

CHAPTER-II

THE FORESTS

1. COMPOSITION AND CONDITION OF THE FOREST

(i) The forests dealt with in this plan may be broadly classified as follows:-

1. Sal Forests.
2. Miscellaneous Forests.
3. Thorny scrub Forests

According to the classification of the Forests types of India by Mr. Champion and Seth (1968) the Forests of Garhwa North Division come under the following types.

5B/C1-Dry Sal bearing Forests.

5B/C2- Northern dry mixed Deciduous Forests

5B/C3- Thorny scrub Forests.

5E/2- Boswellia Forests.

(iii) Prior to the vesting of these forests into the Government, they were not being managed scientifically. Irregular cutting and clearing of forests for cultivation was rampant, which had done a lot of damage. Thus at present we find a number of bare hills and poor forests practically every where. The Sal forest is seen along the nala banks and in the valleys. Khair is seen mixed with the miscellaneous species. Salai is present mostly on hill tops. There has been a lot of damage to all these species except salai due to illicit cutting. High stumps of Sal, heavily pollarded Khair, bamboo, are seen even in some forests which are still intact.

2. SAL FORESTS.

(i) The Sal is of drier type and mixed with a large number of miscellaneous species, mostly confined along nalas and valleys for example in Bansani, Makari and Kailan in Bhawnathpur Range and Machhpani and Pachpheri in Nagar Range. Sal with miscellaneous species can be seen in Lolki and Machpani in Nagar Rang, Konmandra and phulwar in Bhawnathpur Rang and Kusdand in Garhwa Range.

(ii) The important species which are associates of Sal in the upper storey are Karam (*Adina cordifolia*), Asan (*Terminalia tomentosa*), Piar (*Buchania latifolia*), Kend (*Dioscorea melanoxyloides*), Dhaura (*Anogeissus latifolia*), Sins (*Albizia lebbek*), Kusum (*Schleichera triuga*), Mahua (*Madhuca indica*), Jamun (*Eugenia jambolana*), Sidha (*Laciera stroemia parviflora*). Middle and lower storey consists of Amaltas (*Cassia fistula*), Amla (*Emblica officinalis*), Dudhkoraia (*Hollarhena antidysenterica*), Ber (*Zizyphus jujuba*), and Phuldhawai

(Woodfordia fruticosa) The important grass is chorant
(Heteropogon

Contortus). MISCELLANEOUS FORESTS

- (iii) The miscellaneous forest is losing its ground practically every where in the division due to biotic influences. Most of the forests have been reduced to rooted waste and scrub stage. Seedling regeneration gets trampled due to grazing. Some of the isolated hills have become naked. Hill tops with shallow impoverished soil are generally occupied by Salai. Bamboos have practically vanished from these forests. Khair is often seen struggling against lopping. Palas where ever present is also lopped every year.
- (iv) Kend is found every where. It is one of the main sources of revenue. Tall Trees of Kend are very few and far between. Galgal is mostly seen on hills along with Salai. Semal is practically absent. Anjan trees are generally lopped for rope making. They occur gregariously in Majhagaon in Bhawnathpur Rang. Chilbil and Karam are common in Kailan in Bhawnathpur Range. Other species found in these miscellaneous forests are Dhaura (*Anogeissus Latifolia*) and pandan (*ougenia dalbergioides*).

3. THORNY SCRUB FORESTS.

- (i) This type of Forest is commonly seen in Garhwa and Bhawnathpur Ranges. Some of the Forests of Nagar Range adjacent to Bhawnathpur Range also come under this category. This condition of the forest is the result of maltreatment in the past and directly or indirectly connected with grazing.

The particular areas deserving mention under this type are Danda, Motihara, Khonhar, Sarang, and Rohila in Garhwa Range. Senduria part of Kalian, Chapari, Bhawnathpur, Part of Makari in Bhawnathpur Range. The soil is shallow and broken and covered by shrubby growth, usually many stemmed from the base.

The depth of soil is poor due to heavy erosion rendering the area incapable of supporting good forest growth except the thorny scrubs of Karauda—(*Carissa spinarum*), Dhithora (*Zizyphus cenoplia*) , ber *Zizyphus jujuba*) , Katahi (*Flacourtisramontchi*) with scattered Khair. Khair is lopped heavily for feeding cattle specially the buffaloes. The effect of heavy grazing is that a large number of blanks alternating with patchy thorny scrub is seen every where. The stems of most of the degraded Khair trees have cracks which open up the heartwood exposing it to the rains thus impoverishing khair trees of their Kath content.

- (ii) Geology also plays an important part in the formation of thorny scrub. Sedimentary lime deposit in Gargaon and Ghaghra and porcelanite in Chapari and Singhitoli in Bhawnathpur Range are the causes for the barren hills or the presence of fleshy Euphorbia and Kanoda spp.

4. BOSWELLIA FORESTS:

Boswelli occurs in open forests in the over wood mixed with other miscellaneous species. Boswellia is found almost pure in some patches in Arsali in Bhawnathpur Range; Sakti, Ketma, Honhe and Murpur in Nagar Range and in Pato and Bhauraha in Garhwa Range. They are seen in hilly portion in southern aspect with shallow impoverished soil. Thorny scrubs such as Dithora and Karauda are found in abundance in these forests.

5. INJURIES TO WHICH THE CROP IS LIABLE.

(i) The main injuries to which the crop is liable are as follow:

Drought:- The prevalence of hot westerly wind during summer (Loo) causes soil desiccation and renders it difficult for the seedlings to survive through their first year. Thorough soil working and use of seedlings with bell of earth in trans plants are essential condition for successful artificial regeneration. Eucalyptus hybrid plants raised in tubes and then planted with ball of earth have given excellent result although some of them get affected by the “Loo”.

Grazing:- In hot weather and in rains the forest is affected adversely by grazing. This is due to scarcity of fodder in hot weather and the establishment of “bathans” (cattle sheds)during rains right in the midst of forest when fields are full of agricultural crop leaving little grazing ground in the villages. Bamboo, Khair, Karam, Dhaunta are badly lopped for feeding cattle. The soil in many places has become hard and compact due to constant trampling resulting in erosion and absence of regeneration. The problem of restocking, even by artificial means, is impossible to solve without effective fencing. Sheep and goat grazing prevails even though prolihitied and this has a adverse effect on regeneration of Coppice arid natural seedlings.

Fire:- Fire occurs from about the middle of March. It is mostly caused by the villagers in course of collection of Mohua flowers or to get quickly a fresh growth of grass for their cattle which is believed to be stimulated by fire. Fire checks progression of vegetation, introduces unsoundness in the trees in course of time, burns humus impoverishing soil of its nutrient and kills young seedlings causing death of seedling regeneration. Fire also bakes the soil rendering it too hard for the germinated seeds to strike roots in to the ground. The drought condition in the Sal forest is also aggravated by fire.

MAN:-

Illicit felling, indiscriminate pollarding and lopping of trees and bamboos for buffalo feed are the great evils to be fought against. Free removal of dry fallen firewood for bonafide needs has been allowed but repeated high cutting for removal of the wood a few days after, as dry fallen firewood is too difficult to be collected has caused depletion of forest and malformation in the crop which is incapable of yielding sound utilizable timber and converted the forests in to rooted wastes.

FROST:- Frost is a cause of damage to the young coppice shoots and seedling of both natural origin and nursery raised ones. Sal is affected by it but Piar (*Buchanania latifolia*) is, by far, the most frost tender species. But the incidence of frost is not common. Judging from the observations of the past the frost damage is not so serious in the forests of Garhwa North Div.

WIND:

With the exception of occasional cyclonic storm which causes uprooting of isolated trees and breaking off the tops of tall trees, normally wind causes little damage to the plantation and young naturally regenerated areas.

CLIMBERS:

In forests of this division climbers such as *Bauhinia vahlii*, *Butea superba* and *Zizyphus oenoplia* adversely affect the growth of trees but are not responsible for extensive damage.

PARASITES:

Loranthu_longiflorus is the only parasite met with where incidence of fire and lopping is heavy. The damage is not extensive.

INSECT:-

Damag by insect is insignificant.

UNSOUNDNESS:-

Unsoundness above 16" diameter in case of Salai has been observed which is a factor to be taken in to account in determining exploitable size. In case of Sal and other species the real cause of unsoundness is probably due to unfavorable soil condition, putting a limit to the age up to which trees can remain sound.

FUNGI:-

Trees when weakened in vitality and other adverse condition fall victim to fungi which causes deterioration in timber value and death of trees. The damage is not extensive.

CHAPTER -IV

1. UTILISATION OF FOREST PRODUCE.

(i) The forests of Garhwa North Division are surrounded by densely populated areas. Bulk of population is engaged in agricultural works. The people of other profession such as traders, weaver's carpenters, smiths, cobblers etc. constitute quite a low percentage of total population of the division. There is a factory at Bhawnathpur owned by Bokaro Steel Limited (A Government of India undertaking). Mining of dolomite and lime stone in Buka, Bhawnathpur, Arsali, Sinduria and Tulsidamar and the factory at Bhawnathpur provide employment to the local people. In forestry operations and other development schemes local people find jobs but the unemployment problem is yet to be solved.

(ii) Agriculture is the main profession of the people and the chief crop is rice followed by Maize, Marua, Millets, Gram, oil seeds, pulses and Wheat. Bin manufacturing is the important small scale industry of this area, other such works are weaving, basket making and stone sizing. Professional blacksmith and potters are met with in most of the villages who also engage themselves in agriculture during rainy season. Brick moulding have recently developed in the form of an industry in this locality.

2. WANTS OF PEOPLE:-

People of this area are mostly agriculturists. They need timber and bamboos for their house construction and agricultural implements and firewood for domestic consumption. Some poor people of this area resort to illicit cutting of forest

Produce and sell firewood to earn their living. There is also a great demand for thorny species for fencing purposes in the villages.

(ii) The species and sizes of timber and fuel etc. ordinarily needed by villagers for their requirements are shown below :-

Species used. Average size required in diameter.

Articles.	Species used.	Average size required in diameter.	Species preferred
1	2	3	4
(a) Posts	Sal, Khair, Sandan and Kajhi	8" — 12"	Khair, Sal and sandan
(b) 'Ridge pieces.	Karam, Gun, Sal, Asan, Sandan.	- do -	Sal and
(c) Rafters.	Sal, Asan, Karam Gun, Sindha, Bherhul, Kend, Bet, Rohan.	4" — 8"	Karam Sal,

(d) Door and window frames. and window	Sal, Bia, Pandan, Karam, Kahua. Sal, Bia, Karam Sins, and Kend	Any Size -do-	Size. Sal, and Karam. (e) Sal, Karam, kend Bia and saries
(f) Batten.	Sal, Jamun, Bamboo.	-do -	Bamboos.

II - FURNITURE

a.	Table	Sal, Bia, Sisoo, Karam and Gamhar	Any size	Bia, and Gamhar
b.	Chairs	Sal, Bia, Sadam, and Sisoo.	-do-	Bia, Gamhar. and Karam
c.	Bed legs.	Sal, Bia, Sadam, and Siso.	do-	Sal, Bia And Sisoo
d.	Benches.	Sal, Bia, Gamhar, Shelves Sal	-do-	Sal and Gamha (e)
f.	Bed frame	Sal, Bia Karam, Sisoo, Patdhaman.	-do-	Bia, sal And Patdh- Aman.
g-	Boxes	Sal. Bia, Gamhar, Siris.	-do-	Bia, Gamhar Siris.

III - OTHER HOUSE ARTICLES :-

a.	Combs	Sisoo, Gamhar, Bia, and Karam.	any size	Gamahar Sisoo.
b.	Clogs.	Gamhar, Karam and Sisoo	Any Size	Gamhar Sisoo
c.	Kneedingtrough.	Sisoo,Bia, Bhurkund and Gamhar	-do-	-do-
d.	Grain and Oil measures	Bharkul, Gamhar, Bia Karam, Salai	- do -	Gamhar Sisoo Papra.
f.	Drums.	Gamhar.	12” dia any size.	, Gamhar,
g-	Charkhas.	Sal, Gamhar, Karam, Bhurkund.	Any size	Karam Gamhar

IV- AGRICULTURAL AND OTHER TOOLS :-

a.	Ploughs.	Sal, Khair, Bharhul Sandan.	12"-15"	Sal.
b.	Axe handles	Dhaman, Dhaunta and Bamboo	Any Size	Bamboo . And Dhaunta
c.	Bahangi, Poles	Dhaman and Bamboo	-do-	Dhaman And Bamboo
d.	Leveling boards	Sal, Gamhar	Over 12" in	Sal and Karam, Dia Gamahr
e.	Husking Pole	Sal, kend, Dhaman, Asan	8"-12"	Tend and Asan.

V- CARTS:-

a.	Axles.	Sandan, Sal Barhul	12"-15	Sal
b.	Felloes.	Sal and Sanda.	Anysize	Saland Sandan.
c.	Spokes.	Sal, Sandan, kend and Gamhar	12"-16"	Gamhar Dhawan
d.	Hubs.	Sandan	12"-16"	Dhawan
e.	Yukes.	Sal, Gamhar, Kend and Dhawan	6"-8"	Sal.
f.	Body Frames.	Sal and Dhaunta Nearly all species.	any size	Sal

OTHER PRODUCE:-

Besides Bamboos requirements of the people for other minor forest produce are as follows:-

- 1) Rope and strings Sabal grass and fibres of mahulan.
 - 2) Roofing — Thatch grass.
 - 3) Mats — Khajur (phoenix acaulis) leaves.
 - 4) Brooms — Broom grasses (Thysanolaena agrostis) and arundinelia setosa.
 - 5) Liquor — Mahua fruits.
 - 6) Edible Oil — Mahua fruits.
 - 7) Bins — Kendu leaves for manufacture of bins.
 - 8) Gethi — Fleshy tuberous roots of Dioscorea species for food.
 - 9) Other edible fruits — fruits of kendo, Piar and Bel.
- (iii) Kendu leaf is very common in these forests. A large number of local people are employed in the plucking of kendo leaves during May and June and there after for the processing of leaves and Bin making. Lac rearing is also seen at places.

4. MARKET ANUIARKETABLE PRODUCT.

(i) At the present state of forest there is no difficulty of market because the production of timber, bamboo and firewood is barely sufficient to meet the local demands. About three decades ago the common market for timber, bamboo and Salai of this division was Gaya, Banaras, Patna, Calcutta and Mirzapur. Bamboos and Salai are utilized in paper industry . Kendo leaves are plenty. They get market in Gujarat, U.P. and other places.

5. LINES OF EXPORT:-

(i) For the extraction of forest produce there is a net work of kachacha and pucca roads in this division. All weather motorable roads such as Garhwa- Nagar, Muri Semar road, Bhaunathpur- Ketar road and Garhwa — Ranka Road are the important road systems of the area. Transportation is also done by Railways for which the important stations are Garhwa Road, Meral and Nagarutari.

6. METHODS OF EXPLOITATION AND THEIR COST:-

a) TIMBER AND OTHER PRODUCE:-

(i) Since the nationalization of trade in timber and other forest produce during the year 1981 —82, the State Trading Organization, Govt. of Jharkhand is the sole agent for exploitation of bamboo and all major forest produce. As per prescription of the working plan the annual coupes are demarcated by territorial division. Coupes are handed over to the concerned State Trading Division for working. All the felled materials from the coupes are extracted into the central depot from where they are sold with by tender or auction by the said organization.

b) KENDU LEAVES:-

(ii) At the present the Jharkhand State forest Development Corporation is carrying out business of kendo leaves of the entire state of Jharkhand as an agent. With the consultation of advisory committee the Govt. of Jharkhand decides the rate of collection charges per standard bag to be paid to the collectors (labourers) each year. One standard bag contains 1000 polas each having 50 leaves. Collected leaves are dried and bagged at pharries. They are transported to the permanent godown from these collection centers. Account is maintained in terms of standard bags for collection and storage of leaves for different units and godown separately. The collected leaves, kept in the godown are sold by tender by weight.

c) SEEDS

(iii) Trade of seeds of Sal, Mahua, Palas, Kusum and Myrabolans etc. has been nationalized by enactment of Bihar Forest Produce (regulation of trade) Act, 1984.

This trade is also being carried out through the agency of Forest Development Corporation in the State of Jharkhand. The purchasing rate of different kinds of seeds is decided by the advisory committee every year which is displayed at all the purchasing centers. Primary collectors are paid the price according to the rate fixed for the different seeds at the center. Forest Development Corporation stores seeds in permanent godowns and disposed them by tender.

CHAPTER -V

1 .STAFF AND LABOUR SUPPLY

(i) Deputy Conservator or an Assistant Conservator of Forests (Senior grade) generally holds the charge of Garhwa North Division with head quarters at Garhwa. The sanctioned strength of executive, protective and ministerial staff of this division, for the year 1988-89 is as follows:-

Name of the post	Strength
1. Divisional Forest Officer	1
2. Assistant Conservator of forests	1
3. Range Officer	3
4. Foresters	12
5. Clerks	10
6. Forest Guards	79
7. Coupe Moharir	6
8. Depot Muharir	1
9. Orderly	6
10. Office peon	1

16 Amin	1
Totall	131

(ii) Garhwa North Division consists of the following

Ranges, Beats and sub-beats.

37

Sl. No.	Name Of Range	Name of Beats	Name of Sub-beats
1.	Garhwa	1. Garhwa Beat	12 sub-beats:- Garhwa, Meral, Oreya, Ambar, Sikariya, Mahudand, Nawadih, and Tasrar, Peska, Belchampa, Konhar, Chama.
		2. Ramna beat	8 Sub-beat: Ramna, Bahiyar, Saro, Paagara, Banka, Latdag, jaharsarai and Jirua
2.	Nagar	3. Nagar beat	7 Sub-beat:- Nagar, Daharia, Koriya, Garbandh, Garda, Bailia and Lolki.
		4. Dhurki beat	7 Sub-beat: Dhurki, Ambakhoreya, Raksi, Bhumphore Phatpani, Kadwa and Panghetwa.
		5. Bhawnathpur	12 Sub-beats:- Bhawnathpur, Amraura, Bansani, Arsali, North, Arsali South, Husru Raji, Sisrin, Chhhatakund, Ketar Gangatari and kupa,
		6. Harugarput	Sub-beats:- Majhgaon, phulwar, gurur, Tali and konmadara.
		7. Bardiha beat	7 Sub-beats:- Bardiha, Kailan North, Kailan South, Sukhandi, Karul, Burhikhar, Chatania.

(iv) Besides the above noted strength of staff some fire watchers are also engaged annually on daily wages basis between February and June for protection against fire . Over and above cattle watchers are also engaged for the plantation throughout the year for two consecutive years.

(v) Forests of this division have become poor because of illicit cutting, grazing and fire. As regards grazing the cattle population is undoubtedly beyond the carrying. capacity of the existing forests. Younger plants either grown naturally or raised artificially are grazed browsed or trampled. Under the circumstances large areas of forests need rehabilitation and afforestation programme to be implemented for their restoration. To cope up with the

huge quantum of forest development works and to ensure effective protection of forests several additional forest guards and foresters will have to be appointed

2. LABOUR SUPPLY: -

(i) There is no dearth of unskilled laborers in this Division. Due to railway communication facility between Garhwa to Robertganj (U.P.), mining of Dolomite and Limestone in Bhawnathpur Range and several development projects launched by the Govt of Jharkhand scarcity of the labourers is felt in some part of this division. Seasonal shortage of labour is felt on the onset of the monsoon when the local people are busy in their agricultural work at the time of sowing and transplantation. Shortage of laborers during the harvesting of paddy crop is also common. As more and more development programmes are coming up, procurement of labour locally would be a problem in future.

(ii) Skilled labour such as carpenter wood cutter, sawers mason and charcoal burners are adequate in this division.