

PART – I

Summary of facts on which the proposals are based

CHAPTER – I

THE TRACT DEALT WITH

NAME AND SITAUTION

1.1.1 The forests of Chaibasa South Forest Division falls within the Civil Jurisdiction of the Sadar Chaibasa Sub-Division, the part of the demarcated protected forests of the Kolhan Government estate.

1.1.2 The Forests comprise 156 isolated P.Fs blocks (Block no. 29 to 184) Varying in sizes from 2.832 act (7 ac.) to 8712.464 hectare (24,000 ac.) and one reserved forest block. The Division Comprises 53730.608 hectare of P.F's and 31.367 hectare of Reserved forests. The total area of the Division is 564.614 sq. km. (218 sq. miles). These are bounded by Saraikella and Chaibasa Goilkera road in the North, Mayurbhanj district of Orissa and Saraikella Sub-Division in the East, Mayurbhanj and Keonjhar districts of Orissa in the South and the Kolhan and Saranda Forest Divisions in the West, and lie between 21°87'30" and 22°30' North Latitudes and 85°20' and 86°2'3" East Longitudes. Except block nos. 30, 31, 32, 33, 37, 43, 56, 57 and 58 all are isolated small hillocks in the midst of cultivation and villages.

1.1.3 The Chaibasa Forest Division was created in 1906 as a separate division covering on area of 564.617 sq. km. (218 sq. miles); The forests of the Saraikella and Kharsawan estates were added in this division during 1958-59.

1.1.4 In December 1964, the Chaibasa Forest Division was Split into Chaibasa South and North Divisions vide Government Notification no. C/F-1(A) 14/64-3757 dated 30.10.1964.

The Original Chaibasa Forest Division became the new, Chaibasa South Forest Division, Consisting of 156 old P.F's and One R.F. of the Kolhan estate.

## CONFIGURATION OF THE GROUND

1.1.5 The forests comprise mostly small hills with varying altitudes, rising from 121.60 M (400 ft) to 608 M (2000 ft) from M.S.I. The general slope of the country is gentle. Some of the high points with their altitudes are given below:-

	NAME	ELEVATION	
		<u>Meter</u>	<u>Feet</u>
1.	Bandhijhari Buru	- 498.25	- 1639
2.	Tantu Buru	- 492.17	- 1619
3.	Kedar Singh Buru	- 545.07	- 1793
4.	Easalbezal Buru	- 511.63	- 1683
5.	Mali Buru	- 675.79	- 2223
6.	Rangi Buru	- 609.52	- 2005
7.	Charipat Buru	- 609.52	- 2005

## RIVER SYSTEM

1.1.6 The main perennial rivers that drain this division are BAITARNI in the South, the SOUTH KARO and DRO in the South West and KHARKAI on the North East. In addition to these rivers there are numerous small nallas and rivulets which are mostly dry during Summer but are subject to heavy floods during the monsoon or after a heavy shower.

The rain which the area receives drains out rapidly in all Directions from the Centre of the tract, by these small nallas and rivulets causing floods in the main rivers. This causes heavy Soil erosion in the area, which needs immediate attention and careful study.

## GEOLOGY ROCK AND SOIL

1.1.7 The Director, Geological Survey of India, Bihar Circle has prepared the Geological note of the area concerned, which is reproduced below.

## INTRODUCTION

Geology of South Singhbhum, of which the Chaibasa South Forest Division is a part, is quite complicated. Different workers carried out geological investigations in this area at different times to solve the complications. In course, the earlier findings were modified. In view of the economic importance of the mineral deposits of the area, more investigation is being carried out and more lights are expected to be thrown on the problem. But up till now Dr. J. A. Dunni's observations and interpretations, which are the modifications of C. Hones's work, have been widely accepted.

## LOCATION OF THE AREA

The Chaibasa South Forest Division is bounded by latitudes  $21^{\circ}57'30''$  N and  $22^{\circ}32'$  N and Longitudes  $85^{\circ}20'$  and  $86^{\circ}02'30''$  E.

## STRATIGRAPHY

The stratigraphic sequence of rocks in South Singhbhum has been established by Dunn as:-

Tertiary Grit  
Newer Deleterite  
Kolhan Series  
(Unconformity)  
Singhbhum Granite  
Iron Ore Series.

According to him, there were at least two periods of great earth movements within this sequence. The first one gave rise to folding and metamorphism of the iron Ore Series and the second one followed the deposition of the Kolhan Series on the denuded Iron Ore Series.

At places, the granitic basement resisted the effect of post-Kolhan fold movements on the Kolhan beds, but these beds were closely folded at places where the Kolhan Series were underlain by the phyllites of the Iron Ore Series.

Each group of the above stratigraphic sequence can be described as:-

(1) IRON ORE SERIES – Rocks belonging to the Iron Ore Series are the oldest exposed rocks of the area Banded Hematite Quartzite (BHQ), phyllites, and lavas have been grouped into the Iron Ore Series on the basis of their close structural relations, but their relative ages have not been definitely determined. Principal outcrops of BHQ form an elongated horse shoe, open to the North-East in Noamundi and Ghatkuri reserved forest area and closed to the South, West, beyond the South forest division area. The Western arm of this horse shoe forms the iron Ore range having a more or less straight and continuous zone of BHQ as its backbone through the Cua-Tatiba area and extends towards South-West beyond the limit of Chaibasa South Forest Division. The Eastern arm which is about 13 km from the Iron Ore range near the northern and Noamundi to Gua of the horse-shoe, is represented by outcrops of BHQ & Iron Ore occur within the area enclosed by the two arms around Barabil, Jhangaon, Roida, Laidapoda, Guali, Godabundini Kasira areas. The enclosure consists largely of phyllites with tuff, lavas and cherts and in addition, occasional outliers of Kolhan Rocks. On the eastern side of the horse shoe, lavas occur in a wide area with occasionally thin zone of phyllites intervening between them and the BHQ.

Dips are generally persistent to the North-West which is the prevailing direction of overfolding in the area. At places, acute recumbent folds are seen to lie horizontally upon each other, the overfolding always being from North-West to South-West.

LAVAS – The large area of Lava, extending south from the Western half of the Survey of India toposheet No. 73F/12, near Barananda, apparently consists of a number of flows, having bedded appearance.

The bedded lavas, at places, are seen to be gently folded. Towards the eastern boundary, shearing is noticeable through which intrusion of granite had taken place. Small outcrops of silicified tuffs are found within this lava.

Metamorphism of the lava commences close to its contact with the Singhbhum Granite, especially to the east of Bhondgaon (22°05' : 85°35'). The metamorphosed basic

igneous rocks with associated banded quartzite between Jagannathpur and Chaibasa are believed to be the Iron Ore Series rocks.

The lavas cropping out between Barabil and Gua are closely folded and contain thin interbedded phyllites. Many of the outcrops are of quite fresh massive lavas, others are highly sheared to chlorite schists and to the North well cleaved hornblende schists. A large portion of the outcrops are of hematitised lavas or even Iron Ores.

**PHYLLITES & TUFFS** – Between the lava and the BHQ of Naomundi ridge there is a zone of tuffs. Near Sangramsai village, at the west end of the railway cutting, there is a conglomerate which may be taken to represent the base of the tuffs. Some of the materials interbedded with the tuffs are altered lava.

The tuffs usually are soft, mottled and banded argillaceous rocks which have been considerably leached and replaced. Further south, ferruginous phyllites are traced along the base of the BHQ in places, but for long distances the lavas appear to directly underlie the quartzite. Usually the top of the lava, is highly altered. In many places such altered lava with development of cleavage, grades to ferruginous phyllite.

Ferruginous purple phyllite are abundant in the area between Naomundi and Gua. Buff, white, grey, green and even black phyllites are quite common. The phyllites here are commonly mangiferous.

**CHERTS AND JASPERS** - The cherty rocks, apart from the BHQ, are of wide spread occurrence, in the Iron Ore Series. These Cherts are associated variously with the extensive outcrops of lava, East of Naomundi mine, with the phyllites along the eastern side of the BHQ extending south from Naomundi mine, and with the phyllites between Naomundi and Gua.

#### **BANDED HEMATITE QUARTZITE :**

These banded rocks are very striking and consist of inter banded layers in various proportions of iron oxide, silica and combinations of the two. In the field all gradations can be seen between massive chert and Jasper through coarse and fine banded chert and jasper to the normal fine, close banded hematite quartzite.

Due to hardness and insolubility on the Iron constituent these rocks are found forming steep cliffs in the area. The bands which are often very regular, vary from more parting upto several inches in thickness, and in colour from white to lavender grey, bright red, brown, black etc.

Close folding may be observed almost everywhere in these banded hematite quartzite. Occasional overfolding is observed, as at Gua. Quite commonly the fine bands are minutely puckered. Regarding origin of these banded rocks, there is a controversy. According to Jones, these rocks are the result of chemical precipitation, but the condition under which this precipitation took place is still uncertain, although it is generally assumed that the precipitation took place under the marine conditions. But according to Dunn, these BHQ, are silicified fine banded oxidized tuffs. The iron was inherent in the tuffs, so also was the bulk of the silica in the adjacent rocks. The silica leached from the underlying rocks by the heated meteoric waters, was deposited in tuffs and other sediments towards the surface, forming cherts which retained the banding of the original rocks.

## 2) SINGHBHUM GRANITE

The Singhbhum granite occurs over a large area in the plain to the South and South-East of Chaibasa. It is a huge mass intrusive into the Iron Ore Series. Quartz veins and veins of pegmatite frequently occur in the granite mass.

This granite varies from very fine grained to a coarse phyrific type and in places it has a slightly gneissic character as near Singbera ( $20^{\circ}11'$  :  $85^{\circ}39'$ ). The rock usually consists of quartz in small amount, plagioclase feldspar, orthoclase, microcline, hornblende and rare mica. Accessory minerals are usually apatite, zircon, epidote and ilmenite. The granite is easily weathered rock, and therefore makes no very marked surface, features. It usually has a fairly thick covering of weathered, partly decomposed rock and soil, which forms the large cultivated plains in the south-East of the Singhbhum district.

Although intrusive into the Iron Ore Series, all the evidences so far accumulated indicate thus the Singhbhum granite here in the South Singhbhum, was pre-Kolhan in age, the basal bed of the latter being deposited on its denuded surface.

### 3) KOLHAN SERIES

According to Dr. Dunn, The Kolhan series rests uncomfortably on the Singhbhum granite. The sequence of the Kolhan rocks has been suggested as :-

Kolhan Shales

Kolhan Limestone

Kolhan Sandstone – Conglomerate

Over most of the area between Chaibasa and Jamda, the Kolhan series shows very little disturbance and usually has a low dip towards north-west.

#### KOLHAN SANDSTONE & CONGLOMERATE

The basal bed of the series is a near horizontal well bedded soft, medium to fine grained purple grey sands tone sometimes showing ripple marking. In parts it becomes a very stuff king conglomerate, consisting of well rounded and some angular pebble of white or clear quartz, and bright red jasper with a few pebble of banded quartzite in a dark purple grey, often ferruginous sandy ground mass.

The basal bed is usually a moderately soft rock, but is less easily weathered than the underlying granitic rocks, or the overlying limestone and hence usually forms a low scarp or series of small hillocks which can be traced for many miles.

The main boundary of the Kolhan Series can be followed South as a line of low sandstone ridges, raised slightly above the granite surface on the east & Kolhan shales on the West.

Along the Deo Nadi, just North of Mangra Village near Jagannathpur, a thin bed of conglomerate rests on the granitised schists of older series. Overlying it just to the North, and dipping gently north is a thin bed of shales followed by limestone. Following its strike South-Westward the conglomerate may be found in the fields towards Baliadi. Saw of Konslapos, it rests on chert & Granite. The conglomerate can be traced in the fields towards Bara Nanda. At Bara Nanda it rests on granite to the east and on quartzite to the south.

About 2 km south of Kotgarh in a stream section horizontal & gently undulating flaggy purple sandstones rest on the lava. At places these are rich in hematite, approaching Iron Ores.

## KOLHAN LIMESTONES

The Kolhan limestone is usually thick bedded, and flaggy. It is best exposed to the South of Chaibasa, where it occurs as a well bedded rock along the Gamua river valley dipping at a low angle to the North-East. Here it spreads over an area, undulating below the Phyllites.

The limestone usually immediately overlies the basal sandstone-conglomerate, although a thin layer of shale intervenes between the two in places. The thickness of the limestone is variable; in the Hill South-East of Kundbera ( $22^{\circ}30' : 85^{\circ}47'$ ). It is at least 30 feet but perhaps it attains to greatest thickness near Rajanka ( $22^{\circ}26' : 85^{\circ}44'$ ). It sometimes thins out completely and is not found West of Jagannathpur ( $22^{\circ}13' : 85^{\circ}39'$ ), where the overlying shales rest directly on the purple sandstone. The limestone varies from a grey to a red purple colour, and is often of a shaly or schistose character. The chert associated with thin limestone is an extremely fine grained, hard, compact, dry grey rock, with few thin veins of white quartz.

## KOLHAN SHALES & PHYLLITES

Kolhan shales and phyllites are well exposed between Chaibasa and Jagannathpur. The shales usually have a purple colour but higher up in the group they become buff, grey and white in colour. These are usually soft and fine laminated over most of the area, but in the North and North-Western parts of the area, they often become phyllitic in character. At places the shale is ferruginous and alters extensively at the surface, more especially at the tops of hills into lateritic material, which in some cases by further authorization have resulted in hematite Iron Ore bodies, such as occur near Barabil ( $22^{\circ}03' : 85^{\circ}24'$ ), Guali ( $22^{\circ}39' : 85^{\circ}17'$ ), Khadrissi ( $22^{\circ}03' : 85^{\circ}24'$ ); etc.

The typical shale or phyllite consists of a fine dense argillaceous material often sericitic which may or may not be stained by Fe<sub>2</sub>O<sub>3</sub>. These rocks are commonly finely bedded.

Along the wedge of the main Kolhan basin South from Kundbera (22°30' : 85°47') and around to North of Noamundi Village the shale consistently horizontal or dip gently inwards from the border upto maximum of 10°. From Noamundi Northwards the dips steepen & the close cleavage, which usually observes the bedding, is often vertical.

Between Chaibasa, Nimdih (22°30' : 85°46') and Kelendet (22°29' : 85°48'), the phyllitic shales, although in places almost horizontal, are frequently steeply dipping and show unusual folding and even close contortion.

From Chaibasa to Noamundi the main basin of Kolhan rocks is relatively undisturbed, but North of Hatgamaria and east of the main Kolhan basin there is a local area in which shales and sandstones conglomerate have been highly disturbed, apparently by simple normal faulting. The boundaries are largely faulted, but the basal sandstone-conglomerate appears to rest directly on the granite. Sudden change in lithology of this basal bed in disturbed from the purple sandstone of the undisturbed area is a peculiar feature. Instead of being a fine banded purple sandstone, it is either a conglomerate or a massive bedded white or brown sandstone which, further East, becomes an arkose of great thickness. There is a controversy, whether these rock should be grouped as Kolhan or not.

Around Chaibasa, there is a group of rock consisting of fine sandstone, dolomite & shale everyting altered lavaschist, granite & Phyllite, are lithologically utterly different from the adjacent undoubted Kolhan rocks. The calcareous rock which overlies a 2 foot bed of sandstone to the west of Chaibasa is entirely different in composition from that of the Kolhan limestone. Fine bedded sandstone & Shales overlie this dolomite whereas no sandstones have been observed to overlie the Kolhan limestone to the South.

Stratigraphically this group of rocks occupies the same position with respect to the underlying lava-schist as does the Kolhan series but due to remarkable difference in lithology, correlation is not possible. These are probably part of the Iron-Ore-Series.

#### 4) NEWER DOLORITE

The Newer dolorite sykes in the Singhbhum granitic area, south of Chaibasa are enormous. They have a general NEE-SSW strike.

The dykes rocks vary from a fine-grained basalt to a coarse-grained dolerite. The dyke-sills to the South of Nurda (22°22' : 85°44') are in part altered to epidiorite.

In the granite area these dykes are a very marked feature, and occur as long, often straight ridged upto half a mile in width and often running for many miles, sometimes discontinuous, across country.

The age of the Newer dolerite dykes remains debatable. They have penetrated the Iron Ore Series of rocks but have not been found to cut across the Kolhans. Previously the age was suggested by Dunn to be Cuddapah, but on the basis of his further observation on the dolerite dykes of the coalfield area, he suggested the possibility of this age to be post-Gondwan.

#### 5) QUARTZ VEINS

The quartz veins have been found at several different periods. The quartz veins in the Iron Ore Series which have given rise to pebbles in the adjacent Kolhan conglomerate are probably related to the Singhbhum granite.

Quartz veins occur in the Kolhan sandstone-conglomerate and in the limestone, whilst, in places, the Kolhan Phyllitic shales are swarming with veins and irregular replacement masses of quartz. They are, of course much later in age than the veins associated with the Singhbhum granite, but there can be no certainty that they are related to the quartz veins which penetrate the Newer Dolerite, dykes.

#### 6) ULTRABASIC ROCKS

At some places, ultrabasic igneous rocks occur as isolated patches most important being occurring near Jojohatu WSW or Chaibasa.

According to Dunn, the ultrabasic, igneous rocks are intruded into the Iron Ore Series and as the granite in its turn is intruded into them, they are definitely post-Iron Ore Series and as the granite in its turn is intruded into them, they are definitely post-Iron Ore Series and Peregrinate.

## 7) TERTIARY GRID

This rock is friable and porous in nature and is always dark brown in colour. It is made up mainly of sharply angular quartz grains in a ferruginous cement. Bedding is horizontal.

It is not widespread. Widest outcrop occurs on the ridge-tops South-East of Gundijora ( $22^{\circ}11' : 85^{\circ}30'$ ), resting on gently dipping Kolhan shales. Smaller outcrop at the West end of Gundijor Village Malnad Buru ( $22^{\circ}13' : 85^{\circ}28'$ ) to the West of Noamundi village and to the west of Padampur ( $22^{\circ}07' : 85^{\circ}38'$ )

## MINERAL DEPOSITS

The main economic mineral deposits of the area are Iron-Ore, manganese Ore, Limestone and Chromite.

### IRON ORE

Iron Ore usually occurs at or near the top of hills or ranges of hills but it is often found at very low levels and in some cases actually in the plains themselves. The most important occurrence of Iron Ore is the Iron Ore range which forms the western arm of the horse shoe-occurrence of the Iron Ore Series of rocks.

It extends from near Gua in the North towards SSW beyond the limit of Chaibasa South Forest Division. Running more or less parallel to this range, and possibly faulted from it, are often smaller ranges which contain good Iron Ore. Iron Ore occurs in the Noamundi-Barabil area and also there are a number of dissected core bodies which form parts of the eastern arm of the horse shoe. These are exposed near Joda, Kurband, Pana etc.

Practically the whole of the ore that occurs and is mined in the area is hematite of various types. The hematite varies from a massive steel grey type containing over 69% of Iron, through a porous laminated shaly looking type running to over 60% of Iron, to a fine soft powder which runs up to 69% of Iron.

The Iron Ore in this area is the result of Chemical leaching out of silica from banded hematite quartzite.

## MANGANESE ORE

The phyllites of the Iron Ore Series are commonly manganiferous. Leaching of these rocks has given rise to enriched zones of nodular psilomelane and pyrolusite in the Phyllites or of later manganese at the surface.

There are at least four belts along which manganese has been mined within the area. The mostly westerly commences on the western side of Jhiling Buru, mine, south of Gua, extending South along the eastern side of the Iron Ore Range, a small belt occurs in the phyllites west of Uliburu. The next belt commences at about one mile North of Diruburu. The fourth belt commences in the hills North-East of Jamda Village and extends SSE towards Bilkundi.

## LIMESTONE

Limestone belonging to Kolhan series occurs in a number of places. It is best exposed to the South of Chaibasa Kolhan limestone is used in the Jhinkpani Cement Factory.

## CHROMITE

Chromite deposits occur in ultrabasic igneous rocks near Jojohatu, about 16 km SSW of Chaibasa.

## CLIMATE

1.1.8 As the forests lie between 21° and 23° North Latitudes and 85° and 87° East longitudes the climate is tropical as with three distinct seasons, namely (i) Hot and dry summer (ii) Warm and humid rains, (iii) Winter.

1.1.9 The hot summer season commences from March and lasts till the middle of June each year. The maximum temperature 43°90C (111°F) or more rises in the month of May. The hot westerly wind locally known as LOO causes desiccation, but inspite of this nights are

generally pleasant in the forest area. By the second fortnight of May the area is subjected to occasional thunder storms with rains. This brings down the temperature by a few degrees, affording relief to all. This pre-monsoon thunder shower helps the Sal seeds to germinate and take up root firmly on the floor of the forests.

1.1.10 The monsoon breaks in usually in the first week of July and continues until the end of September. In the beginning of October again there is a Short spell of rainy Season (10 days known as HATHIA which is beneficial to the paddy crop. There is also a short spell of Winter rains around December/January.

1.1.11 The Winter is generally mild and it extends from October to the end of February. Fogs are uncommon except in deep Valley. Forests are not of Common occurrence except in some remote corners of the forest.

1.1.12 There is no meteorological station within this forest Division, but from the other sources the average maximum & minimum temperature and average rainfall of some of the stations are shown in the following table.

TABLE NO. I

Monthly temperature in Centigrade (0°C) for the Station Noamundi Average Temperature 0°C

<u>Month</u>	<u>Maximum</u>	<u>Minimum</u>
April'84	40.52	23.95
May' 84	43.42	25.42
June' 84	31.68	23.23
July' 84	30.52	23.08
Aug. ' 84	29.39	22.58
Sept. '84	31.33	21.43
Oct.'84	31.00	20.08
Nov.'84	28.03	14.48
Dec.'84	26.81	12.98
Jan'85	25.14	12.63
Feb'85	29.30	13.91
March'85	38.72	21.01
April'85	40.63	23.95
May'85	38.82	23.75
June'85	35.60	24.13
July'85	29.52	22.19
Aug.'85	28.84	22.40
Sept.'85	29.77	21.80
Oct.'85	28.68	18.68
Nov.'85	28.63	14.47
Dec.'85	28.34	12.73

<u>Month</u>	<u>Maximum</u>	<u>Minimum</u>
Jan'86	26.00	11.70
Feb'86	28.57	14.55
March'86	36.04	19.08
April'86	40.93	23.11
May'86	38.50	22.10
June'86	35.60	23.53
July'86	30.43	22.22
Aug.'86	31.60	22.71
Sept.'86	31.70	21.83
Oct.'86	30.66	18.84
Nov.'86	28.48	16.67
Dec.'86	24.65	13.02
Jan'87	25.57	11.27
Feb'87	29.93	14.59
March'87	35.52	18.55
April'87	40.55	22.78
May'87	40.82	24.63
June'87	39.12	22.50
July'87	31.48	23.37
Aug.'87	31.11	22.87
Sept.'87	31.60	22.78
Oct.'87	31.31	19.89
Nov.'87	29.83	15.98
Dec.'87	25.58	11.58
Jan'88	26.88	11.57
Feb'88	29.89	13.81
March'88	34.75	18.82
April'88	39.32	25.58
May'88	34.92	27.15
June'88	32.85	24.35
July'88	31.14	23.20
Aug.'88	31.37	22.92
Sept.'88	31.78	22.73
Oct.'88	31.58	21.00
Nov.'88	27.87	16.67
Dec.'88	26.23	12.56
Jan'89	25.62	10.38
Feb'89	30.37	15.11
March'89	33.32	19.27

TABLE NO. II  
MONTHLY RAINFALL IN MILLIMETER FOR THE STATION CHAIBASA

Month <span style="font-size: small;">▶</span>	January	February	March	April	May	June	July	August	September	October	November	December
Year <span style="font-size: small;">▼</span>												
1984	3.5	12.0	3.0	15.3	75.3	394.0	277.6	407.2	41.0	17.6	0.0	0.0
1985	18.6	6.4	0.0	11.8	107.0	88.0	171.0	373.6	253.4	155.6	0.0	0.0
1986	19.0	2.0	0.0	20.2	67.7	146.0	275.0	141.6	113.6	102.0	0.0	96.0
1987	0.0	0.0	12.0	12.8	0.0	14.3	156.7	177.9	106.0	0.0	0.0	0.0
1988	0.0	3.0	0.0	3.0	3.0	353.3	114.6	173.6	187.7	56.6	0.2	0.0
1989	0.0	0.0	2.0	0.0	14.1	400.0	109.2	273.3	86.8	0.0	0.0	15.5

MONTHLY RAINFALL IN MILLIMETER FOR THE STATION JHINKPANI

Month <span style="font-size: small;">▶</span>	January	February	March	April	May	June	July	August	September	October	November	December
Year <span style="font-size: small;">▼</span>												
1984	8.1	3.6	0.0	26.4	93.5	509.0	229.7	505.6	103.4	21.0	0.0	0.0
1985	23.6	18.0	0.0	3.6	148.6	161.6	257.2	432.1	374.6	250.0	0.0	0.0
1986	25.0	37.5	21.4	23.9	20.7	205.3	318.4	212.0	103.0	41.8	65.0	43.0
1987	12.04	0.0	0.0	131.0	52.8	86.2	287.0	271.2	-	0.0	51.0	19.4
1988	0.2	33.6	39.0	38.6	57.4	503.8	205.1	144.8	63.0	0.0	0.0	0.0
1989	0.0	0.0	5.3	0.0	95.4	416.7	278.6	449.3	61.7	0.0	0.0	6.2

MONTHLY RAINFALL IN MILLIMETER FOR THE STATION MAJHGAON

Month ▶ Year ▼	January	February	March	April	May	June	July	August	September	October	November	December
1984	22.5	12.5	0.0	49.5	178.0	547.0	304.0	426.5	169.0	93.5	0.0	0.0
1985	43.5	22.0	0.0	11.5	164.0	211.0	179.3	597.0	312.0	342.0	0.0	0.0
1986	24.2	48.4	4.4	56.0	184.0	289.0	289.0	172.5	180.5	93.7	53.5	-
1987	0.0	5.0	19.0	38.0	117.0	79.5	79.5	165.0	152.5	0.0	0.0	0.0
1988	0.0	102.5	15.0	190.2	23.6	433.8	433.8	229.8	118.2	54.0	5.0	0.0
1989	0.0	0.0	10.0	0.0	136.6	469.4	469.4	421.1	122.1	34.0	0.0	0.0

MONTHLY RAINFALL IN MILLIMETER FOR THE STATION NOAMUNDI

Month ▶ Year ▼	January	February	March	April	May	June	July	August	September	October	November	December
1984	50.0	20.0	0.0	38.4	406.0	574.8	300.2	571.4	115.6	61.4	0.0	0.0
1985	60.8	28.6	0.0	2.4	59.0	144.8	333.2	516.0	213.9	362.6	0.0	0.0
1986	29.0	57.8	0.0	30.0	85.5	336.0	366.0	271.9	216.0	68.0	37.2	12.0
1987	50.2	35.2	0.0	68.0	55.4	119.4	300.6	284.2	143.8	28.1	28.5	-
1988	-	104.2	44.0	94.8	7.0	318.0	242.6	216.0	-	-	0.0	0.0
1989	0.0	0.0	0.0	0.0	106.0	470.6	227.0	468.6	83.4	22.2	0.0	0.0

## WATER SUPPLY

1.1.14 The principal rivers that drain the forests are the BAITARNI, SOUTH KARO, DEO AND DKHERKAI. These rivers are perennial, but the flow becomes very meager during the hot months. Wells for drinking water are not found every where though efforts to have wells in every village are being made as Government initiatives.

## NATURAL CALAMITIES

1.1.15 This division has been immune from any natural calamity like flood and famine. Some time severe storms do some damage to the forest crop but the records of incidence is not available.

## HEALTH

1.1.16 This part of the Singhbhum is some what open and dry, hence it is less malarious. The most draded Black Water fever had now become a thing of the past due to improvement of health by Government. Anti malaria Scheme of the Government has done Considerable good work in this part.

## DISTRIBUTION OF AREA

1.1.17 The area of the forests has been reduced considerably within the plan period due to foreceful cultivation by villagers and subsequent release of these area from the demarcation. Previously the forest area was 54,378.64 hectare (1,344.01 acre) which is now 1,20,415 acres only. The forests of Chaibasa South Division consists of PF's. A table given in Appendix No. II/gives the detail of the area of the Protected forest blocks of the division, arranged in F.S. Misc.

The division in future subdivided into three Ranges for administrative purposes. The Range-wise distribution of forest are as follows:-

### Name of the Ranges

	<u>R.F.</u>	<u>P.F's.</u>
1. Chaibasa	75.28 acre	46,483.72 acre

2. Hatgamharia	-	42,579.00 acre
3. Noamundi	-	39,497.00 acre

## STATE OF BOUNDARIES

1.1.18 There are both artificial and natural boundary lines in this division, which is about 3605 km Major portion of the boundary lines are artificial. The State of boundary lines are fairly satisfactory. The width of the boundary lines maintained is 20 feet on the exterior edge of the forests with stone or earth pillars of regular intervals. At places attempt has been made to plant AGAVE near the boundary pillars in the direction of the boundary lines.

1.1.19 The numberings of the boundary pillars are in bad shape as there have not been renewed for some time part. The number on the boundary pillars quite often does not tally with the one given on the map. This will have to be renewed after proper verification from the map. Encroachments are common in this division due to following reasons.

- (i) Land hunger and instigation by the local leaders.
- (ii) Legal embiguity
- (iii) Connivance of the staff

1.1.20 The regular inspection of the boundary lines will keep a proper control on the staff. Encroachment cases should be dealt with severely and should be persuaded vigorously in the court.

## MAPS

1.1.21 No other maps except the demarcated maps on 16"=1 mile scale are available. Even this map in the form of Master copy was not available for all the forests.

## RECORDS

1.1.22 The register known as demarcation register in which the name of the forests, it's area, notification number etc. are record was not up to date.

It was difficult to ascertain the exact extent of forests within the territorial Jurisdiction of this division. During the course of the preparation of the working plan attempt was made to prepare an upto date demarcation register after measuring the area of the forests plot wise. The measurement has been done on Master copy. Since the accuracy of the master copy is effect in doubt as it is not upto date, the area so obtained may not be all correct. However recently arrend area has been taken into consideration while preparing this working plan.

## LEGAL POSITION

1.1.23 The Blocks were declare protected forests as per notification given below:-

	<u>Blocks</u>		<u>NOTIFICATION NO. &amp; DATE</u>
(i)	29 to 58	-	904 – for dated 23.05.1905
(ii)	59 to 147	-	416.111 for dated 22.01.1915
(iii)	148 to 168	-	1417.111 for dated 10.03.1919
(iv)	169 to 177	-	5440.111 for dated 17.07.1925
(v)	178 to 184	-	693.111 for dated 28.03.1935

## RIGHTS AND CONCESSIONS

1.1.24 The rights were revised and confirmed by Tuckeys Settlement of 1915. The rights were expressed in general terms instead of exactly differing their requirements and stating what produce they can take. It permits the villagers to take whatever forest produce they require for their own bonafide use but not for sale, gift or exchange.

The following rights are in practice since the creation of the division.

(i) Any bonafide recorded tenant of any land or building in the Kolhan Government estate who resides in a village which is actually contiguous to a protected forests may within the limits of such forests and without payment:-

(a) Cut and remove to his own home for his own domestic use but not for any kind of transfer.

(i) Any green tree other than Mahua, Kahua and Harra of a species declared to be reserved by notification no. 3589 dated, 17.07.1894, the girth of

which at R.H. is not less than 2½ feet if such tree is required for his own private use.

- (ii) Any other green trees or timbers.
- (iii) Any dry trees or timber.
- (iv) Any other forest produce.

(b) PASTURE

- (i) Not more than six sheep or goats.
- (ii) Not more than four cattle.
- (iii) Any buffalos or Cattle which are bonafide his own domestic and agricultural purposes.

(c) Any person may lop branches of Aasan, Kusum and Palas or any other trees or shrubs or bushes of an unreserved spp. For the feeding of Cater-Pillars or for the collection of Cocoons or the collection or better propagation of LAC.

These rights are regulated according to the provision of the Working Plan. In addition Government from time to time have allowed the following privileges to the villagers irrespective of their rights in the forests.

(1) To collect any quantity of dry fire wood, on head load or bahangi load free of charges vide Revenue Deptt., Govt. of Bihar Cetter No. –C/F-5076/54-67 R.T. dated the 08.05.1954.

This concession is misused very badly by the villagers, at the cost of the forest preservation. They are permitted to carry axe hence they cut green saplings and allow them to dry in the forests to evade the rules. This is creating large scale rooted waster in and around the villages, as the crop over such areas are not getting a chance to establish.

(2) Rights to graze cattle in the forests irrespective of rights. This is also a Cause for deterioration of the forests specially the newly coppiced areas.

(3) Right to collect edible fruits and flowers including Mahua for his own domestic use.

But these concessions are misused and villagers have turned into professional trades in forest produce. They are selling both firewood and minor forests produce in the HATS although rights do not permit them to sell the forest produce.

#### MINNING LEASE

1.1.25 The mining leases have been sanctioned from time to time by the Government as listed in Appendix No. XIII.

#### KOLHAN FORESTS

1.1.26 A sizeable area of good forests known as the Kolhan forests under the management of the Civil authority is still lying outside the demarcated protected forests. In 1958 it was decided by Government to transfer these forests to the charge of the Forests Department for their better management. On that basis the forests as listed below were notified in 1966 and 1967, as Protected forests under the Indian Forest Act. When demarcations of these forests were taken up there were strong agitation by the villagers and the work had to be suspended, since then it is lying in that stage.

The matter is under correspondence with the Government regarding the procedure to be adopted for management of these forests. But during the past few years these forests have suffered very badly due to large scale clearance by the villagers for cultivation. If action is not taken quickly these forests will vanish and its repercussion will fall on the demarcated protected forests.

#### LIST OF KOLHAN FORESTS NOTIFIED AS PROTECTED FORESTS

Sl. No.	Name of Village	Thana No.	Block No.	Area (in acre)	Notification no.
1	2	3	4	5	6
1.	Kulawa	312	55	58-50	No. C/F-17023/66 -2488-R, dt. 6 <sup>th</sup> Sept. 1966
2.	Chiriagot	314	55	85.49	-do-
3.	Champila	315	55	16.82	-do-
4.	Khandkhori	312	56	421.9	-do-

Sl. No.	Name of Village	Thana No.	Block No.	Area (in acre)	Notification no.
1	2	3	4	5	6
5.	Deodhar	328	53	51.5	No. C/F-17023/66 -2488-R, dt. 6 <sup>th</sup> Sept. 1966
6.	Unduda	329	53	344.1	-do-
7.	Kadahatu	342	53	196.0	-do-
8.	Tartaia	350	150 & 161 151 & 152	196.38	-do-
9.	Biskata	351	155	59.01	-do-
10.	Dindiburu	354	162	62.64	-do-
11.	Balibandh	388	149	15.57	-do-
12.	Dudhju	421	139, 149 & 145	75.12	-do-
13.	Ruia	422	104.69, 98 & 97	376.02	-do-
14.	Bichaburu	426	83	210.26	-do-
15.	Gamaria	428	84	69.60	-do-
16.	Lupurigpi	431	101	15.54	-do-
17.	Karsakala	435	102	19.37	-do-
18.	Kendpuri	555	120	118.27	-do-
19.	Barabaljori	556	83	52.95	No. C/F-18 (B)/57/66 – 106- R, dt. 26 <sup>th</sup> Sept. 1987
20.	Aujiber	776	30	26.07	-do-
21.	Chingijhari	778	30	411.60	-do-
22.	Jojobatu	779	30	356.90	-do-
23.	Parambaljori	773	37	7.07	-do-
24.	Biriburu	770	37	163.50	-do-
25.	Lipunga	767	37	286.90	-do-
26.	Barabaljori	751	37	42.93	-do-
27.	Thakura	760	37	13.50	-do-
28.	Barajamda	774	37	298.39	-do-
29.	Jhirpai	504	176	62.81	-do-
30.	Purtidigia	506	45	152.04	-do-
31.	Gouriigia	507	45	20.73	-do-
32.	Dangoaposi	508	45	10.60	-do-
33.	Padapahar	743	45	199.03	-do-
34.	Jompani	497	44	486.73	-do-
35.	Jojobobir	702	33	71.84	-do-
36.	Kudamasada	722	46	94.00	-do-
37.	Dakuajengle	714	30	13.50	-do-
38.	Sanadda	715	130&131	66.86	-do-
39.	Sarbil	719	169	237.38	-do-
40.	Katikora	734	46	121.10	-do-
41.	Kuchibera	742	45	180.77	-do-
42.	Itarbaljori	737	45	41.16	-do-
43.	Dudhibila	752	43	222.80	-do-

Sl. No.	Name of Village	Thana No.	Block No.	Area (in acre)	Notification no.
1	2	3	4	5	6
44.	Kolaisol	756	37	35.00	-do-
45.	Beterkeya	753	37	118.00	-do-
46.	Sosipi	514	40	32.30	-do-
47.	Barakaman	512	130	28.98	-do-
48.	Murrumburu	684	29	701.16	-do-
49.	Durula	614	31	31.27	-do-
50.	Romra	691	31	212.21	-do-
51.	Bandjhari	620	30	133.31	-do-
52.	Baihatu	692	31	692.77	-do-
53.	Lisimoti	694	30	574.25	-do-
54.	Dunrinta	607	77	4.07	-do-
55.	Jojobera	223	172	400.55	-do-
56.	Gargimundi	224	58	373.85	-do-
57.	Debratrir	221	58&56	345.72	-do-
58.	Popagarh Mahaburu	225	58	563.21	-do-
59.	Jangiburu	226	58-85	472.35	-do-
60.	Bidri	222	58	559.20	-do-
61.	Jojobera	223	172	400.55	-do-