

CHAPTER - V
PAST SYSTEM OF MANAGEMENT

CREATION OF THE GUMLA DIVISION -

95 Prior to the creation of Ranchi Forest Division in 1946, two small reserved forests of dhurdhuri and gora measuring 767 acres in present Kurumgarh Range were in Garu Range of Palamu division Gumla Range of I-lazaribagh Division covered other notified forests at the time with creation of Ranchi Division. Vide Revenue Deptt's notification no. 2128-R- VT - 51' ed 27.3.1946 with tile above two forests and other state owned Reserved Forest of that time of the present Division were made constituents of Bamboo and Gumla Range. As the forests were **notified under BPF. Act, 1947** they were added to the charge of the then existing Ranchi Division which the burden on Ranchi Division as then constituted became too heavy a subdivision in charge of the Ga7.atled Officer known as Gumla Subdivision, was created in Revenue Department notification no. 602— VI F-16/48 Rs. Dated 19th March 1949. The following four ranges were under that Forest subdivision named as Banari, Gumla, Simdega East and Simdega West. Later this subdivision was promoted to the independent status of a Division known as 'Gumla Division' with effect from June 1, 1952, in Revenue Department notification no. C/PF-701 I/52-2231-R, dated the 23 May, 1952 with the same four Ranges.

The Forests were regrouped after creation of the Ranchi west Division after removal of Banari Range and division of Gumla Range into Gumla and Kurumgarh Ranges vide Govt's notification No.C/F (A)- 014/64-398 dated-22nd Feb., 1965. Under the territorial Jurisdiction of the western circle Ranchi, with the creation of the central circle at Ranchi the Division was brought under that Circle.

OTHER OVER LAPPING DIVISION:

The following overlapping divisions have been created to do certain Specified **work** as below:

1) Ranchi Afforestation Division , Ranchi. It was created to afforest the degraded and blank areas.

2) Ranchi social forestry Division, Ranchi. The Division was created to afforest forest and non-forest area of the Gumla District.

3) Social Forestry Division, Simdega took over the work of Ranchi Social Forestry Division.

4) The 13.S.F.D. Corporation Division of Ranchi & Gumla were created to collect the Minor Forest Products like. Sal seed, Karanj seed, Mahua kernels. Kendu leaves etc. 5) State Trading Division, Gumla.

This division was created to replace the contractors from logging and marketing of timber forest produce. Its other aims were payment of proper wages to labourers, scientific exploitation, improvement of forest produce, availability of forest produce to the local people and increase in the revenue.

96. The bulk of the forests now **constituting** the Gumla Forest Division was privately owned. Earlier attempts to persuade the Zamindars to accept the application of section 38 of the Indian Forest Act to their forests was met with partial success. Such forests, the owners of which agreed to state management, were notified as Reserved Forests and were brought under systematic Working Plan or Scheme. The remaining forests were at the whim of the owners who did as they liked. This went on till 1946 when the Bihar Private Forests Act 1946 & 1947 were enacted and all the forests were taken over under Government management. The ownership of these forests subsequently passed on to the State in 1950 as a result of the enactment of Bihar Land Reforms Act, 1950. All the crsiwhilc Private Protected Forests,

except the Mundari Khutkaui forests were notified as protected Forests under Section 29 (3) of the Indian Forest Act. The Mundari — Khutakatti forests continued to be Private Protected Forests.

97. It is proposed to discuss the past system of management of the Reserved and Protected Forests separately.

RESERVED FORESTS: 98

Before the reservation of the forests, there was no regular system of working. People of villages in which there were forests, removed their requirements of forest produce according to their own needs without any hindrance. Other people living in adjoining villages who has no forests in their own villages, paid an annual rent of Rs. 1) - or 9/- known as 'Bankati' rent to the Landlord of the village where the forests were situated and from where they took forest produce. When the Railways were opened and there was a general influx of outsiders disturbance started. The Landlords, finding a demand, started selling the forests for sleepers and building materials. The villagers discovered that the felling of trees made extension of cultivation easier for them. The landlords also settled lands for cultivation. Thus there occurred a race between the landlords and tenants to bring as much land under cultivation as possible. The result was that most of the forests vanished from the plains and are now confined to the hills. When the Government realized the wanton destruction, it tried to persuade the landlords to accept State management. The bigger landlords realised the importance of conserving the forests and agreed to State management of their forests. These forests were handed over for Management to the Forest Department. Since then the forests were managed also with other State owned forests according to systematic schemes.

STATE - OWNED. R.Fs-

99. In Mr. Nicholson's Working Plan (1932-33 to 1951-52) of Palamau Division the two State owned forests blocks i.e. Dhurdhuri 340 Ac. and Gora 227 Ac totaling to 567 acres

Were relegated to the Miscellaneous Working Circle being considered as unworkable areas on account of inaccessibility or lack of demand. These blocks were in Palamau Division prior to 1946.

No silvicultural operations were, therefore, carried out in these areas till the introduction of Singh's Plan.

100. Kolda R.F. situated in Chainpur thana (State owned) notified as R.P. no. 343 — III — F — 38 R.F. dated 16.5.1934, area 233.51 acres was included in the working plan for the forests of Gumla Range sanctioned in Government letter no. 28/ VIF ---56037-R. dated the 8th June, 1937. The standards were retained per acre basis. The results were satisfactory except that it appeared that the felling rules could not be enforced strictly.

101. PRIVATE OWNED R.Fs.

In 1937, a Working Plan drawn up by Late L.R. Sabharwal came into force for 29 reserves divided into 20 blocks situated in the Gumla subdivision.

102. Out of the 29 reserves, one was the State owned R.F. of Kolda. 25 reserves were those of Chainpur thana, one viz. Salai of Ghaghra thana, Katararu reserve and Ghatgaon reserves in Gumla thana. These 28 privately owned forests were declared R.F.s. in 1934. The list of such forests is given in Appendix — IA

103. The silvicultural system prescribed was coppice with standards coupled with Improvement felling “ in the area which would not be felled during the first 20 years. The rotation adopted was 60 years. The number of standards was prescribed at 10 and 15. Subsidiary silvicultural operations including cutting back, cleaning and creeper cutting were prescribed. A 15/11 year thinning was also prescribed. “ Improvement fellings” were to be carried out in area selected by the Divisional Forest Officer. No regular planting was prescribed but bamboo planting was suggested subject to availability of funds.

104 Escarpins “ i’ properly implemented. The reasons were lack of communication and demand in the immediate neighbourhood. For coupes situated and from were no purchasers. The worst case was of areas where prescribed because most of the trees that were marked were ias no demand. On the whole (he prescription were followed only 4iich made profit with the attention given. In the remot areas, the t hç implcmctcd. **PROTECTED FORESTS:-**

105 Orcs1s dealt with above suffered due to the landlords’ caprices and the villager’s wantonness, the position of the remaining forests was still worse. Most of (hem were maltreated. There was no plan or scheme for these forests and many of them were worked on annual rotation. The demand for poles and timber during the last war worsened the position and many areas were denuded of their forest cover. The request of the Government to hand over the management of these forests under Sec. (38) of the Indian Forest Act. (Act XVI of 1927) did not ret sufficicnt response and (he State had to step into control further deterioration of these fosts.

106. With the enctment of the Bihar Private Forests Act, 1946 and 1947, felling were’ controlled to a great oInt. A time lag between the notifications of the forests and the taking over of actual control y the Forest Department resulted in a spate of further destruction to which both the ldlords and the tenants were parties. The forests were put on to provisional Working Scheme, the main objective being to meet requirements of the right holders and the non-right holders o the adjoining villages.

107. With the operation of the I .nnd kcformis Act (Bihar Act — XXX 1950) the Zamindaries became vested in the stale and (hereby these forests now belonged to the State.

PRIVATE PROTECTED FORESTS:-

108. The Land Reforms Act did not apply to the Mundari Khutkati village and the forests in these villages continue to be managed under the Bihar Private Forests Act. 1947.

109. The Mundari — Khulkatti forests are Community forests owned by the whole village community headed by the Munda. The Mundari — Khutkattidars have by and large looked after their forests with zeal. There **WfIS** however some destruction during and after the last World War.

110. SINGH'S PLAN:- In 1951 Sri H. D. Singh prepared a plan for all the Reserved Forests of Ranchi Division (comprising all the Reserved forests of Ranchi district including Gumla subdivisions forests.) This was a revised Working Plan for about 50 percent of the total area and an original one for the rest.

111. The main features of this plan were :-

1. Introduction of Selection fellings in hitherto unexploited areas above 3,000 ft. altitude,
2. Constitution of Kathi Working Circle with a view to rehabilitate the khair areas,
3. Arrangements for village-wise dispensation of right where possible.

112. This Plan was, however finally submitted in 1953-54 and introduced in 1955. The unfortunate part is that for most of the forests this plan remained a dead letter. The reason for this is not very clear, What has made the position more confusing is the partial introduction of the plan. To quote an example, in Kurumgarh Iange Singh's plan was followed so far as the separate Right holder's Felling Series was concerned but it was not introduced for the rest. In the later period Sabharwal's Plan continued to be followed. Considering the fact that the Right — holder's Felling Series were carved out of the total area, the continuance of laying out of sale coupes according to Sabharwal's plan was an inexcusable blunder.

113. Singh's Plan constituted live Working Circles, out of which the following two were in Gumla Division.

(i) The Selection Working Circle.

(ii) The Coppice Working Circle.

114. THE SELECTION WORKING CIRCLE: - Comprised area of 6,454 acres, all **situated** above 3,000 ft. altitude. These areas were allotted to this Working Circle because the long lead to the railroad was a handicap to economic exploitation for all except the bigger sized timbers.

115. The system prescribed was selection-cum-improvement fellings of silviculturally available exploitable trees. The rotation was fixed at 120 years and the felling cycle at 20 years. The minimum exploitable diameter was fixed at 16 " for Sal, Asan, Bija, Karam, Dhaura, Gamhar, Jamun, Amsabita, Kend and other miscellaneous spp., 24" for Simul, 18" for Ishurkund and Chhatani. And 14" for Panjan. Total enumeration were carried out and the annual yield of Sal (both normal mill defective) trees was fixed at 420 rn'. In addition all the dead trees and miscellaneous trees of the exploitable diameter were to be exploited.

116. Subsidiary silvicultural operations prescribed consisted of cutting down of the poles damaged in the annual coupe and a general dressing up of the crop within 100ft. radius of the trees felled. Any marked trees left unfelled by the purchaser, trees damaged in the course of felling, all top broken green trees were to be cut back.

117. No thinnings were prescribed as it was apprehended that they would yield more unsaleable material and thus increase fire hazard.

118. Climbers were to be cut during marking and to be repeated at the Divisional Forest Officer's discretion.

119. Sowings and plantings were prescribed in the Netarhat and Rajadera blocks.

120 As stated earlier these prescriptions were however not implemented and so the opportunity of improving the forests and of knowing the result of these prescriptions was lost.

THE COPPICE WORKING CIRCLE: -

121. All the forests left after the creation of the Selection Working Circle except a few forests were allotted to the Miscellaneous Working Circle.

122. Forests were lumped into a timber of Felling Series according to circumstances and convenience of right holders. Attempts were made to form village wise felling series for meeting rights. Suitable extent of forest area, calculated @3 acres per household for the entire rotation period of 30 years was set apart as separate felling series and managed purely to meet the admitted rights of the right-holders. The balance area of the forest was then lumped with similar balance area of other village to form separate lots of surplus Felling Series.

123. The silvicultural system followed was simple coppice. Some standards were to be retained to fulfil specified objectives.

124. The forests were classified into three main groups

Group A (Non - Commercial) — All the forests, either whole or a suitable portion specifically set apart for meeting the rights, which were to be entirely at the disposal of right holders, was allotted to this group. Felling Series were village - wise or a group of adjoining villages. The rotation prescribed was 30 years.

Group B-Quasi- Commercial - Under this group were allotted the areas the annual coupes corresponding to which were, in the first instance, to be opened to right- holders for satisfaction of rights and the surplus produce left over was to be available in the second year for sale. The general rotation prescribed was 40 years, In some cases it was raised to 60 years while in some others it was lowered to 30 years.

Group C-Commercial:- All forests which were not required to satisfy any rights and which were to be managed purely for commercial purposes were allotted to this group. It included

125. In 60 year rotation coupes, 10 to 15 standards per acre were to be retained, in coupes of 40 years rotation 8 to 10 standard per acre and in 30 year rotation coupes 5 to 8 standards per acre were prescribed. Kliair, Sctiinl, Salai and Mahua were to be left standing.

126. Climbers on the standards were to be cut at the time of marking.

127. A special prescription was made for steep hill slopes. This was to mark off suitably on the ground areas in which trees for felling were to be marked as opposed to marking standards for retention. Only selected marketable trees were to be marked and the rest of the crop over such steep slopes was not to be coppiced.

128. Afforestation of blanks was suggested with the help of rigli(olclers.

129. First year cicanings together with culling back of tree left standing and those damaged during lcllings were prescribed. Third year cleanings consisting of creeper cutting and cutting of miscellaneous species interfering with growth of sal was prescribed.

130. Thinnings were prescribed in the 15th and 45th year for areas under 60 year rotation, in the 14th and 27th years for 40 years rotation areas and in the 15th year for 30 year rotation coupes. Thinnings were to be confined to good valley areas only.

131. Special treatment of lantana infested areas consisting of uprooting and sowing of Donga seeds and planting of bamboo rhizomes was prescribed.

132. The prescriptions were generally never followed.

133. The prescriptions of Singh's plan were generally sound but unfortunately they were not implemented. The non introduction of the selection system in areas where it was

6/

prescribed has been particularly harmful because these Forests continue to be worked under the Coppice System.

134. Another prescription, the violation of which has been very harmful, was in respect of doing Selection markings on steeper slopes. The continuance of Coppice System has been resulting in extension of grassy patches in many of the areas and general deterioration of the quality.

135. SINHA'S PLAN:- In 1954 — 55, Sri J.N. Sinha prepared a plan for all the forests vested under the state under the Bihar Land Reforms Act, 1950. This plan also covered the Mundari Khutka (ti forests being managed as Private Protected Forests under the Bihar Private Forests Act, 1947.

136. The main features of the plan were: -

- 1) An area of 22,682 acres of forest was considered unfit and so was excluded from working and allotted to Protection Working Circle.
 - 2) Bamboo was to be exploited under a separate Working Circle.
 - 3) Sal, though available in appreciable quantities, was not considered marketable.
 - 4) Subsidiary Silvicultural operations were prescribed in the Coppice and Bamboo Working circles.
 - 5) Prescriptions were designed to enlist the fullest cooperation of the right holders,
 - 6) The needs of the non-right holders were considered as important as those of right holders and the sale of surplus produce was considered primarily necessary for the local non-right holders and secondly for revenue.
137. The plan, though finally prepared in August, 1955 was not introduced till after 1958. This resulted in upsetting the sequence of fellings. Another feature was the prescription of

village wise Felling Series in respect of Right —holders Working Circle. This was a retrograde step. This was subsequently revised by the Divisional Forest Officer, Gumla Division under the guidance of Illic Conservator of Forests, Southern Circle.

Sinha's Plan constituted four Working Circles out of which the following three are present in Gumla Division. Viz.

- 1) Right — holders Coppice Working Circle.
- 2) Commercial Coppice Working Circle.
- 3) Protection Working Circle.
- 4) Bamboo (over lapping) Working Circle.

The area under various working circles were as below: Range

Range	Total area In acre	Right holders CWC (acre)	Commercial CWC (acre)	Protection WC (acre)
1	2	3	4	5
Gumla (Gumla & Kurtinigarli)	1,34,097.99	1,22,681.27	1,765.58	9,651.14
Simdega West	36,145.96	31,929.62	-	4,221.34
Sinidega West	74,364.28	66,475.34	34. 18	7,854.76
Total:	2,44,608.23	2,21,08 1.23	1,779.76	21,727.24

137. This Working Circle was intended primarily to serve the bonafide domestic and agricultural needs of the right holders. It comprised of all the right — burdened forests. The total area of this Working Circle was 2,94,211.26 acres.

138. The Silvicultural system prescribed was coppice with standards. The rotation prescribed was 40 years in larger forests and 20 years in the smaller areas. In exceptional cases where the forest was poor and too small in extent, the rotation was lowered to 10 years. 8-12 standards per acre were prescribed in a 40 year rotation Felling Series and 15 to 20 per acre in the 20 year rotation areas.

139. The number of standards was to be more in blanks, croded areas and on steep slopes

It was also prescribed that on slopes only utilizable trees were to be cut.

140. As stated earlier, village wise coupes were prescribed. The coupe was to be worked under supervision of Gram-Panchayat.

141. Semal , Salai, Khair and Bamboos were not to be cut.

142. Any balance left over after meeting the right holder's demands was to be sold.

143. Cleanings. consisting of dressing down high stumps, freeing coppice shoots

wherever

overtopped and cutting back of trees damaged during fellings, were prescribed for the year following the main fellings.

144. Thinnings were prescribed in the eleventh year

145. The working of these prescriptions was not satisfactory. Prior to introduction of the plan, the villagers had been persuaded to agree to felling series consisting of a group of villages. Reversion to village as unit of management was a retrograde step. It took lot of persuasion and many years lo make them agree to grouping the forests again . No cultural operations were carried out.

146. THE COMMERCIAL COPPICE WORKING CIRCLE:

This Working Circle contained right free forests either whole or part left after .

allotting suitable areas to the Right Holder's Coppice Working Circle.

147. The total area of the forests allotted to this working circle was 2,063.14 acres.

148. The system prescribed was coppice — with — standards. Rotation was fixed at 40 years. Standards were to he marked under the Rightholeler's Coppice Working Circle. Felling Series were formed by grouping the villages. Only seven Feeling Series were formed. Subsidiary cultural operations were prescribed us in the Right holder's Coppice Working Circle.

149. The prescriptions were not properly implemented. Since the area allotted to this Working Circle was very small and (his major part of the forest was allotted to the Right holder's Coppice Working Circle, the working of which did not proceed on the prscribed lines, the forests of this working Circle did not get proper attention.

THE PROTECTION WORKING CIRCLE

150. All areas needing immunity from cutting were allotted to this Working Circle. The total area allotted to this Working Circle was 22,882.24 acres.

152. The prescriptions for these forests were protection, felling of selected trees wherever indispensable was permitted. Climber culling was prescribed in the sapling forests. Soil work after fencing was prescribed for certain forests where regeneration was wanting. The prescriptions were good but they were not followed.

R.N. Kapoor's Plan 1965-66. To 85-86.

151. The general objects of management of Kapoor's working were:-

- a) To maintain, improve and protect the forest cover, particularly on the hills for prevention of soil erosion, conservation of the rain water and Improvement of local water supply, for diminution of floods in the plains and to ensure the efficient functioning of and safety of the river valley project
- b) To meet the bonafide requirements of the right holders for timber, fuel bamboo, grazing and other forest produce to the extent possible and to market the surplus for consumption by the local inhabitant who have no rights and also to export to other markets if possible:
- c) To associate in increasing degree the local population with the protection and scientific management of the forests and to foster a sense of Community ownership.
- d) To improve the existing forest by suitable silvicultural treatment and to prevent soil erosion.
- e) To utilize more fully the vast wealth of major and minor forest produce and.
- f) _Consistent with the above to maintain the maximum sustained yield of timer, fuel, bamboo and other forest produce and by economic marketing and exploitation to realise the maximum possible sustained annual revenue.

152. The Silvicultural system for forests on plain, undulating or gentle slope, bulk of forest which came under this was in the coppice with standards system. For the forests on steep hill slopes In areas where the demand for small sized produce was negligible, the system was the Selection system.

153. For the forests allotted to the Coppice with Standards system, the rotation varies with varying crop conditions. demand mid locality. Retention of standards and their proper selection were also important prescriptions.

154. For the selection system, percentage removal of the exploitable size trees was prescribed.

CONSTITUTION OF WORKING CIRCLES.

155. To attain the objectives of management, the forests were divided into Working Circles according to the composition, situation and silvicultural needs of the forests and local requirements. The under mentioned Working Circle in the present Gumla Range had thus been formed :-

- a) The Coppice with standards Working Circle.
 - b) The Selection Working Circle.
 - c) The Soil conservation Working Circle.
- a) The coppice with standards Working Circle comprised all the forests fit for working under the Coppice system, both right Irce as well as right burdened which can be grown and economically exploited to meet the demands of the right holders, the non rightolders and for export wherever possible.

b) The Selection Working Circle comprised all forests on steep hill slopes where coppice regeneration had failed or was likely to fail and where the demand for small sized produce was meagre.

c) The Soil Conservation Working Circle comprised of all areas in which the crop was in need of rehabilitation. Extensive areas of sal and miscellaneous rooted wastes existed which needed protection against unregulated cutting, grazing and fire. They needed to be improved by cutting hack, fencing, proper tending operations, sowing and planting and by suitable anti erosion measures.

156. The following table gives the area allotted to the different Working Circle by Ranges.

Range	Total area in acres.	Area In Hectare.		
GUMLA	76488.50	25320.64	Nil	4754.00
KUMARGARU	93565.58	29832.47	2673.46	4700.00
SIMDEGA E.	62169.46	16180.00	NIL	6017.56

Range	Total area in acres.	Area in Hectare.		
SIMDEGA W	80918.49	2817.36	NIL	3747.16
TOTAL:	313142.00	100050.47	2673.46	19218.72

BLOCKS AND COMPARTMENTS

Each village was taken as a unit. The demarcated forest in each village was shown on 16 = mile cadastral maps. The forests had also been shown on 1:25,00 scale topographical maps.

PERIOD OF THE PLAN.

The Working Plan was drawn up to cover a period of 20 years. It was prescribed to review the plan after the expiry of ten years.

The Salient Features or Kapoor's Working Plan:-

157. The general objects of management under the Kapoor's Working Plans were to maintain, protect and improve the forest cover, to meet the bonafide requirements of rightholders, to enhance the participation of the local population in forest activities, suitable silvicultural treatment and afforestation of degraded forest lands to utilize MFP and to obtain the maximum sustainable yield of timbers, fuel, bamboo etc.

Under the Kapoor's Working Plans four Working Circles were formed to meet the objectives of management.

1 The Coppice with Standard working circle :-

This Working Circle comprised bulk of forests both right burdened & right free. The total area of this Working Circle was 2,54,614.48 acres. The forests which were mainly to meet the requirements of right holders were worked on 40 years rotation while the surplus forests were worked on 60 years rotation. Felling Series in this working circle depended upon three groups of forests viz as community forests, quasi-commercial forests, and commercial forests. The annual coupes in felling series in community forests were generally to meet the requirement of right holder while in the annual coupes in felling series in quasi commercial forests generally half of the coupe area was reserved for marketing and forest produce of the reserved portion was sold out on the following year. Annual coupes in the felling series of commercial forests were entirely for sale. The yield was by productive area. While calculating the annual coupe area the unproductive areas consisting of blanks, plantations, areas suitable for plantation, rocky and eroded areas were to be deducted from the gross area of the felling series. Demarcation of coupes and standard marking was done wholly by right holders in community forests, partly by right holders in quasi commercial forests and wholly by department in commercial forests. The number of standards were 20 per acres including fruit trees. The trees selected as standard were of superior economic value. Sins, Gamhar, ilija, Karam Sisoo had equal preference with Sal and all climbers were cut out at the time of marking.

Coupes were thrown open to the rightholder in the first year and surplus if any were **auctioned** in the following year. In surplus forests annual coupes were sold by auction. The portion set apart for rightholders if any in commercial forests were thrown open to them simultaneously. In Burmu and Lohardaga Range of Ranchi West Division the net area of the felling scries under the above mentioned three different class of forests were as follows

A Group :- Community forests : - 5591.60 acres. Rotation 30-40 year.

Group :- Quasi commercial forests :- 15859.25 acres. Rotation 40 years.

C Group :- commercial forests — 1190.15 acres. Rotation 40—50 years.

Supply to rightholders was made through gram panchayat. Cutting back in the coupe was required in the year following felling cleaning cum-thinning operation was done in the 5th year. Thinning was required in the 20th years. No thinning was prescribed in dried and eroded areas. All coppice coupes were to be closed to grazing for six years. In many areas Lantana was spreading wherever it found any openings and this problem has assumed alarming proportion. So special steps were taken to eradicate lantana viz in the month of May following the final felling. All Lantana bushes were to be uprooted and burnt at the break of rain. Sal seeds were sown broadcast fairly (hick. In the years when break of monsoon was late and sal seeds were not available boga seeds were sown broadcast etc. In this Working Circle salni were permitted to be felled.

(2) THE SOIL CONSERVATION WORKING CIRCLE: -

This working circle comprised all the denuded forest, eroded wastes of sal and areas in need of special treatment as a result of denudation, soil erosion etc. Special objects of this working circle might be viz as to protect the eroded wastes of sal and miscellaneous against unregulated cuttings, grazings etc. to carry out sowing and planting of suitable species in blanks and in degraded lands and to take anti erosion measures and to improve the soil and moisture conservation capacities of these lands. The forests included in this working circle could be broadly classified in five categories as noted below:

(1) Sal rooted wastes (2) Miscellaneous rooted wastes (3) Sal pole forests on plain land with bare floor (4) Good sal sapling forests (5) Bare or too sparsely clothed rocky hillocks. This working circle comprised a total area of 28814.53 acres including 1794.81 in Lohardaga Range and 6370.65 acres in Burmu Range of Ranchi West Division. Five main groups of vegetation of this working circle required different methods of treatment a brief description of which were as below.

(A) FOR SAL ROOTED & MISCELLANEOUS ROOTED WASTES

After fencing of the area the crop were cut back. Rigid fire protection was provided and blanks and patches containing uneconomic species were sown or planted with suitable species and Bamboo. In area affected by erosion construction of check dams & gully plugging were done. In the following year cleaning and tending operations were carried out as per prescription.

(B) SAL POLE FOREST ON PLAIN LAND WITH BARE FLOOR

The need in such area was to get a new sal crop established to replace the existing crop. This could be achieved by improving the soil and moisture conditions. For this contour trenching at suitable intervals and anti erosion measures were required. Tending and thinning operations were also rerequired judiciously.

(C) GOOD SAL SAPLING FOREST :-

The crop in this category required protection. After the area had been fenced a fifth year cleaning with climber cutting was done. In area effected by erosion any anti- erosion measures were taken.

(D) BARE OR TOO SPARSELY CLOTHED ROCKY HILLOCKS

In such areas intensive anti erosion works were required. So after fencing of such areas all the possible steps were to be taken till the area improved as a result of fencing and anti erosion measures.

(3) THE PLANTATION WORKING CIRCLE: Thi

Working Circle comprised of area plane to undulating with good soil conditions which had become denuded of vegetative cover and were fit for raising plantation . It also included the areas on which plantation had already been raised The special objects of management of this working circle were to reduce and prevent run off & erosion and to plant blanks with valuable species to increase the stocking and value of forests. This working circle comprised a total area of 28452 acres in Ranchi West Division

A soil conservation cum afforestation scheme was adopted as the method of treatment The areas selected were fenced . The existing regeneration was cut hack . Species recommended for planting were Sal, Bija, Bamboo and Eucalyptus species. In areas suffering from erosion check dams were constructed and gully plugging was done. In the year of formation three weeding was done, in the year Following two weeding and in the third year only one weeding was done. Together with weeding hoeing in a radius of 1.5' round the plant was done . Separate plantation journal were maintained for each plantation

3) THE BAMBOO OVERLAPPING WORKING CIRCLE:- This working circle comprised all the workable bamboo bearing areas. The total area.s of this working circle was 12166.88 acres overlapping with 29447 acres of the coppice working circle. A cutting cycle of three years was prescribed. Annual coupes were made as equi-productive as possible. Cutting rules for bamboo were prescribed by the Chief Conservator of Forests Bihar. In his Letter No. 82 10 dated **27th** Nov. 1962. Important provisions of the rule were as follows :-

Bamboo culms of the previous season commonly known as ICarus would not be cut. Older healthy green cuims equal the no. of Karil but not less than Six in any cuims would he left on the periphery to **provide** necessary support to Karil. Removal of Bamboo roots and extraction of rliiomcs was prohibited. When culms was in (lower no bamboo would be cut from it until seeds have fallen when all the cuims would be cut and removed. No clump containing less than eight green cuims would be worked except for the purpose of cleaning the clumps. No cutting was permitted between the first July to I 5th Oct.

In the year following the cutting in the bamboo coupes all dead and dry culms, high stumps, and hanged branches of past felling would be removed. All climbers damaging the clumps would be removed.

The coupe purchaseis weic to meet the requirements of local people as a fire charge. Continued supply was to be ensured to turces through contractors coupe on department permits.

RANGE WISE AREA OF GUMLA FOREST DIVISION

4.

total 287'18.00_. 276067L55 ____ 8200.16_____ 313095.71

Si. No.	Name of Range	Reserved forests In Area	Protected forest In Area	Private Protected forest in Area.	Total
1	2	3	4	5	6
2	Gumla	11490.51	64774.39	-	76264.90
3	Kurumgarh	17257.49	77105.55	-	94363.04_
4	Simdega East	-	55719.09	8280.16	63999.25
5	Slmdega West	78468.52	-	78468.52	
	total	28748.00	276067.55	8280.16	313095.71

**Government of Bihar Resolution and forest Department Letter on
Joint Forest Management.**

**Forest and Environment Department , Government of Bihar Resolution No. 5244 dated 8
November, 1990.**

Development of Degraded Forests through People's Cooperation

1. Due to the pressure of ever increasing human and cattle population, the forests carrying rights of the people and situated near villages are getting degraded. It has become essential that the productivity of such forests should be increased by rehabilitating them. The Government, after in-depth consideration of this problem, have reached a decision that the active participation of local villagers in the management and protection of the forests situated near villages is essential. This is in consonance with the National Forest Policy.
2. Therefore the Government have resolved to **constitute** " Village Forest Management and Protection Committee" consisting of village or the village / cluster of villages situated inside the forest. the committee will be constituted in the following manner:-
 - (i) The Divisional Forest Officer will call a general meeting of the village or cluster of village which all adults will attend 50% of the adults of the village.

(ii) The concerned Range officer of Forests will be organiscr-cum-sscrtary of this meeting.

(iii) The general body will constitute the “ Village Forest Management and Protection Committee” for every village/cluster of villages. One reprcctatIve froni every family of the village will be member of the “Village Poret Management and l’rolcction committee”. Hereliafecr the “Village forest Management management and protection committee" will be called the committee..

(iv)The Committee will constitute an executive committee for every village / cluster of villages. Hereliafecr the Executive committee will be called the executive.

(v) The Executive will consist of Mukhiya , Sarpanch, Manki, Munda, Traditional hincdtiinit of lime village, a representative of registered voluntary organization and a representative of headloaders or such persons who earn livelihood by sale of forest produce brought from forest.

(vi) The Executive will be constituted in the following manner.

1.	Chairman	One
2.	C’oordinator-cum-Sccrctary	One
3.	Mukhiya	One
4.	Ex-Mukhiya	One
5.	Sarpanch	One
6 & 7	‘Traditional Mnnda/manki/Manjhi/Mahto/Pahan	Two
8 & 9.	Members of Scheduled Tribes	Two
10.	Members of Scheduled Castes	One
11	Teacher	One
12,13 and 14	Women representatives	Three

The total strength of the Executeiv I ye will be minimum IS and maximum 18. It will be ensured that a minimum of 15 and maximum of 18 it will be ensured that minimum of 3 and maximum of 5 members of the Executeive are women.

3. The concerned Forester will be the coordinator and ex-office secretary of the Executive.

4. A minimum of ten members will form the quorum for any meeting.

5. The duties and responsibilities of the committee will be as follows

(i) The committee will meet every six months. It will review the work of the Executive and take policy decisions.

(ii) Every member of the committee will look after management and **conservation** of the forest and will report to the forest officer against persons committing offences in the forest. The committee members will hold discussions with local people about the usefulness and necessity of forests and protect the forests against degradation.

(iii) The members of the committee will keep watch on the activities of the members of the Executive and will report to the forest officers about erring members. If a member considers it necessary, he can raise this point in the meeting of the committee.

(iv) The member of the committee will assist and provide active support to the forest officers in arresting and prosecuting the offenders.

6. If the activity of any member of the Committee or the Executive is found to be against the conservation of the forest and the interest of the village, any person can be expelled from the membership by a resolution in the general body meeting of the Committee and such person will be prosecuted under the provisions of the relevant Act.

7. The life of the Executive will be two year nd it will-e-expire automatically after that It will be reconstituted again for another two years according to laid down procedures. The duties and responsibilities of the Executive will be as given below.

- (a) The Executive will select its own Chairman.
- (b) The Executive will meet every month.
- (c) The date and venue of the meeting will be decided by the member secretary.
- (d) The protection and development of the forest will he discussed in the meeting. For smooth functioning of the Executive , the Principal Chief Conservator of Forests will issue directions from time to time which will he found for removal of shortcomings by discussions.
- (e) The Executive will actively assist in development and conservation of forests.
- (f) The Executive will ensure compliance of provisions of the Acts relating to Forest and Wildlife.
- (g) The Executive will keep watch on persons committing offences under these Acts. (h) The Executive will assist and provide active cooperation to the forest officers in the arrest and prosecution of offenders.
- (i) The Executive will execute development works as per direction of the forest officers.
- () The Executive will assist the forest officers in providing employment to the laborers so that the landless, unemployed and people belonging to weaker sections may get employment
- (k) The Executive will help the forest officers in harvesting and distribution of forest produce.

The Government will bear the expenses incurred on development of forest only once in the beginning.

9. The forest will be managed in the following manner

- (i) The forest will be managed as per provisions of the Management plan.
- (ii) The plan will be prepared by the DFO on the advice and suggestions of the committee and approved by the Conservator of forests.
- (iii) The right holders will get branches, leaves and grass free of cost.

10. The produce, after harvesting, will be delivered to the Executive at a fixed rate of royalty.

11. The rate of royalty will be fixed by the Divisional Commissioner and the CCP (Management & Conservation). While fixing the rate of royalty, care will be taken that the villagers remain duly motivated and the villagers remain interested in the execution of the project.

12. The harvested produce will be distributed among the villagers by the Executive according to availability of produce and their requirement. The villagers will not be entitled to sell this produce.

13. The **surplus** produce will be sold by the Executive to the local villagers at market rate.

14. The sale produce will be divided into three equal parts.

15. One part will create the Village Development Fund, the second part will create the Executive Fund and the third part will create the Forest Development Fund.

16. The Government in the Department of Forest and Environment will issue instructions for the utilization and accounting procedure for the fund created under para 17 and 18.

Rehabilitation of degraded Forests through
Community Participation

(Department of Forest & Environment, Government of Bihar's letter No. 4578 dated August, 1993).

17. The receipt from the exploitation and marketing of forest produce from " Coupes" allotted to the VFMPC will be divided into three parts :-

- (i) One part will be kept as " Village Development Fund".
- (ii) Second part as " Forest Development Fund", and
- (iii) Third part as "Executive Fund."

18. The village Development Fund and Forest Development Fund will be kept in bank accounts. The utilization of the Executive Fund will be done by the Secretary of the VFMPC. As per the direction of the Executive Committee with the approval of VFMPC, the fund will, incidentally, be distributed among the members of VFMPC for their benefits.

19. Bank accounts for the Village Development Fund and Forest Development Fund will be opened in local nationalised bank / rural bank. Accounts will be in the joint name of president of the VFMPC and ex-officio Secretary of the territorial division of the VFMPC.

20. The village development Fund will be utilized for providing interest free loans to members of the VFMPC for the different developmental activities, etc, and social security programmes, such as old age pension, help during calamities, death , etc. the necessary directions regarding this will be issued by "Gram Sabha". The " Managing Committee" will act as per these directions

money from the Village Development

Fund will be spent only on the written orders of the Executive Committee and after the approval of VFMPC.

21. The Secretary of the Executive Committee will submit monthly accounts of receipt and expenditure to the concerned Range Officer of Forests (R.O.F.) of the territorial Forest Division. The R.O.F. in turn , will submit It to the Divisional Forest Officer (D.F.O.) of the territorial Forest Division.

22. The Forest Development land will also be maintained by the secretary and the president of the Executive committee. The VFMPC will submit the scheme for forest development to the R.O.F. The responsibility of the R.O.F. will be to guide the VFMPC in this work. It will ,also be the responsibility of the R.O.F, to examine the scheme and give its technical sanction . Approved scheme will be returned by the Divisional Forest officer to the secretary of the VFMPC through the R.O.F.

23. The VFMPC will implement the approved scheme under the supervision of the Executive committee. The Executive committee ,whenever necessary ,will withdraw the amount from the "Village Development Fund" and will incur expenditure as provided in approved scheme. The responsibility of the Executive committee will be to submit the monthly progress report of physical and financial achievement of the project to the R.O.F., who will, in turn, submit the report to the D.F.O.

24. It will be the responsibility of the D.F.O. to prepare the quarterly report of receipt and expenditure of each such VFMPC regarding "village Development Fund" for each financial year. This statement will be prepared for the quarters April to June, July to September , October to December and January to March.

25. The above report will be reviewed by the Committee headed by the Conservator of Forests of territorial Forest Circle in the month of April, October and January of each year. The Committee will consist of:

- (i) Conservator of Forests, Territorial Forest Circle
- (ii) Working plan officer-Member
- (iii) Divisional Forest officer, Affn. Division- Member
- (iv) Divisional Forest officer , State Trading Division-Member
- (v) Divisional Forest Officer, Territorial Division Member, Secretary.

In courses of review, if the **UCCOUHIS** of the VPMPC are found unsatisfactory, then a Committee headed by the Conservator of Forests, will have the power to Issue "Show Cause" notice and after subsequent enquiry to dissolve the VFMPC.

26. The above works will be reviewed twice in a year in the month of April and October at the level of Regional Chief Conservator of Forests. In such review, the Conservator's of Forests, Social Forestry and Afforestation, Conservator of Forests, State Trading and Conservator of Forests. Territorial Forest Circle will participate. The Conservator of Forests. Territorial Circle will act as member Secretary.

27. The Chief Conservator of Forests, Social Forestry, will review at his level once in a year during November and if any mid-course correction is required then he will act accordingly after taking orders from the Principal Chief Conservator of Forests. In such meetings, the Regional Chief Conservator of Forests, or in his absence, the Conservator of Forests, Territorial Circle will participate.

28. The principal Chief Conservator of Forests will review the receipt- expenditure report of the "Village Development Fund" and "Forest Development Fund" of the entire State Of ICC in a year during the month of May through a Committee constituted by him consisting of Regional Chief Conservator of Forests/ Chief Conservator of Forests Development , Chief Conservator of Forests, State Trading/Chief Conservator of Forests, Social Forestry/Chief Conservator of Forests, World Food Programme. After

such review, the Principal Chief Conservator of Forests will issue necessary guidelines to the concerned officers. ,/

CHAPTER-VI.

STATISTICS OF GROWTH AND YIELD.

158. No reliable statistics of growth and yield either of Sal or any Species are available. No Sample Plot or Research Plot have been laid out in any of these areas. In framing the estimates of annual yield, in fixing the rotation, the felling cycle etc., All India yield Tables for sal have been used. The quality generally is Coppice A' also.

ENUMERATIONS.

159. Partial enumeration of 3 % have been carried out in forests allotted to the Selection Working Circle. The main intention of this was to assess the structure of the crop and arrive at the best exploitable diameter. Abstract of enumeration is given below.

ABSTRACT OF ENUMERATION.

Growth classes of enumeration

2 3 4 5 6 7 8 9 10 11

2.

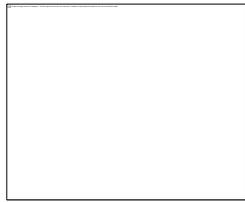
88

Sl. No.	Name of the Forest & Thana No.	Total area of the Forest In Acres	Area of the forest in Acres.	Percentage of the forest	Name of Spp.
---------	--------------------------------	-----------------------------------	------------------------------	--------------------------	--------------

30	SIc	81	106
cm to	in	cm	cm &
50	To	to	above
cm	80	105	
	cm.	cm.	

Vangawn P.R Kurclg — 37	169.95	IftO)	5.8%	Sal Asan	13 -	5 -	1 -	= -	19 -
----------------------------	--------	-------	------	-------------	---------	--------	--------	--------	---------

				I3ija	-	-	-	-	-
				Dhawra	—	—	-	-	-
				Misc.	311	3	-	I	315
Daridib P.F. Kurdeg-8	1256.78	15.00	1.18%	Sal.	120	1	-	-	121
				Asan.	-14	01	-	-	-15
				B ij a.	-	-	-	-	-
				Dhawra	-	-	-	—	-
				Misce.	198	19	2	-	219
Khincla Kurdcg 14	1389.21	15.00	1.07%	Sal.	97		I	I	108
		-		Asan.	38	9	5	2	58
				131a	-	13	-	-	-
				1)hawra	-	6	-	-	-
				Miscc.	86		2	6	102



Sal.

Asan.

13

Dh

Misc.

Barwenagar

PP.

Chainpur

No

Misc.

771.32

.32

-

ija.

awra.

Sal.

Asan.

ja.

Dhawra.

Iii

*

V

1 2 — 3

4 6

7 8 9 10 11

II.

10.00 1.30%

89

4 —	ParkalaP.F	218.00	10.00	4.58%	Sal.	88	29	II	9	13 7
	Kurdeg.13	.			Asan.	2	6	4	-	12
					Bija.	I	I	-	-	2
					Dhawra.	-	-	-	-	-
j					Misc.	47	3	2	6	58
Gontra Simdega No.-80	51.20	5.00	9.77 %	Sal. Asan. Bija. Dliawra .	511 - - -	4 - - -	- - - -	- - - -	51 5 - - -	
(,			— -		Misc.	8	5	5	12	30
OarjaP.F. Simdega82	181.87	4.00	2.13 %	Sal. Asan:	266 13	22 3	3 2	- -	29 1 18	
					I3ija. Dhawara .	1 I	3 -	- -	- -	4 I
7. ,					Misc.	28 5	12 8	24	4	44 1

Kundurmu n da P.F. Sirndega No.64	3899.91	20.(X)	0.51 %	Sal. Asan. Bija. Dhawra .	20 3 - 4	5 I 4 I	1 - - -	1 - I -	27 4 5 5		
H “					Misc.	21 4	10 8	32	13	36 7	
Auga P.F. Sirndega 54	2810.18	20.00	0.7 1%	Sal. Asan.	- 2	- 3	- 2	- -	- .7		
					Bija. Dhawra. Misc.	2 II 28 6	3 13 10 7	- 4 32	- - 21	5 28 446	
.	Rajadera P.F Chainpur No. 27	1454.0 0	15.00	1.03%	Sal. Asan. Bija. Dhawra. Misc.	66 7 12 I - 46	42 5 3 I I 24	10 2 - - - 8	34 1 - - -	1228 16 2 I 78	

10.	Jairagi P.F. Chainpur No. 22	410.18	20.00	4.88%
-----	------------------------------------	--------	-------	-------

651	15	I	2	669
19	-	-	-	19

386	2	-	-	388
21	10	5	13	49

11/	Paratoli.	2043.73	I(00	0.49%	Sal.	311	7	9	2	329
“	/	P.F. Chainpur No. 32			Asan.	-	-	-	-	-
					Bija.	-	-	-	-	-
					Dhawra.	-	-	-	-	-
					Misc	385	-	-	1	386

1 2

3 4 5

7 8 9 10 11

6

90

13.	Kansode. Bano.88	200.0 0	20.00	10%	Sal.	266	17	7	4	294
					Asan.	-	-	-	-	-
					flija.	-	1	-	-	-
					Dhawra.	-	-	-	-	-
					Misc.	253	31	2	1	287
14. .. 15 . .	Meromdega P.No.- Thethai tangat. No. 125	I 873.0 1	15.00	2 . 29%	Sal.	725	8	2	9	744
					Asan.	-	-	-	-	-
					Bija.	-	-	-	-	-
					Dhawra.	70	-	-	-	-
					Misc.	68	11	24	173	
Plot No.2	5\2 0				Sal.	165	1	-	-	166
					Asan.	-	-	-	-	-
					B ija.	-	-	-	-	-
					Dhawra	-	-	-	-	-
					Misc.	17	5	1	-	23
Vandarchua 2037.14 n.		20.00	0.98%		Sal.	208	172	58	45	483
					Asan.	2	3	1	-	6
					Bija.	4	7	-	1	12

Kolebira. No.-92				Dhawra Misc.	5 164	2 74	1 16	1 1 3	9 251	
16.	Sikorda Bano.-71	636.20	20.00	•3.14%	Sal. Asan. Bija. Dhawra. Misc.	300 7 3 4 10 2	26 3 - - - 30	4 1 - - 1 4	- I • - 1 2	330 12 3 4 15 8
i7, , “	Simdega- Ea.st.P.F. Sirndcga- No.1 16	53.55	1.00	1.8%	Sal. Asan. Bija. Dhawra Misc.	28 9 - - - 04	- - - - - -	- - - - - -	- - - - - -	28 9 - 04
18.	Kudrun g P.F. Simdega. 69	1265.88	20.0 0	1.58%	Sal. Asan. Bija. Dhawra. Misc.	25 5 7 2 5 91	13 2 - 4 17	5 1 2 5	3 1 2 2	27 6 11 13 115
19.	Bano. P.F. Bano.- 59	67.20	2AX)	2.98%	Sal. Asan. Bija. Dhawra. Misc.	409 6 1 - 20	32 8 3 7 - 2	56 - 4 - -	7 - 2 - -22	800 9 14 - -

IA - I

20 ifl_ il

iO.

S

3.4%

91

	Anjan. P.F.	2014.60	20.0	1.01%	Sal.	829	3	1	-	833
Gumla.- 11		0		Asan.	-	-	-	-	-	
				Bija.	-		-	-	-	
				Dhawra.	-	-	-	-	-	
				Misc.	21	4	2	-	-	27

21./	Langtu P.F. Basia-148	438.28	15.0 0
------	-----------------------	--------	-----------

Sal.	444	-	-	-	444
Asan.	-	-	-	-	-
Bija.	-	-	-	-	-
Dhawra.	-	-	-	-	-
Misc.	33	2	1		36

.!2/ '- ii.	Bansdih.	441.40 337.05	20.0 0 5.00	4.5% 1.48%	Sal.	706 27 - 22 75 241 01	-	-	-	-	706 27 - 22 82 266 01
	Raidh.				Asan.						
	No.22				I3ija.						
	Padgachha Gumla- 7				Dhawra.						
					Misc.						
					Sal						
					Asan						
					Bija						
					Dhura						
					Misc.						
					-	-	-	-	-		

					02	-	-	-	02
					14	02	-	3	19

24.	Chianpur	153.97	5.00	3.24%	Sal	-	63	161	38	262
	Chainpur-14				Asan	-	-	-	-	-
				Bija						
				Dhura						
				Misc.						

CHAPTER-Vu.

B- FAUNA.

GENERAL DESCRIPTION :-

160.

.But for the vested forests which were earlier not under the control of the forest department and which are usually small, scattered and surrounded on all sides by cultivation, the entire area of the reserved forests is eminently suited to afford proper shelter and habitat to a great variety of wild lives.

160. The occurrence, distribution and status of the main species in the division are classified as under:

(I) ANIMALS (Mammals)

(A) Game Animals

i) Carnivora

ii) Herbivora.

a) Bovine and Antelope group.

b) Deer group.

c) Others

(B) — Non-game animals.

II) BIRDS

(A) Game birds

(i) Land birds.

(a) Pheasant(s) and

- (b) Partridges and quail group.
- (c) doves and pigeon group.
- (d) Others

92

- (ii) Aquatic birds.
- (B) Non-game birds.:
- (III) REPTILES.
- (IV) FISHES
- I) ANIMALS (MAMMALS)
- A) GAME ANIMALS
- I) Carnivores.

The TIGER (Panthera tigris)

162. They are largely confined to Palkot blocks. The more frequent places where tigers are usually seen are near Sijang, Kulukere and Pojenga. During summers, they operate in areas adjoining the pojenga. Their usual mating season is in May, June although it extends up to September-November. The life span of a tiger is estimated to be about 20-25 years.

163. TiE PANThER (Patitiera pardus)— The common Indian panther or leopard, is locally known as bagh or tendua. They have become rare in the division and are apprehended to have been killed by the local farmcis.

164. **The Hyaena (Hyaena hyena)**— The Hyaena locally known as lakar bagha is dog like in build with massive head and fore body but weak hindquarters. The hyaena generally keeps to open country. It is nocturnal in habit and scavenger by profession. It usually feeds on carrion and occasionally preys on sheep, goats, calves and stray clogs. It is not a common species in these forests.

165 **TiE WILD DOG (Cuon alpinus)**— The wild dog is locally known as baniutta and is much like a domestic dog in general appearance. The wild dog inhabits areas where there is plenty of food, water and shade from sun. they go about in packs, and hunt by day, usual prey

93
being various species of deer, and wild pigs. The number of wild dogs now in this region is greatly reduced and they are rarely seen.

- (ii) Herbivora.

(a) Bovine and Antelope Group.

166. THE FOUR HORNEI ANTELOPE (Tetracerus quadricornis)— Locally known as Chausingha, (his animal has two pairs of horns. It inhabits grass lands and open forest and is rather rare in the division. It is reported to have been seen near Kulukera in Damkara and along the Pojanea nala.

167. THE BLUE BULL OR THE LARGE INDIAN ANTELOPE (Boselaphus traucamelus)— The local name of this animal is Nilgai. It is great ungainly animal, some what horse like in build. Nilgai avoids dense forests and usually keeps to open areas and grass lands, bordering villages. They both graze and browse , feeding on the leave and the fruits of the bcr and other trees. They move in herds , usually of four to ten. They are seen only in open scrub forests and are found almost everywhere in the division, more particularly in Anjan & Katabil.

(b) Deer Group

168 THE SPOTTED DEER (Axis axis , Erxleben) — Known locally as Chital , it is perhaps the most beautiful of all deer. It is found almost everywhere in the division wherever there is a jungle combined with good grazing and plentiful supply of water but the density of the population is abnormally low for these forests.

169 THE BARKING DEER (Muntiacus muntjak) - The barking deer is locally known as Kakar. The horns rarely exceed 13 cms. Its favourite haunts are thick forests. Kakars normally move singly or in pairs and is a rare species in these forests.

170 THE HOG DEER (Axis porcinus)— Locally know as para , it has a pig like appearance and moves without that bounding action , so characteristic in deer. It favour open

grassy jungles by the banks of rivers but avoids areas where the grass is rather tall. It is generally a solitary creature.

170 THE SAMBHAR (Cervus unicolor)— It is the largest Indian deer and carries the biggest horns. Forests preferably near the cultivation are the favourite haunts of the Sambhar. Their food consists of grass, leaves and various kinds of wild fruits. They are the worst browsers of natural regeneration and sal coppice shoots. The stag rub their horns against bark of small poles and trees, leaving a long blaze on the stem and sometimes kill the young plant by debarking. They do not associate in large numbers and are generally seen solitary. Their numbers *in* the division is

very

small

(III)

Others:

171. THE INDIAN HARE (Lepus niaricollis)— Locally known as Khargosh, they are found all over the division. They usually live in the neighbourhood of villages and cultivation and during summer, when grass is scarce, they are often seen along roadsides and even enter compounds to feed on the grass growing there. They do not cause any serious damage in the forests. They are mainly nocturnal. They have many enemies e.g. foxes, mongoose, wild cats and even village dogs.

172. THE INDIAN FOX (Vulpes benEalensis)—

Locally known as Iornri, it keeps to open country bordering villages and habitation, living in burrows having several openings. It feeds on small rats, reptiles, insects including termites and white ants, bird eggs and also relishes fruits. Its mating season is winter and the litter, generally consisting of four cubs, is born in spring. It is found all over the division.

173. THE LTH BEAR (Melursus ursinus)—

The sloth bear locally known as bhalu is present in this Division.

¶15

174. THE PORCUPINE (ilystrix indica)—

Locally known as sahil. This animal is easily recognised by its quills which are modified more or less completely into spines. They occur almost all over the reserved forests, more particularly in plantation areas. The porcupine adapts itself to any kind of country, moist, arid, open land and forests. They commonly shelter in grass and also in burrows. They are nocturnal in habit and very fond of young Semal roots.

175. THE WILD BOAR (Sus scrofa)—

The wild boar, locally known as suar, generally lives in grass bordering well wooded forests. They occur almost all over the division. It is an omnivorous animal and lives on roots, tubers, insects, snakes, offal and carrion. It is quite destructive of sal seedlings.

B- Non Game Animals.

176 THE COMMON LANGUR (Presbytis entellus) Locall

known as langur, it occurs almost all over the division. It is black — faced and is found in the forests as well as in the vicinity of villages and towns. The langurs are arboreal in habit and pure vegetarian, eating wild fruits, flowers, buds, shoots and leaves. The inveterate enemy of the

langur is the panther. The sight of one or two a tiger or of any animal that arouses suspicion produces the guttural alarm note which sends the whole troop bolting. Mating takes place at any time of the year but apparently there is a marked breeding season and the young are generally born in April, May and June.

177. THE RHESUS MONKEY (Macaca mulatta) —

Locally known as bandar, it has orange red fur on its loins and rumps which distinguished it from oilier monkeys. It prefers a more open country and within forests is generally found in the neighbourhood of villages and Towa's. It generally feeds on ground plants and its fare includes insects and spiders, unlike that of a langur. While feeding they sometimes associate with langurs but separate at night fall when retiring to rest. Little is

96
_____— known about their social and breeding habits. They, however, breed at any time but most of the young are born between March and May. Their troupes are found throughout the division.

178. THE JUNGLE CAT (Felis chaus) -

The jungle cat is locally known as jungli bull or banbilar. It inhabits the drier and more open parts of the forests, keeping more to grasslands and thinly wooded forests. It generally prowls in the morning and evening kind resembles a panther in its movements. It chiefly preys on birds, porcupines and small mammals in the forests and on poultry in the vicinity of forests and occurs almost all over in these forests.

179. THE LEOPARD CAT (Felis bengalensis)

Locally known as chita billi it is about the size of a domestic cat but rather longer in the leg. It is nocturnal in habit and seldom seen. Hollows in trees are a favourite shelter. Its occurrence is rare in this division. It preys on small birds and animals.

180. THE COMMON MONGOOSE (Herpestes edwardsi) -

The common mongoose, locally known as neola, is found almost every where in the division. This animal generally inhabits open scrub forests near cultivation and takes shelter under bushes in hollows in the base of a tree, scrub or even a hole on the ground. They generally prey on rats, mice, snakes, lizards, frogs, insects, scorpions, centipedes, birds eggs and also on fruits and roots, as well as on carrion. The mongoose is very deft at killing snakes. It breeds all the year round.

181. THE WOLF (Canis lupus) —

Known locally as bheriya, the wolves live in forests but they are more common in bare and open regions. They are occasionally found on the out skirts of the division. They live in fields or patches of scrub and thorn forests. They live in fields or patches of scrub and thorn forests. They hunt by day or by night. What they hunt depends on

97
the nature of the habitat. Near human settlements w mainly on cattle and occasionally carry off children am a serious menace to human life. In areas remote from hw foxes and rodents. The iiiain **brccding** season at the end of raii, born in L eceember. Three to nine wheips are born in a litter.

82. I IE JACKAL (Canis aurcus) — The jackal is locally known as siar gidar and is one of **Li**, ..st wild animals see **i** everywhere. Jackals lives in almost any environment, hut generally keep to forests bord ring villages and cultivation taking shelter in holes, ruins or in dense grass and scrub. They generally come out at dusk and retire at dawn. They are scavengers by nature feeding on Cacas's and offal, but their hunting instinct is not wholly dormant. They take to killing of bir;; and small animals and also feed on fallen her fruits. Cubs are born at any time of the year ard the litter consists of three to four.

II BIRDS

A -- GAME BIRDS

i) Land birds

A. Pheasants and fowl group.

183. THE CGMMON PEA FOWL, (Pavo cristatus Linnaeus) —

This national bird is completely protected. It occurs almost all over the division and ha increased considerably in number since the protection afforded. ft inhabits dense scrub an open miscellaneous forests near streams and bivers. They usually keep in small flocks and emerge into forest clearing fire lines and roads in the morning to scratch the ground for food They have keen sight and hearing and are excessively shy and alert and are the first to detet the presence of the larger cats on the prowl and give out a warning call to other animals. Fhey are ornviroruns, feeding on seeds, grains vegetable shoots, insects,

lizards, and small snakes. The nesting season is from January to October. Three to five eggs are laid and hatching takes about a month. .

184. THE RED JUNGLE FOWL (Gallus gallus) locally known as Junli Mirgi, it has become very scarce in the division. It is found occasionally in very small numbers.

ii) **Partridges and quail group :-**

185. THE GREY PARTRIDGE (FRANCOLONUS PONDICERTANUS, Gmelin): The bhura titar inhabits dry open miscellaneous forests with grass and scrub undergrowth and avoids heavy forests and humid tract. It occurs on the outskirts of the division and is not abundant. These birds generally go about in convoys of four to six, scratching the ground and turning over stones for food, running about in a jaunty upright carriage. They scuttle away quickly on alarm, taking refuge in some escape cover. Their food consists of grains, seeds, shoots, berries and also maggots, white ants and other insects. The nesting season extends practically throughout the year. Four to eight eggs, cream or middle coffee coloured are laid.

186. THE COMMON QUAIL (Coturnix Coturnix Linnacus)

The common quail is a bird of open country, frequenting grasslands and agricultural fields and is found in similar tracts in the division. It generally feeds on grain and grass seeds and also eats termites and other insects. It is partly resident and partly migratory. It is a prolific breeder, the normal breeding season being between March and May.

187. THE BIRCH PARTRIDGE (Francolinus francolinus, Linnaeus)

The Kala titar largely inhabits scrub and grassland in the vicinity of streams and rivers and is often seen in the miscellaneous forests and in open areas and near the outer boundaries of the division. Their food comprises mainly of grain grass seeds, green shoots, white ants and other insects. The nesting season is from April to July.

(C) **The Doves and Pigeon Group.**

188. THE RED TURTLE DOVE (Streptopella tranguebarica Hermanu)-

Locally known as fakhta, it prefers open cultivated country, usually single or in pairs but sometimes in large. Flocks in association with other doves and is quite common in the division. They glean grain and seeds on the ground. The nesting season is undefined and is practically throughout the year.

189. THE COMMON GREEN PIGEON (Treron Phoenicoptera, Latham) –

The species is exclusively arboreal and inhabits well wooded forests and is fairly common in the division. They keep in flocks of ten to fifty birds and sometimes collect in enormous numbers on fig trees. Their food consists entirely of fruits and berries mostly wild figs, buds and shoots. The nesting season is mainly March to June. The other species of pigeons are the white tailed green pigeon, (Treron Sphenura Vigors) and the paintailed green pigeon (Treron apicauda Blyth.).

d) Others.

190. THE COMMON GREY HORNBILL (Tockus birostris copoli).

The species inhabits open miscellaneous and Sal Forests. It is exclusively arboreal frequently mostly fig trees and is seen in pairs or family parties of five to six birds. It feeds mainly on figs but also eats large insects and lizards. The nesting season is between March and June. Its occurrence in the division is limited.

(II) BIRDS

B-NON GAME BIRDS.

191. Among the non game birds may be mentioned the night jar or chapkp (Caprimulgus indicus, Linnaeus), the large Indian Parakeet (Psittacula spp.) the red-breasted parakeet (psittacula alexandri fasciata, P.L.S. Miller) , the koel (Eudynamis scolopacea. Linnaeus) , the wood pecker (picus spp.) the jungle babbler or sat bhai (

Turdoides striatus. Dumont), the spiny babbler (Turdoides nipalensis. Hodgson) , the straited babbler (Turdoides earlei earlei Blyth) , the weaver bird or baya (Ploceus philippinus Linnaeus), the streaked baya (Ploceus manyar flaviceps, Lesson), the finch's (Ploceus megathynchus , Hume), the jungle owlet (Glaucidium radiatum, Linnaeus the barred owlet (Glaucidium cuculoides. Vigors), the brown wood owl (Sirix leptogrammica newarensis, Hodgson), the jungle kite or cheel (Milvus mirans, skyes) , the Griffon vulture or g4j (Cyps fulvis, Hume), the black drongo or kine crow of bujg (Dicrurus adsimilis, Bechstein), the racket — tailed drongi (Dicrurus paradiseus, Linnaeus), the streaked fantail warbler or ghas ki phutki (Cisticola spp. Refinesq) , ashy wren warbler (Prinia socialis skyes) , the Indian are warbler (Prinia subflava Gmelin) , the tree pie (Dendrocitta vagabunda Latham) the Red — Vented Bulbul (Pycnonotus oaffer, Linnaeus), the Red Whiskered Bulbul (Pycnonotus Jocosus Linnaeus), the yellow throated sparrow (Petronia — Zanthoclis Burton), and the house sparrow, gauriyya (passer domesticus • Linnaeus), the emerald or bronzed winged dove (chakophaps Indica Linnaeus) , the spotted dove (Streptopelia Chinensis scopji), the ring dove (Streptopelia decaocto Frivaldszky) , the little brown dove (Streptopelia senegalensis, Linnaeus) , the Lapwing (Vanellus spp. Boddaert), the stone Curlew (Burliinus oedicemus Linnaeus) , the Red Munia or Waxbill (Estrilds amandave Linnaeus the spotted Muiiia the Gold — Fronted chlorepis or Green bulbul (Chloropsis aurifrons Temminck), the Magpie Robin (Copsychus saularis, Linnaeus), The Indian Reobin (Saxicoloides fulicata, Linnaeus) the Bushchat (Saxicola spp. Linnaeus) and the common green beater.

192. THE PYTHON (PYTHON MOLURUS, GRAY) ,

known locally as ajar it is sluggish in disposition and grows to a length of 8 to 9 metres but generally most specimens average 5 to 6 meters. Weighing about 100 kgs. or more. It has a bold pattern of broad dark brown markings on slight brown ground colour. Its skin is very much sought after. Its food consists

of mammals, birds \, reptiles of suitable size and even large frogs. The number of eggs varies - greatly from 8 to over 100 or more Its occurrence--this--division is rare.

193. THE RAT SNAKE (Ptyas Cops) –

This is a non-poisonous snake. It grows to about 2.20m. and feeds on rats and eggs of birds and reptiles. It is quite common in the division.

194. THE COBRA (Naja naja) –

The cobra is easily recognizable by its hood when it assumes a defensive or a warning posture. It is a poisonous snake but the danger from cobra bite is primarily from treading upon one at night. It apparently is not capable of aiming at its strike accurately at day time. Moreover, the day time strikes are usually made with the mouth shut. It is about 2 m. in length.

195. Besides the above, the common Krait (*Bungarus caeruleus*) and the Russell's viper (*Vipera russelli*) and water snakes are also reported to occur in the division.

INJURIES TO WHICH FAUNA IS LIABLE

196. The chief Agencies causing injuries to the fauna are the man, epidemics and atmospheric influences.

197. MAN — Fauna has suffered at the hand of man, both directly and indirectly since time immemorial. The direct injuries to the fauna caused by human activities are hunting, poaching, capturing and poisoning. With the advent of the jeep, increase in fire arm licenses and extension of cultivation upto the edge of forests and the open nature of the country provided with a network of roads poaching has been on an increase.

198. Among the indirect injuries caused by man is deforestation which reduces the area of habitat of the fauna and also their food supply, overgrazing and heavy incidence of fires in the forest for which man is responsible are the other factors responsible for causing a decline in the fauna. Extensive and overgrazing results into exhaustion of natural food and cover for the herbivore. Fires also destroy the natural food supply, including the insects; the eggs and the ones of many species and drive away many species from the forest areas.

199. EPIDEMICS —

Although epidemics amongst the wild life have not been common feature, they occasionally do contract infections and contagious diseases like the rinderpest through the domestic cattle grazing in the forests. Cheetals, Sambhars and other members of the deer family are the usual victims of this disease.

200. ATMOSPHERIC INFLUENCES-

Drought which has been a periodic feature of this division, is responsible indirectly for depiction of the fauna. Drought reduces the number of sources of water supply and also the quantity of water in the available sources. This drives out the animals from (he forests to the cultivated areas below to forest belt or confines them to the areas of water supply. The animals are killed at the source of water. At times floods have also a deleterious effect on the status of the fauna. Hails, storms and frosts also have an adverse effect during the nesting season.

