass lands but are not numerous. The shorter tailed Bengal monkey (*Macacus rhesus*) is very occasionally seen. Old writers like Dr. Buchanan Hamilton and Major Sherwill make no mention of the *mithun* or bison (*Bos gaurus*) as being found in the district but in 1907 a young full grown bison bull was shot by a villager near Raniganj in the extreme north of the district, after it had attacked and killed a man. This was probably a solitary animal which had made its way into Dinajpur from the Jalpaiguri Terai through the strip of forest, previously alluded to, on the banks of the Tangan. The Gangetic dolphin or susu (*Platanista gangetica*) is to be seen in some of the larger rivers. Otters are spoken of by Dr. Buchanan Hamilton as very numerous but appear to have become either extinct or very scarce.

The birds of the district include vultures of different kinds, kites—amongst which the Brahmani kite (*Haliastur indus*), a handsome bird with maroon back and white head and neck, is conspicuous—eagles, hawks, swallows and martins, *moinas* and king crows. Owls are of many varieties, amongst which the small screech-owl is the prettiest and most common. The common Indian crow and the large black carrion crow are plentiful. Amongst birds of the cuckoo family the brain-fever bird (*Hierococcyx carius*)—the monotonous repetition of whose call note adds to the trials of the hot season,—and the coucal or crow pheasant (*Centropus sinensis*) are found. Small birds of handsome



## PHYSICAL ASPECTS

plumage or otherwise attractive appearance are the hoopoe, the golden oriole, the blue jay (*Coriacias indica*), the bee-eaters with their long, slender bills, and green plumage, king fishers large and small. The plumage of the latter is generally a blending of metallic and turquoise blue of indescribable brilliance, but the most common species of all is the Indian pied king-fisher (*Ceryle varia*), a black and white bird who is to be seen industriously plying his trade over every piece of water. The night jar or goat sucker (*Caprimulgus*) is found every where, and its peculiar note resembling a stone striking ice, which can be heard at a great distance at night, has earned it the name of the ice bird amongst Europeans. Of the columbae, the green pigeon, the common wood pigeon, and various kinds of doves are fairly plentiful. The green pigeon shows a special fondness for trees of the fig family, to the fruit of which it is very partial. An extremely beautiful and rather uncommon species of dove is worthy of special mention. This is a wood dove with beautiful dark green, crimson and copper plumage, and is one of the prettiest birds in the district. Amongst water birds may be mentioned the common coot (*Fulica atra*), the purple moor-hen (*Porphyrio poliocephalus*), the common moor-hen, the dabchick, several kinds of herons and cranes, and two species of cormorant, one a small black species and the other a larger bird with black body and wings and yellowish head and neck. Sand pipers or snipe of various kinds and the Indian river tern are common to every stream and *bil*. Birds of the plover family found in the district are the grey plover, the little ringed plover, and the red-wattled plover (*Sareogrammus*), the latter distinguished by its peculiar cry, which sounds something like "did you do it" or "pity to do it." Snipe are not very common, but a few of the ordinary kinds, i.e., fantail, pintail, jack and painted snipe may be met with on the edges of some of the larger *bils*. The land game birds of the district are the black partridge or *titur* (*Francolinus vulgaris*), the *kyah* or swamp partridge (*Ortygiornis gularis*), the grey quail and the button quail. The latter are to be found anywhere in grass jungle, but are never plentiful. Partridges of both kinds are fairly plentiful in the low grass country or the lower reaches of the Punarbhaba, but elsewhere are rare. The commonest wild fowl are the gadwall, the pochard, the common teal, the large and small whistling teal, and the

cotton teal. These frequent some of the *bils* and rivers, and occasionally tanks also. The ruddy sheldrake or Brahmani duck is met with sometimes, but the larger and finer species of duck such as the mallard, the pintail, and the spot bill, are rarely, if ever, seen.

Snakes are fairly common, and the poisonous varieties are the cause of some loss of life, especially during the rains. The number of species is not large, the principal being the cobra, the *dhaman* or rat snake (*Zamenis mucosus*), the common *karait*, various grass snakes, and some water snakes. The *hamadryas* or king cobra (*Naia bungarus*), the banded *karait* (*Bungarus fasciatus*) and the python or boa constrictor (*Python molurus*) are occasionally found. The former two varieties grow to a length of 7 or 8 feet, and both prey upon other snakes. The python rarely exceeds 12 feet, though individuals may attain 20 feet. Of the lizards the most familiar are the geckos, amongst which we may distinguish especially the small house gecko to be seen on the walls and ceilings of every house, and the large gecko (*Gecko stentor*) whose peculiar cry has given the name to the whole genus. This is most commonly found in the north-western portions of the district. On the edges of many of the *bils* the monitor or *guisamp* is found. This is a large lizard, with some outward resemblance to a crocodile, and is eaten by some low caste Hindus. Two kinds of crocodiles, the *magar* (*Crocodylus palustris*) called locally *kumir* or *bocha*, a blunt-nosed species, and the *ghariyal* (*Gavialis*) or long-snouted, fish-eating crocodile, are found in some of the rivers, especially the Nagar, Punarbhaba, and Mahananda, and in some *bils* and old tanks. The *magar* rarely exceeds 12 feet in length, 10 feet being a fine specimen, while the *ghariyal* rarely attains more than 7 or 8 feet. The former has the reputation of being a man-eater, but in this district instances of deaths from this cause are rare, if not entirely unknown, and the villagers appear to have little fear of them. The common river turtle (*Testudo elegans*) is found in most of the rivers, and is eaten by some of the lower orders.

## REPTILES

Dinajpur was at one time famous for its fish and was known in the Mahabharata as Matsya Desha, or the fish country. This is no longer the case, and the principal fish supply is now imported by train for Maniharighat and Saraighat on the Ganges. Some is also brought from Purnea.

## FISH



During the rainy season, when the rivers are swollen, the local fish-supply is especially scanty, owing to the inadequacy of the methods of the fishermen in coping with deep and rapid waters.

The most common fish in the district is probably the carp, of which the best known species are the *rohu* (*Labeo rohita*) and the *katla* (*Catla buehanani*). Both of these are commonly reared in tanks and sometimes attain a large size. They are a favourite table fish, and are a popular and acceptable gift amongst the higher classes. There are also found the following: the *boat*, a fresh water shark (*Wallago attu*), popularly supposed in the historic tank of Tapandighi to attain the incredible length of 20 feet; the *magur*, a cat fish, which is much esteemed as diet for invalids and convalescents, notwithstanding its repulsive appearance; the *pafta* (*Callichrus pabda*), a small but palatable table fish; the *shol* (*Ophiocephalus striatus*), a snake-headed fish, whose fry are not only well flavoured but of a pretty gold colour and are sometimes kept for their beauty in glass bowls; other snake-headed fishes such as the *gajal*, *gorai* and *cheng*; the *kai* (*Anabas scandens*) or the climbing perch, which is distinguished by its ability to get from one piece of water to another (*incidentally* there is a legend that it has been known to climb trees); the *khoksa* (*Trichogaster fasciatus*); the *bheda* (*Ornandus marmoratus*); the *baim* (*Mastercembelus armatus*), an eel-shaped fish found in tanks, muddy rivers and sluggish streams; the *tepa* (*Tetradon patoka*) which Buchanan Hamilton describes as "a bad small fish reckoned impure by the Brahmins." Among crustacea we have prawns of several kinds, locally called 'chingri,' and *kankra* or crabs of the fresh water variety, which are eaten by the poorer classes.

## CLIMATE

The district of Dinajpur lies just outside the tropics and its climate approximates more to that of Behar than to that of the more easterly districts of the province. The cold weather may be said to set in early in November and to continue until the end of February. Although in a normal year the days begin to be hot from about the 20th of February, the nights remain cool till well into April. The hot weather begins with strong westerly winds about the 1st of March, and continues till about the middle of June. The west is the prevailing wind till about the middle of April when broken weather sets in, and the heavy showers which

are of fairly frequent occurrence till towards the end of May are generally followed for a day or two by light easterly breezes. The climate during the hot season, hot as it is, is by no means unbearable. The air is extremely dry, and exercise, even in the middle of the day, is not accompanied by excessive fatigue. This is perhaps the healthiest season of the year. With the break of the monsoon, which generally occurs about the middle of June, the rainy season commences and continues till the end of September or beginning of October. The heaviest rain usually falls in June and August, and periods of flood, when the rivers rise and overflow their banks may be looked for twice in the season. With the setting in of the rains the climate changes completely, and becomes excessively moist and unhealthy, but the heat is tempered by easterly winds, which spring up towards sunset and lower the temperature during the early portion of the night. As the rainy season advances these winds disappear, and the climate from the middle of August to the middle of October is excessively enervating and depressing. From the middle of October the nights become appreciably cooler, though the days remain hot for some time longer. A more agreeable climate than that of this district during the cold weather it would be hard to find. The days are bright and sunny, and the atmosphere crisp and clear. The cold is never extreme, though in the beginning of January fires are sometimes necessary. Little rain falls during the cold weather, with the exception of some light showers about Christmas, and a thunderstorm or two in February. In December easterly and northerly winds are common, and are considered dangerous to those whose constitutions have been undermined by repeated attacks of fever.

The average maximum temperature is lowest in January when it is 75.7 and highest in April when it is 94.6, giving a variation of about 19. The average minimum temperature varies from 49.4 in January to 78.9 in July giving a variation of 29.5 inches. The absolute maximum temperature varies from 82.3 in December to 108.1 in May and the absolute minimum temperature from 38.9 in February to 73.3 in July. The daily range of temperature as given by the difference between the average maximum and average minimum temperatures, month by month, varies from 21.4 to 26.3 in the cold weather months and falls as low as 10.2 in August. From June to mid-October it is never more than

## TEMPERATURE

about 13, but after that it increases rapidly till the maximum is reached in January and February.

**HUMIDITY**

The humidity of the atmosphere is lowest in March and thereafter increases steadily till May. The breaking of the monsoon in June is accompanied by a marked increase in humidity, which is steadily maintained throughout the three following months, the percentage of saturation being 90. In October there is a slight fall, and from then to the end of January there is little change. From the commencement of February the decrease in humidity is rapid till the lowest percentage of saturation, 66, is reached in March. The variation in humidity during the whole monsoon period is little over 1 percent.

**WINDS**

During January and February the air movement is from the west forming part of the general drift of dry air from the Gangetic plain. Towards the close of February the westerly current weakens materially and in March the winds are exceedingly variable in direction though considerably stronger than in the first two months. Damp easterly winds appear in April and blow intermittently until the setting in of the monsoon in the first half of June; then the portion of the bay current passing into Bengal is deflected westwards owing to the action of the Himalayan barrier and the prevailing direction of air movement in Dinajpur during the monsoon period, which lasts roughly until the middle of October, is from slightly to the south of east. With the termination of the rains, dry northerly and north-easterly winds again set in and hold until the end of the year.

**RAINFALL**

There is a very considerable variation in the rainfall in different parts of the district, the fall getting heavier as the north of the district, which is nearest to the Himalayas, is approached. Thus the annual average at Nithpur, the most southerly rainfall recording station, is 54.65 inches, Dinajpur which is situated about the centre of the district records 66.6 inches, while at Atwari in the extreme north the average fall reaches the respectable total of 96.59 inches. For the whole district the average fall is 66.93 inches, of which 1.21 inches fall in the period from November to February, 9.75 inches from March to May, and 55.96 inches from June to October. The rainfall in the cold season is exceptionally light, Atwari, which has the heaviest total rainfall in the district, being especially dry at that time of year. March is generally dry with an occasional thunder-

shower. The spring rains are chiefly due to cyclonic storms from the Bay of Bengal and begin in the first or second week of April. During the rest of April and the first week of May the weather is broken and showery. The greater part of May is dry and the rainy season does not usually open till about the second week of June, when there is heavy rain sometimes continued into July. In this latter month the rains lighten somewhat and spells of hot sunny weather are common. In normal years very heavy rain occurs again about the middle of August, but sometimes is deferred to the beginning of September. September and the early part of October are generally not with occasional showers.

Statistics of rainfall for the various recording stations are given below for the cold weather (November to February), the hot weather (March to May), and the rainy season (June to October), the figures shown being the averages recorded in each case. It is to be observed that there are considerable variations from year to year above or below these averages; as an example, if we take the three years 1900, 1901 and 1902 we find that the rainfall at Dinajpur Sadar was 85.86, 48.86 and 85.66 respectively:-

Station	Years recorded	November to February	March to May	June to October	Annual average
Dinajpur	10	1.09	9.50	55.46	66.06
Thakurgaon	10	1.04	9.10	68.36	78.52
Balurghat	10	1.57	10.18	45.74	57.50
Nithpur	10	2.88	8.08	43.67	54.65
Gangarampur	10	1.15	8.65	52.77	62.59
Nawabganj	10	0.92	11.38	49.64	61.95
Churaman	10	1.42	7.27	46.40	55.09
Raiganj	10	1.04	7.79	53.88	62.71
Sitabganj	10	1.05	9.03	55.00	65.10
Ramganj	10	1.00	9.68	59.84	70.53
Atwari	8	.70	13.09	82.79	96.59
Birganj	8	1.10	11.04	57.00	69.15
Parbatipur	8	.78	11.98	56.91	69.68
Average	--	1.21	9.75	55.96	66.93