Composition and of the crop:-

The Forests of the Dhanbad Forest Division confirm broadly of Champion and Seth's (1968) sub group 5-B, namely northern Tropical dry deciduous forests. According to the same classification, they fall in the following sub-types:-

	Sub-types	**Sub type no.**
1.	**Dry Peninsular sal forests ....**	**5/BC ie.**
2.	**Northern dry mixed deciduous forest .....**	**5B/C2**
3.	**Dry deciduous scrub .....**	**5B/DS1**
4.	**Dry bamboo brakes .....**	**5B/E9.**

Dry Peninsular forests:- This type of forest is found on the northern aspects and in valley of Topchanchi pahar and from plain to undulating land lying on the north and north eastern slopes of Tundi pahar. Patches of pure sal crop in sapling to young pole stage are found in Chas and Chandankiari areas also. the forests as a whole, are very poor in timber content. Sal trees above pole stage are few and far in between. Large size trees in the remote hills belong only to the inferior miscellaneous species like lac hosts, Kusum and Mahua. The plain forests on the north east and east of Tundi pahar and in Chas and Chandankiari contain almost pure crop of sal sapling and poles. The forests are moderately stocked and are interspersed with open patches where soil erosion is common.

the main associates of Sal (Shorea robusta) are kend (Diospyros melanoxylon), asan (Terminalia tomentosa) Mahua (Maduca indica) Dhaura (Anogeissus latifolia), Pair (Buchnania lanzan) Sidha (Lagerstromia parviflora), bahera (terminalia belerica), Karam (Adina cordifolia), Bagal (Cochlospermum religiosum), etc Palas (Butea monosperma), and Khair (Acacia catechu) are associated on heavy soils and eroded sites respectively. But Khair does no occur in large number anywhere in the Division. bamboo is found on the hills thinly distributed and its incidence is inversely proportional to that of sal. The undergrowth consists mainly of dubkhoraiya (Holarrhena antidysentrica) and Kando (Carissa ooaca), The ground is generally bare.

Climbers occur in moist valley bottom or in sheltered valleys. The commonest climbers are Bauhinia valii, Combretum decandrum, Millettia auriculata and Spatholobus roxburghii.

The density of the crop is 0.6 and below.

Natural regeneration of sal is almost absent coppice regeneration si satisfactory but is not allowed to grow unless rigid protection against grazing illicit cutting is provided.

Northern dry mixed deciduous forest:- The drier aspects of Topchanchi and Tundi hills and other scattered hills in the division do not carry sal but contain mixed species. This type also occurs on the shallow soils and degraded sites on the plains.

The main species occurring are Dhaura (Anogeissus latifolia), Asan (Terminalia tomentosa) kend (Dispyros melanoxylon) Pair (Buchnania lanzan), Sidha (Lagerstromia parviflora), (Lannea coromandelica . Kala (Bridelia retusa). Piasal (pterocarpus marsupium), gamhar (Gmelina arborea), siris (albizzia odertissima), Galgal (Cochlospermum religiosum), bahera (Terminalia belerica), parasi (Cleistanthus collinus), be (Agle marmelos), palas (Butea monosperma), etc. Semal (Bombax malabaricum), Khair (Acacia catechu), Mahua (Madhuca indica), are found scattered in the forests. Salai (Boswellia serrata) one of the commom species in dry mixed deciduous forests in other parts of Bihar is almost absent here except a few poor specimens in Tundi Pahar. The miscellaneous forests in the catchment area of the Rajdaha reservoir (Jharia Water Board) Which are being preserved for causing the life and function of the reservoir are of good quality in density and growth. Elsewhere forests are thin and poor in quality. Good quality bamboo forests are found mixed with the miscellaneous forests. The undergrowth consists of (Holorrhena antidysenterica), ber (Zizyphus mauratiana), Kanoda (Carissa opaca), harsingar (Nyctanthers arborstitis), etc. Lantana spp. Is spreading fast in many area and has occupied the lower hill slopes. The crop in this type is generally open, the average density is 0.2 to 0.4 Average dia. is 10-15 cm and average height is 6 to 8 meters. The ground remain bare for most of the year,. natural regeneration is absent. Coppice regeneration is not allowed to grow due to heavy incidence of grazing and fire, except in remote areas.

Dry deciduous scrub:- In mining areas near habitation and in easily accessible forests where unsystematic exploitation and unrestricted hacking have been practiced for year, the forests have been degrade to scrub growth. Extremely xerophytic condition have set in and species like Lantana spp, ber, bantulshi (Hyptis susveolens) and combretum have occupied the ground. This type of forest is found on the foot of Tundi and Topchanchi hills from forests ins best in the division as far as quality is concerned. At place it occurs more or less pure in dense formation. Extensive good bamboo clumps are located in Raja- banspahar, Gansi sikander, Daludih. Here the bamboo grows to 8-10 cm dia. and about 15 -18 meters in height.

Bamboo is also found scattered on steep rocky slopes and in dry places in rest of the division but these do not form regular brakes. Due to maltreatment the growth is bushy and malformed. Bamboo has also been raised artificially in different plantation areas of the division, for example in Brindaban, Burhinor plantation. where good quality bamboo has been raised.

Blanks:- Blanks both large and small are fairly common and are widely scattered both in hills and plains. Some of the blanks are totally bare while some have dense cover of bantulsi and lantana. Bushy growth of species like Diospyros melanoxylon and Butea monosperma with scattered trees of Mahua and Semal may occasionally be met with.

Human interference has played an extremely influential part in the determination of the composition of forests. It is single factor which ahs considerably affected the existing vegetation of this division for the last so many decades. it is undoubtedly reasonable that climatic topographic and edaphic condition also played their parts, but their roles were subordinated to biotic factors. Greater part of these forests belonged to private owners. These were mercilessly exploited and mismanaged by them due to lack of technical knowledge. In addition to the private owner their was unrestricted exploitation by local people and unrestricted grazing by cattle. combined effect of these resulted in continuous maltreatment and over- exploitation of the crop for a long period resulting in consequent deterioration. The vegetation in most part of the division has degraded to high pollarded stumps of Tundi and Chas range. The socia-economic condition is such that a large section of local population depend almost entirely on forest produce for their livelihood. This is partly met with by committing theft within the forest areas.

Due to factors stated above, there is gradual reduction in the quality and density of forests property. The quality and composition of the crop varies considerably due to variations of soil and maltreatments. In Topchanchi and Tundi zone which from the compact blocks of forests high stumps pollard shoots and few inferior species were noticed which indicate maltreatment of the vegetation by local people . In Chas area, natural vegetation has been practically ousted. Only few patches continue to survive on much reduce size and shape. here species like Lantana dudhkoriya harsingar, ber etc, are frequent owing to the dry condition created by maltreatment. Palas may also be seen in patches.

Plantation :- Extensive plantation have been raised in this division since 1953. Areas have been traded under soil conservation-cum afforestation scheme with funds provided by the D.V.C. species raised and established are bamboo (Dendrocalamus strictus), Acacia auriculiformis, Cassia siamea Dalbergia sisoo, Eucalyptus, Gmelina arborea, spp. Ailanthus excelsa, khair (Acacia catechu Pongamia pinnata, karank, ber, neem, bakain, teak have also been raise in patches.

Out of the planed species Acacia auriculiformis, Bamboo, Cassia siamea, Dalbergia sisoo. Ailanthus, Albizzia lebbeck and Albizzia procera, karanj and khair are doing well in sites. Bamboo and Sisoo are in good from over deep loam soils both in plan as well as on hill slopes. On eroded patches only khair, where ever tried has respond well.

Damage by illicit cutting and grazing is heavy wherever fencing has been removed. One blanker order of the Govt. in 1967 to open all 5yrs. old plantation areas to grazing can be said to have been the main cause for destruction of very well established plantations.