

GAZETTEER OF THE PALAMAU DISTRICT

GENERAL*

GENERAL DESCRIPTION

The district of Palamau, which forms the north-west corner of the Chotanagpur Division, lies between 23°20' north latitude and between 83°22' and 85°00' east longitude. It contains an area of 4,921 square miles and population, according to the census of 1951, is 9,85,767 persons. The administrative headquarters is Daltonganj situated on the Koyal river in 24°3' north, and 84°4' east, which has taken its name after Colonel Dalton, Commissioner of Chotanagpur in 1861.

ORIGIN OF NAME.

The origin of the name Palamau is doubtful. According to one account†, it is derived from the Hindi word palana, to flee, and means “a place of refuge”. Another suggestion# is that the name is combination of pala meaning “frost”, and mu, the patois root for “dead”, the whole word meaning “dead from frost”, parts of the district being liable during the winter months to severe frosts. Both these explanations however must be regarded as purely speculative. Another suggestion** is that Palamau is a Dravidian name, that it may be a corruption of pall-amm-u-pall meaning “tooth”, and amm (which when combined with another noun assumes the form am) meaning “water”, while u is a kind of genitive or possessive case meaning “village”, “country”, “fortress”, etc. in support of this theory, it may be mentioned that the name is spelt Palamau in the vernacular and was originally applied to the village which was the seat of the Chero Chiefs, and in which their forts were built. These forts overlook the Auranga and the bed of that river some miles above and beyond the forts is studded with rocks, which, when it is in flood, look like jagged teeth. The name may thus perhaps mean “the place of the fanged river”.

*This text is based on the text of the last District Gazetteer with necessary changes for some sections (P.C.R.C.).

†L.R. Forbes Settlement Report, 1872. This is supported by the fact, mentioned by Mr. Bridge in paragraph 1 of his settlement report that the name of the district is given as “Palayun” in an old sanad possessed by the Malik of Lukumkar.

#D. H. E. Sunder Settlement Report, 1898.

**Rev. F. J. Hahn.

Besides these suggestions, Mr. Amarnath Das B.E., M.I.E. (Ind.), India Service of Engineers, has given his theory in his book "India and Jambu Island" as follows:-

"It is evidently Bali-Myo and 'Myo' being the Burmese term for a city, it means Bali's city. It will be asked naturally why should this Burmese term be introduced, Major Wilford (Major Wilford in As. Res. Vol. 9, pages 32 and 43) shows that SAMHE, son of Krishna in order to cure himself of the disease introduced a Colony of Magas from Saka Country who gave the name to the Country of Magadh and that Behar seems to have risen into great note as the capital of Magas from the time of Bali-Putra Rajas from 160 B.C. to 640 A.D. This shows that a section of the Burmese who are known in India as Magas, Migrated to Behar at a very early date and that and that their terming themselves as Bali, the grandson of Prahlad. Bali-Myo city of Bali which later on began to be called Palamau."

BOUNDARIES.

The district is bounded on the north by the river Son, which separates it from the district of Shahabad, and by the district of Gaya; on the east by the district of Gaya and Hazaribagh; on the south by the district of Ranchi; and on the west by erstwhile feudatory state of Sirguja, now in Madhya Pradesh and the district of Mirzapur in the Uttar Pradesh.

CONFIGURATION.

In shape Palamau district is roughly a parallelogram of which the eastern and western are of greater length than the northern and southern sides. The district has a length of 119 miles from north-west to south-east and a breadth of 101 miles from west to east. The district is cut into two approximately equal parts by the river Koyal which after flowing from east to west in the south of the district, turns north and eventually enters the Son at the northern boundary of the district. On either side of this river in the northern thanas there are well-defined ranges of hills running from east to west: in the south there is another well-defined range of hills running from east to west through which the Koyal forces its way where it turns north at the Kutku gorge; and the general tendency of the scattered hills that lie between is to range themselves in the same manner. South of the Koil, where it flows from east to west before passing through the gorge, is another range of hills running parallel to it, and beyond that again is the isolated cup-like valley of Chhechhari. The eastern end of this southern range increases in height and turns towards the south where it culminates in the Netarhat plateau. The general system of the district is therefore a series of parallel ranges of hills running east and west through which the river Koil passes as it makes its way northward to join the Son: only the most southern of these ranges is not penetrated by the Koil and that is penetrated by one of its tributaries, the Burhi naddi, which drains the Chhechhari valley. Within this framework the most valuable arable land is found between the ranges of hills in the valleys, which vary in size up to 900 square miles, and on the banks of the Koil and the Son. The most fertile land is a strip of alluvial soil on the bank of the Son and the most extensive areas of cultivation

are in the valleys of the Koil and of the Amant, which flows into the Koil from the east a few miles north of Daltonghanj. Otherwise the district consists for the most part of hilly, broken country covered with low jungle and cut up during the hot weather and come down in spate during the rains. The average elevation of Palamau above sea level is about 1,200 feet, but some of the loftier hills in the south are over 3,000 feet high. The highest point of the Netarhat with its outlying spurs and which on account of its pleasant climate was at one time considered as a site for provincial hill station. This plateau is separated on the west by the isolated cup-like valley Chhechhari from plateau of North Kol from smaller plateau of about the same altitude situated in Ranchi district. On the north outlying spurs of the plateau slope steeply down to the North Koil river.

NATURAL DIVISIONS.

This district comprises four district tracts which are roughly conterminous with the four parganas into which it is divided. By far the largest of these is Pargana Palamau which includes the greater portion of the district and all that is essentially typical of it. Pargana Tori in the south-east angle of the parallelogram is an undulating, but in many places a highly cultivated tract with a few large, isolated hills; previously it formed part distinct from those of the rest of Palamau. The southern portion of Pargana Belaunja, which forms the north-east angle of parallelogram, resembles. Pargana Palamau, but towards the north it sinks into the narrow strip of alluvial soil on the bank of the Son. Pargana Japla, in the north-east angle of the district is a small tract almost devoid of hills and similar to the alluvial portion of the district of Gaya. Parganas Japla and Belaunja containing 650 square miles were transferred to this district from the district of Gaya in 1871.

SCENERY.

The scenery of Palamau, except in the south, is generally very varied, often beautiful and occasionally grand owing to the tangled nature of the country. There are level plains and broad expanse of cultivation intermingled with isolated peaks and irregular ranges of rocky, jungle-clad hills. The villages, except in the extreme north of the district, are small and scattered; it is quite possible to pass close to many of them without being aware of their existence. Nor do the many palas trees add to the beauty of the scene, except during that all too brief period in the hot weather when their scarlet blossoms give a glorious touch to the whole country-side. In the south of the district the scenery becomes wilder and more picturesque, and the hush of expectancy broods over the jungle. "The Koil", wrote Mr. O'Malley, "is fringed by imposing hills and passes clad with virgin forest, the beauty of which reaches its highest natural perfection when set off by animal life, in the shape, it may be, of a bison, contentedly but suspiciously grazing on the luscious khas grass, an antlered stag taking its evening drink, or big peacocks trumpeting their noisy call as they step forth at sundown for their daily parade". "In the South", wrote Mr. Forbes, "the jungle becomes forest, and the hills put on almost a grand appearance. The roads and paths wind about now over the top of a lofty eminence, which enables you to look down upon the valley below and over to the blue hills beyond. Then

again you have to descend a steep ghat with huge boulders scattered here and there, and some great tree lying fallen and decayed right across your path, and loose stones which seem to require but a slight push to send them rolling to the bottom. On reaching the bottom of the ghat, the path will sometimes follow the bank of a brook or watercourse, which emerging from the fastnesses and gorges among the hills, winds in and out till it joins the stream that waters the cold weather but in some of the southern tappas I have come across them so late as the month of March, regular little babbling streams filled with speckled trout glancing in and out among the stones, and the banks sometimes rocky, sometimes clothed with verdure, and always overhung with trees of all kinds and hues, and great creepers that hang down to the water's edge, the whole forming as charming a picture as one could wish to see". There are indeed places in Palamau about which lingers a charm that can be neither missed nor forgotten. Each to his choice, but to the writer there is nothing more beautiful in Chotanagpur than the view across the Son in the north to the great cliffs of Rohtas; or the quiet reaches of the Koil and the auranga where they wind through the forest; or the prospect to east and west from Netarhat across open valleys far below to the wooded hills beyond; or the panorama of range beyond range of blue halls to the south, from Burha Pahar to Kumandih, that can be seen on a clear evening from the Ranchi road. Nature lovers visiting Palamau must see that beautiful scenery of "Belapokhar" in Ranka police-station which is almost surrounded by stone famous Kanhar river passes through the high hill making its way forcibly with its bed spreading over a maximum of 20 feet. This place is rightly called Banhtutti as if the arm of the hill has been broken. The view from Jorisarna, the highest summit at the Seruat Pat in Bhandaria police-station down to the dense forest below cannot escape description. A moon-lit night adds special charm to the view. The word Jorisarna is itself full of meaning. Sukhaldari, Mangardaha, Jharna in Nagaruntari police-station; Datam Patam fall in Balumath police-station, Satbahini fall of Bhawanathpur police-station; Kanti fall is Hesla; Chandwa police-station and Burha or Lodh fall in Mahuadand police-station are worth mention.

HILL SYSTEM.

The general outline of the hill system, consisting of a series of parallel ridges running east and west pierced by the Koil as it flows northward, has been described. The course of the Koil shows great denudation, for it must have been determined when the valleys were still filled to the level of the ridges. But there are many spurs and ridges and outlying peaks, rising from comparatively open country, which stand in no obvious relation to this system: amongst these may be mentioned the metamorphic rocks which form the watershed between the Koil and the Damodar to the west of the Chandwa-Balumath road and which rise into the conspicuous hills Madagir and Chetag. The majority of the spurs and ridges bear no definite names, but the peaks are often called by the names of villages in which they stand or from some peculiarity in their appearance.

Generally the hills are conspicuous for their irregularity of form and occurrence. Their contour depends mainly on the nature of the rocks of which they are composed, but every variety of form and outline is found. The most numerous and ancient are those composed of crystalline and metamorphic rocks, a class represented by a great number of

hills and ranges with elevations up to and sometimes beyond 3,000 feet. The outline presented by the hills in the northern half of the district are generally sharply angular, but elsewhere many of the ridges present an almost regular skyline, which continues as a steady elevation for long distances. The second class consists of hills formed of sandstones or conglomerates, either Barakars or Mahadevas. The sandstones are represented by long ranges east of the Koil, averaging 200 to 300 feet above the surrounding country, but occasionally having peaks which rise about 200 feet higher. The latter are found in groups consisting for the most part of flat-topped ridges, which also average from 200 to 300 feet above the surrounding country. Their faces are scraped and often eroded into grotesque shapes and occasionally there are conical peaks rising to a great height, such as the Latehar peak near the village of that name, which is 910 feet high or 2,051 feet above sea level; Bijka, which rises 1,300 feet above the village of that name or 2,479 feet above sea level; and the conspicuous Khaira hill in the south of Hussainabad, which rising to nearly 1,700 feet looks like an outlying sentinel of the Kaimur hills and forms a landmark for 30 miles round. The third and last class of the Palamau hills includes the pats or plateaux in the south, which are formed of crystalline rocks and have their summits capped with sandstone trap or laterite. The principal of these is Netarhat. Of which the highest point is 3,696 feet.

These hills in the south are the highest in the district, and the picturesque Chhechhari valley is surrounded by lofty hills on every side. This valley is a complete basin with the scrap of the great tableland of Sirguja on the west, on the south the range that overlooks the Barwe Valley in Ranchi district, on the east Netarhat and Pakripat, and in the north the spur crowned by the fort of Tamolgarh and the Burha Pahar, 3,000 feet high, round the foot of which flows the river of the same name, which is the only outlet for the waters of the valley. Netarhat itself is a flat topped hill, about 4 miles long and 2 ½ miles broad, through the center of which flows a small stream. The climate is fresh and relatively cool throughout the year and it has become a favourite resort for visitors when the heat is oppressive in the plains below. Other conspicuous hills in this neighbourhood are Kotam (2,791 feet), south of Garu police-station and Kumandih (2,530 feet) between Garu and Latehar.

RIVERS.

The general line of drainage is from south to north towards the Son, which forms part of the northern boundary of the district. The principal rivers are Koil and its tributaries, the Auranga and the Amanat; there are also a host of smaller streams, most of which are mere mountain torrents with rock-strewn beds. The Koil, Auranga and Amanat are similar in this respect, for their upper reaches are characterized by high banks, generally rugged and occasionally precipitous with a rapid stream dashing over boulders and shingle or gliding calmly, except in time of spate, in shallow pools terminated by rocky barriers. Further north these rivers have deep sandy beds, into which the water sinks out of sight in the hot weather, percolating through the soft sand until some outcrop of rock arrests its course and forces it to the surface.

The rapidity with the country is drained by these rivers and stream may be gathered from the fact that the only river ever known to overflow its banks is the Son. The Koil is the most important river, for it drains the entire district except a tract in the

west drained by the Kanhar, which join the Son in Mirzapur district, a narrow tract along the Son, which drains direct into that river, a tract in the east of Tori Pargana which drains into the Damodar in Hazaribagh. All the rivers of Palamau are dangerous in the rains, not only on account of the violence of the freshets which come rushing down, but also because of the extremely treacherous quicksands in their beds. The following is a brief description of the principal rivers.

THE SON.

The Son forms the northern boundary of the district for about 45 miles, separating it from Shahabad. Flowing eastward from Mirzapur, it first touches Palamau at its north-west corner. Thence it flows due east between steep slopes and precipices of the Kaimur hills and a northern range of hills in Bhaunathpur police-station, till it is joined by the Koil; it then flows in a north-easterly direction, leaving the district nearly opposite Akhbarpur in Shahabad district. At this point of its course it attains a great breadth amounting in places to one or two miles. A peculiarity is the height of the eastern bank, where the strong west winds that prevail before the breaking of the rains heap up the sand to a height of 12 or 14 feet above the level of the country, thus forming a natural embankment for many miles. But the most striking features of the river are its meager stream of water at ordinary times as compared with the enormous breadth of the river bed, and its violence at times of flood. In the dry season, in April or May, the bed is a wide stretch of drifting, blinding sand with an insignificant stream of water, barely 100 yards wide, meandering from bank to bank and fordable in most places. But in the rainy season and especially after a storm has burst on the plateau of Central India, the river presents an extraordinary contrast. It drains a hill area of 21,300 square miles, the entire rainfall of which requires to find an outlet by its channel and after heavy rain the river rises with incredible rapidity. These heavy floods are however of short duration, seldom lasting more than four days, after which the river sinks to its usual level. One of the worst flood remembered occurred in 1923.

Navigation is intermittent and of little commercial importance. In the rainy season large boats occasionally proceed for a short distance upstream under favourable circumstances of wind and flood, but navigation is rendered dangerous by the extraordinary violence of the flood; during the rest of the year it is impassable for any but boats of light draught owing to the small depth of water. The principal traffic is in bamboos which are floated down, bound into rafts consisting of 10,000 or more lashed together—a tedious process in the dry weather as they are constantly grounding and many windings of the stream render their progress extremely slow. Below the junction of the Koil a species of small pebbles or agates is found many of which are ornamental and diaphanous of a reddish or dark green tinge.

THE KANHAR.

The Kanhar river forms part of the south-western boundary of Palamau, dividing it for nearly 50 miles from Sirguja Madhya Pradesh. It rises in Sirguja, under the western face of Jamira Pat and after running for a short distance parallel with the Koil, turns to the north-west, flows into Mirzapur and eventually enters the Son. Its bed is rocky

throughout its course and places extremely beautiful, it is practically a mountain torrent with rapid and dangerous stream.

THE KOIL.

The Koil or North Koil, as it is also called, rises in Ranchi district and enters Palamau below Netarhat near Rud. After flowing nearly due west for about twenty miles it turns north at an almost complete right angle through a gorge at Kutku, and flows through the center of the district till it falls into the Son a few miles north-west of Haidarnagar. On its way it receives the water of many rivers and streams; the principal tributaries are the Auranga and the Amanat, both of which join it from the east, the former at Kechki, 10 miles south and the latter five miles north of Daltonganj.

The bed of the Koil is rocky up to a short distance beyond its confluence with the Auranga; from that point it is composed mainly of sand and until the Son is reached there is only one serious obstacle to navigation consisting of a ridge of gneiss rock that crosses the river below the village of Sigsigi. But the sudden freshets in the river during the rains render navigation dangerous. It has been known to be almost dry in the morning, and three hours later, owing to heavy rain in the south, the water has been 10 feet deep roaring down in huge waves that would swamp any local boat. From its source to its junction with the Son its length is about 160 miles, and since it drains a catchment area of at least 3,500 square miles it naturally contributes a large supply of water to the Son during the rains; at other times the stream is not deep enough to enable cargo boats of even small dimensions to make their way up to Daltonganj. In many places the reaches of this river present scene of great beauty and sometimes even of grandeur, such as the rocky bed and rapids north of Hutar and the gorge at Kutku.

THE AURANGA.

The Auranga rises near Soheda in a pass, comes down from the Chotanagpur plateau and pursues a winding course in a north-westerly direction for a distance of about fifty miles, till it flows into the Koil near Kechki 10 miles south of Daltonganj. The river and its feeders water a large valley in the south-east, the southern face of which is formed by the Kumandih hills. Its bed widens rapidly and by the time it reaches the Palamau forts it has attained a considerable size. Where the ruins of these two forts overlook it, the channel is crowded with huge masses of gneiss. Owing to its rocky bed, navigation is impossible in the rains, and at other times the supply of water is insufficient for even the smallest craft. Its principal tributaries are the Sukri and Ghagri.

THE AMANAT.

The Amanat takes its rise in Hazaribagh district and flows almost due west till it join the Koil river five miles north of Daltonganj. It flow through a rich, well cultivated valley and is the principal drainage channel of the east of the district. Its tributaries, with the exception of the Jinjoi, Maila and Piri are all small streams.

THE SADABAH.

This river with a picturesque name indicating an ever-flowing stream flows in the north of Daltonganj, about 17 miles away and has assumed importance due to the completion of an irrigation scheme, which was completed in the year 1953. The scheme is known as Sadabah scheme and a sum of Rs. 2,51,612 was spent over it. The work was started in the year 1953. The scheme consists of a canal system, length 65 miles, which has been taken out from Sadabah river. The breadth of the canal is 12 feet and the area irrigated by this canal system is over 4,000 acres.

OTHER RIVERS.

Other streams draining important areas are the Sarabdaha, Tahleh, the Banki, which drain the country between Untari and Untari Road Station, the Danro, which flows past Garhwa, and the Karabar, which flow onto the Son below its junction with Kiol after draining Pargana Japla.

BOTANY.

The vegetation of Palamau is varied in character. In the alluvial tract to the north, where the land is largely under rice cultivation, the fields abound in marsh and water plants. In the wooded hills and valleys which make up the rest of the district a different class of flora is met with. The surface is occasionally bare and rocky, but the hills are generally clothed with jungle in which the close-set bamboo known as *Dendrocalamus strictus* is often prominent. Forests are so important in this district that a separate chapter has been given to forests. The steeper slopes again are covered with a dense forest mixed with many climbers; the trees are rarely large, but many of them are economically useful, yielding timber, fruit, oil, etc. *sal* (*Shorea robusta*) is gregarious, and among other noteworthy species are species of *Buchanania*, *Semecarpus*, *Terminalia*, *Cedrela*, *Cassia*, *Butea*, *Bauhinia*, *Acacia* and *Adina*, which these forests share with similar forests on the lower Himalayan slopes. Mixed with these however are a number of trees and shrubs characteristic of Central Indian (Madhya Pradesh), such as *Cochlospermum*, *Soymida*, *Boswellia*, *Haedwickia*, and *Bassia*, which do not cross the Gangetic plain. One of the features of the flowering trees is the wealth of scarlet blossom produced in the hot weather by the abundance of *Butea frondosa* and *Butea superb.* A more detailed description of the forest trees and jungle products will be found in a separate chapter under forests.

FAUNA.

The animals of the district may be divided into two classes, the carnivore and the non-flesh-eating animals. The former comprise the tiger, leopard, bear, hyaena, wild dog, and among the smaller species, jackal, and wild cat. The latter are represented by the gaur of bison, sambar, wild pig, the black-faced monkey (langur). The common red-faced

monkey, Indian fox, ratel (an animal of the badger tribe), Indian otter, mouse-deer, porcupine, hare and other smaller animals.

The number of persons killed by tiger and leopards in the last five years is as follows. The number of persons killed by other wild animals is negligible :-

	-----	1951.	1952.	1953.	1954.	1955.
By tigers	...	1	2	2	4	1
By leopaeds	...	Nil	Nil	Nil	Nil	Nil.

Tigers (*Felis Tigris*) are fairly common all over the district in the wooded hills. Though there have been instances of tigers becoming man-eaters, chiefly in the north of the district and in the neighbourhood of the Kumandih range of reserved forests in the south, they are as a rule only cattle-lifters; there is indeed little inducement for them to take the man-eating as game in the numerous jungle tracts, both in and around the reserved forests is plentiful. Leopards (*Felis pardus*) are equally common and in the neighbourhood of villages very often carry off cattle and ponies as well as dogs for which they appear to have a special fancy. Like tigers, they have a wide range, owing to the large area occupied by reserved and protected forests. Cheetah is occasionally met with. Bear (*Ursus Melursus*) are found in most parts of the district, but are most numerous in the south. They do much damage to the maize fields, but at other seasons of the year can obtain plenty of jungle flowers and fruit such as the fruit of the mahua and gular fig three plums and bulbiferous root, and also wild honey and white ants. Hyaena (*Hyaena Striata*) are common in almost every jungle and may often be seen prowling round the village homesteads at night. They do not do much damage as a rule, though they have been known to take off goats and sheep; generally they live on carrion, frequently eating the remains of animals killed by tigers or leopards. Wolves are not common and do not appear to do any harm; they are rarely met with in the south and appear to frequent open scrubby tracts. Two species of wild dog are said to be found. The smaller variety has black points, a black muzzle and a tail very nearly all black, the colour deepening towards the end of the tail, while the rest of the body is a dull dark red. The large variety is the same in colour, except that there is not so much black about the muzzle and tail. The smaller kind is called munikoia and is said to be the fiercer of the two, attacking cattle and deer and even challenging tiger. The larger variety, which is called the rajkoia or barakoia is said to attack chiefly goats, sambar, deer, pig, etc. They hunt in packs of 10 to 15, chiefly haunt thick jungle and are destructive of all games; at times they even chase tigers out from their preserves.

The gaur or bison (*Bos gaurus*) is a shy animal, found chiefly in heavy jungle, especially sal jungle, from which the herds come to feed morning and evening, wherever deep green grass is to be found; they often travel long distance to quiet spots on some secluded hill side, where they can lie up for the day. They are found both within and outside the reserved forests in the south. They are generally found in herds of 10 to 15. In March, at the commencement of the rutting season, the strongest bull takes possession of the herd, which consists usually of cows and young bulls, driving out the older bulls. The bulls so turned out become solitary bulls, and seem to spend their time in knocking their horns to pieces by butting at trees or any other solid substance they may come

across. Bison bulls are occasionally known to charge, and are very savage at bay, but ordinarily they are shy and inoffensive.

Sambar (*Cervus unicolour*) are fairly common. They are shy animals and usually keep to the jungle in a day; they are mostly found in the south in the Baresanr and Ramandag reserved forest blocks, but are also met with towards Ranka and the north-west of the district. Spotted deer (*Cervus axis*) are common in many places and a few black buck (*Antelope cervicapra*) are to be found in the open country to the north. Nilgai (*Baselaphus tragocamelus*) are found in certain tracts, but are unknown in the larger reserved forests; four-horned antelope (*Tetracerus quadricornis*) are also rare. Barking deer (*Cervulus muntjac*) are common in most jungles where sambar and spotted deer are found. The Chinkara or Indian Gazelle (*Gazella tennetti*), also called the ravine deer frequents open country where the jungle is not heavy and is found chiefly at Muhammadganj and Manatu Forest ranges as well as in the more open and undulating valleys all over the district. Mouse-deer (*Menninua indica*) are very rare, but are occasionally found in the reserved forests.

Wild pigs (*Sus cristatus*) are numerous in all parts of the district and do an enormous amount of damage to crops, which have to be carefully watched at night to prevent their inroad as well as those of deer. They are often trapped in pits by the villagers. In the south of the district the langur (*Semnopithecus entellus*) is found in all the hill ranges in the reserved forests and with the Bandar or red-faced monkey (*Macacus rhesus*) is fairly common; the latter is often to be seen at Betla and Kechki and along the Koil. The Indian fox (*Canis Bangalensis*) is common in open country. Porcupine (*Hystrix cristata*) are common in the south and elsewhere in the rocky hill, but their numbers are kept down, as they are much sought after by the aboriginal tribes such as the Parhaiys, Birjias and Oraons, for food. Hares (*Lepus rificaudatus*) are common everywhere; they do much damage at night to the peasants' crops and are largely trapped all over the district; they are eaten freely even by high class Hindus.

AVIFAUNA

In the final Report on the survey and settlement of the Palamau Government Estate (1898), D. H. E. Sunder, Settlement Officer, mentions :-

“A list of the game bird found in the Palamau is given below :-

Serial No.	English name	Native name
1.	The green pigeon ...	Haril.
2.	The Blue rock pigeon ...	Parewa.
3.	The painted sand grouse ...	Coita titir.
4.	The common sand grouse ...	...
5.	The common peacock ...	Manjur (male). Banrar (female).

6.	The red jungle fowl	...	Jangli murgi.
7.	The black partridge	...	Kala titur.
8.	The painted partridge	...	Aseal.
9.	The grey partridge	...	Gorea titur.
10.	The jungle bush quail	...	Lawa.
11.	The large grey quail	...	Teedla.
12.	The larger button quail	...	Ghagur.
13.	The black-breasted quail	...	Bateyr.
14.	The button quail	...	Gudri.
15.	The lesser florikin	...	...
16.	The common snipe	...	Chaha.
17.	The painted snipe	...	...
18.	The common wild goose	...	...
19.	The common teal	...	...
20.	The Brahminy duck	...	...
21.	The pertain duck	...	...
22.	The blue-winged teal	...	...
23.	The red- crested pochard	...	...

Of other birds I am told that over 140 species have been collected in the district. The naturalist will find abundant scope for work here. A variety of doves are found here, and are eaten by Oraons whenever captures or shot. I desire specially to invite attention of Government to some extraordinary cruelty that is practised in the district by Mir Shikars. They set traps on the banks of streams for the common Indian kingfisher (*Alcedo begalensis*), which are netted in large numbers. The birds are skinned as soon as possible. The skins are dried, and at the end of the season are despatched to French traders in Dinapur, whence they are said to be sent on to Paris for ladies' hats and other ornaments. I have seen as many as 160 skins with a single Mir Shikar. The slaughter of this beautiful bird is so great at present that there will probably be no more kingfishers in Palamau district within a short time. I would beg to suggest that the killing of the bird may be stopped altogether. The Indian Oriole (*Oriolus Indicus*) should also be protected."

The present avifauna of the district unfortunately has not been studied very thoroughly. The following species of birds have been observed recently in this district:-

Golden oriole, black-headed oriole, the grackle or hill myna, bank myna, common myna, the large pied wagtail, the white-eyes purple sunbird, Tickell's flower-pecker, the golden-backed wood-pecker, the crimson-breasted barbet or coppersmith, the blossom-headed parakeet, the sparrow hawk, the lagger falcon, the kestrel, the blue jey, the common bee-eater, the brown fish-owl, the spotted owl, the great Indian horned owl, the common night-jar, the green-pigeon, the spotted dove, the red turtledove, peafowl, the red jungle cock, the yellow checked tit, the grey tit, the tree-pie, the chestnut-bellied nuthatch, the jungle babbler, the common babbler, the gold fronted chloropsis, the redvented bulbul, the white checked bulbul, the white-browed bulbul, the pied bushchat, the redstart, the shama, tickells blue flycatcher, the white spotted fantail flycatcher, the rufus-backed shrink, the bay-backed shrink, the scarlet minivet, the small minivet, the large cuckoo-shrike, the black drongo, racket-tailed drongo, white-bellied drongo, the tailor-bird, the Indian robin, the yellow wattled lapwing, the little grey hornbill, the koel, the brain-fever or parasitic cuckoo, the pied-crested cuckoo, the paradise flycatcher, the common grey quail, the jungle bush quail, the red spur-fowl, the black partridge, the grey partridge, the stone curlew, the Indian courser, the ringed plover, the yellow-throated sparrow, the black-headed bunting, the hoopee, the common fantailed snipe, the Indian reef-heron, king vulture, the black-headed vulture, the ring-tailed fishing eagle, white ibis, black ibis.

Game Birds.

The game birds of Palamau consist of jungle spur and peafowl, black and grey partridge, rain, button and bush quail and sand grouse. The lesser florican is sometimes met with, but is becoming rare; green and blue rock pigeon and the common snipe were very common but declining. Geese are still to be found in the mornings and evenings during the cold weather by the bank of the Son near Sonpura. Duck and teal are comparatively rare; they usually stay in the Koil and the bandhs or irrigation reservoirs near villages and are more common in the north than in the southern tracts. The winter visitors have become very shy on the Son River owing to the indiscriminate shooting of shikaris who love slaughter more than sport.

FISH

D.H.E. Sunder in his Final Report of the Survey and Settlement of the Palamau Government Estate (1898) mentions:-

“Of fish, mahaseer are mostly confined to the Kunhar and Son, but small ones are caught during the rains in the Koil and Amanat. The native names of other fish found in streams and tanks in the district are : (1) rahu, (2) nai, (3) barsar, (4) barar, (5) kajar, (6) tengra, (7) modal, (8) bonsa, (9) rihta, (10) godi, (11) bagra, (12) Chipua, (13) bochra, (14) chethi, (15) garri, (16) garai, (17) bami, (18) jhinga, (19) anwa, (20) hilsa, (21) ledher, (22) bijar, (23) kusuan, (24) balla, (25) garua, (26) nakta, (27) punti, (28) bhankar, (29) dhawai, (30) leri, (31) papta, (32) jansar, (33) sinhao, (34) luniar, (35) serni, (36) patasi, (37) chethawa, (38) ponti,

(39) dhanha, (40) langha, (41) gorla, (42) gochra, (43) kaner, (44) dori, (45) ghogra.

Fishing implements.—The implements used for fishing are –

- (a) Bhanwar jal.—A net about five cubits long and ten cubits broad, with iron balls called ghonti tacked to it all round for the purpose of causing it to sink wherever wanted. Large fishes are caught by it.
- (b) Beari jal.—A net which is nearly square. It is fixed to two bamboos that are tied at right angles to each other, and the net is sunk in the water and drawn upwards. Small fish are obtained in it.
- (c) Bhama Jal.—A net about 25 cubits long and 4 cubits broad, by which fairly large fish are caught in rivers during the rains.
- (d) Sorda or Kum.—A bamboo trap, the lower portion of which is shaped like a cone; the upper part is cylindrical. It is placed in channels of small streams, and large as well as small fish are caught in it.
- (e) Tap. —A cone-shaped bamboo trap by which fish of all sizes are caught in still water.
- (f) Chilwan. —A flat bamboo trap by which fish in paddy-field and small streams are caught.
- (g) Gira. —A small circular net with which small fish are caught in still water.

Poisons for fish. —Fish are poisoned with—

- (1) The seeds of the Beri trees, which are ground and used in still water.
- ...
- (2) The bark and leaves of the Ingun tree, used in still water.
- (3) The bark of Arar trees, used in still water.
- (4) The milk of the Sij tree, used in still water.”

Mahaseer are not common now. Palamau has lost a number of fish species mentioned by Sunder. The fish that are commonly found now are rahu, kajar, barar, chipua, jhinga, nakta and ledha.

Since the year 1950, Bihar Government has opened a Fry Distribution Centre At Daltonganj, where fry of carps are supplied to tank-owners and to the people interested in pisciculture during rainy season. There are big bandhs and tanks in the district, where pisciculture can be successfully done. The Fishery Staff of Daltonganj have been able to locate spawning ground in the Son near the Portland Cement Factory, Japla in the district of Palamau. The demand of fry is growing day by day and the average supply from this centre is about 2 lacs of flies. There are many Khas Mahal in the district, some of which

such as Forbes Bandh, Rainy Bandh, Sunder's Bandh, Banhpura tanks, Amoitikar tanks, etc., have been taken over by the Agriculture Department and fish is cultured there on scientific basis.

The garial (*Cavaialis gangeticus*) sometimes also called the fish eating crocodile, is said to have been found in the Koil. The snub-nosed alligator or mugger is common in the Son, but elsewhere is rarely met with.

Reptiles.

Sunder mentions the following snakes in the Survey and Settlement Report of Palamau Government Estate (1898) : —

“The snakes found in the district are: (1) Bahera or amaiter (Russel's Viper), (2) Jora,

(3) Phanik (Black Cobra), (4) Gohoman (Brown Cobra), (5) Crait, (6) katkarar, (7) Khairi-bakhar, (8) Sugua (Green tree Snake), (9) Dhamin, (10)Donr (Water Snake), (11) Harhora (Common grass Snake), (12) Petari, (13) Bonra or Bhaisbonra (Common boa), (14) Cheta barwe (Indian python).

Scorpions (bich) are common, and frequently sting people. Khapar-bicha is a poisonous lizard found in trunks of old trees. Centipedes (Kangojar) are also common. A lizard called goh is found during the rains, and is eaten by the lower classes.”

Gohs or big lizard are now every scarce. There was a brisk trade some year back in the skin of this species which used to be exported for ladies' bag, shoes, etc. The forest of Palamau still have most of the specimens mentioned by Sunder.

WILD LIFE AND GAME SANCTUARIES.

Unlike the flora, the fauna of the district is the richest in the State of Bihar. The entire reserved forests of the district abound in all kinds of game, big and small likely to be found in dry deciduous forests. This is probably due to the fact that the forests of the district present optimum conditions for the abode of both carnivore and herbivore.

The district is always rich in avifauna. In the unfortunate that owing to indiscriminate shooting and other reasons the various species of wild life are getting extinct. On the other hand, some species are multiplying and one of them is wild elephant. The district is ideal for the establishment of a National Park and Sanctuaries, both for animals and birds.

TOURISM.

With the opening of communication through forests and the availability of a series of beautiful camping sites and places of interest and beauty, Palamau district is ideal for the development of tourism particularly for the motorists and the hikers. As a matter of fact, it is possible probably to exploit the wonderful facilities of tourism by organising visits of foreign tourists keen to shoot wild life by gun or camera. Some of the forests bungalows, namely, Netarhat, Kechki, Amjharia, Mahuamillan, etc., offer very good facilities for stay. Netarhat is one of the most famous beauty spots in Bihar. There are also a number of excellent camping sites. There are series of water falls in this district which are well worth a visit.

CLIMATE.

The climate of this district is on the whole dry and bracing. The year can be divided into three main seasons: the cold season from November to March, the hot season from March to May and the monsoon season from June to September; October is a transitional month between monsoon and winter seasons.

RAINFALL.

Records of rainfall for the district extend from 20 to 60 years over a network of 22 stations. The rainfall statements for the individual stations and for the district as a whole are given in Tables 1 and 2. The average annual rainfall for the district as a whole is 1,335 mms. (52.55 inches). The northern portions of the district get comparatively lesser rain than the southern portions. Hussainabad in the extreme north gets an annual rainfall of 1,079 mms. (42.5") while Netarhat in the plateau region of the south gets 1,817 mms. (71.5"). The rainy season is from June to September when the district gets 85 per cent of the annual rainfall. From the onset of the monsoon by about the middle of June, rainfall rapidly increases reaching the peak value in August. The variation of rainfall from year to year is not large. During the 50 years period from 1901 to 1950, the highest rainfall in the district amounting to 124 per cent of the normal occurred in 1919 and 1943; the lowest rainfall amounting to 61 per cent of the normal was recorded in 1903. There were only six years when the rainfall was less than 80 per cent of the normal. Two consecutive years of low rainfall occurred only twice during these fifty years. During 40 out of the 50 years the rainfall over the district was between 1,100 and 1,600 mms.

As in the case of rainfall amount, the average number of rainy days in a year (days with rainfall of 2.5 mms. – 10 cents or more) is least in the northern part of the district and increases as we go south. Hussainabad has only 51 days of rain in a year while Netarhat gets rain on 85 days.

The highest rainfall in 24 hours was 364 mms (14.38") recorded at Mahuadanr on the 26th June, 1945.

TEMPERATURE.

The only observatory in the district is located at Daltonganj. The meteorological data of this station can be taken as representative for the district. The cold season starts from November and continues till about the middle of March. December and January are the coolest months. In association with cold waves which occasionally pass over the area in the wake of western disturbances, minimum temperatures can go down to the freezing point of water on individual days in January and February. In the southern part of the district in the high plateau, frosts occur in December and January. By March temperature began to rise steadily. In May and earlier part of June, the maximum temperature can be as high as 46.7°C (116.1°F) on individual days. The effect of the extreme summer heat is somewhat alleviated by the dryness of the air and the strong breezes that blow in the afternoons from April till the onset of the monsoon, nights are oppressive, except in the early morning hours, when the temperature drop to a comfortable level. The night temperatures in June are higher than those in May or July. The daily range of temperature is of the order of 16° to 17°C during the winter and summer months, while in the monsoon months it is only 6°C to 8°C.

HUMIDITY.

Relative humidity is generally lower in the afternoons than in the morning, except in the monsoon months when there is little difference. The summer months are the driest with humidities as low as 20 to 25 per cent in the afternoons.

CLOUDINESS.

During the summer and winter months, sky is generally clear or lightly clouded. In April and May cloudiness increases particularly in the afternoons. During the monsoon months sky is heavily clouded to overcast.

WIND.

Winds are light to moderate during the winter and summer months, the speed being higher in the afternoon. In associated with thunder-storm during March to May and during the monsoon season when depressions pass westward across the central parts of the country, the district may experience strong gusty winds. The directions from which winds blow are variable especially during the monsoon season.

Severe Weather Phenomena.

Severe thunderstorms occur during the summer months; even during the monsoon, rainfall is often associated with thunder. Dust-storms and occasional hailstorms occur during summer. Fog may occur on one or two days in the winter seasons.

Tables 3,4and 5 give data relating to temperature, humidity, wind speed and special weather phenomena in respect of Daltonganj.