

MDMU

**REPORT**  
ON  
**FOREST RESOURCES SURVEY**  
OF  
**LOHIT DISTRICT**  
OF  
**ARUNACHAL PRADESH**



**FOREST SURVEY OF INDIA**  
**CENTRAL ZONE**  
**NAGPUR**

**1995**

**REPORT**

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CENTRAL ZONE  
NAGPUR**

1996

## PREFACE

Forest Inventory of Lohit District of Arunachal Pradesh was initially carried out by the Eastern Zone unit of Pre-Investment Survey of Forest Resources during 1976-77 alongwith Tirap District. However, subsequently, in view of special request from the Chief Conservator of Forests for re-inventory with revised methodology, the Forest Resources survey of Lohit District was taken up by the Central Zone unit of Forest Survey of India, Nagpur from January, 1990 to February, 1991.

The Lohit District extends over 11,402 km<sup>2</sup> of geographical area of which the forests occupy 9667.44 km<sup>2</sup> reckoning to 84.79%. However, difficult terrain, inaccessibility to sizeable area, and exclusion of protected areas restricted the inventory to 2898.82 km<sup>2</sup> of which the Reserved Forests(R.F.) occupy 1545.32 km<sup>2</sup> and Unclassed State Forests(U.S.F.) cover 1353.50 km<sup>2</sup>. The Forests occurring in the District are typical Tropical Evergreen Forests and Moist Deciduous Forests with dominance of Dipterocarpus macrocarpus (Hollong) and Terminalia myriocarpa (Hollock). In addition to these, Miscellaneous Forests, Bamboo and Riverian Forests also occur in the tract. The inventory results reveal 74.61% of the forest area supporting tree vegetation, of which Dense Tree forests occupy 4.43%, moderately dense forests 37.61%, open tree forests 19.95%, and balance under young crop, regeneration and Bamboo growth.

The survey revealed a total growing stock of 27.199 million m<sup>3</sup> (R.F.19993934 m<sup>3</sup> + U.S.F. 7205130 m<sup>3</sup>) with an average volume of 125.763 m<sup>3</sup> per ha.

Bamboo potential of the District is rich with an estimated stock of 1.757 million tonnes (RF 1208711 tonnes + USF 549233 tonnes). Further, estimate of canes of different species has revealed 54.21 million nos. (RF 32.672 Million + USF 21.539 million numbers) in various marketable sizes.

Wood consumption study has revealed 1.7943 m<sup>3</sup> of per capita consumption of timber in the entire survey area for construction, furniture and agricultural implements of which per capita consumption in rural area is 1.210 m<sup>3</sup> (67.44%) while in urban area per capita consumption is in the region of 0.5843 m<sup>3</sup> (32.56%). Per capita consumption of fuelwood is 1092 kg (84.65%) in rural areas and 388 kg (35.35%) in urban area. Bamboo consumption per capita is estimated at 774 kg (70.88%) in rural areas while 321 kg (29.32%) in urban area.

Although Lohit District has rich tropical evergreen forests, shifting cultivation and removal of trees under permit system have led to deterioration of natural forests. The regeneration has also been adversely affected. All Unclassed State Forests which are prone

to excessive unscientific felling need to be brought under reserved forests for scientific management.

The out come of the report is entirely due to the hard work by the field staff of the Central Zone, in collecting the data under very difficult working conditions. The officials of the Head quarters, Dehradun viz; S/Shri S.K. Chakraborty, Dy.Director, K.V.S. Chauhan, Asstt.Director, K.S.Gaharwar, Asst.Director, V.P.Malik, Sr.Statistical Asstt., N.K. Bhatia, Jr.Statistical Assistant, Ravinder Singh and Suresh Kumar, JTAs have contributed in analysing the data, preparation of tables and drafting the Chapter on Data Processing .

The preliminary draft of the report was prepared by Shri M.D.Singh, STA, Central Zone and was finally compiled by Shri P.V. Savant,IFS, Joint Director, Forest Survey of India, Central Zone with the assistance of Shri S.B.Elkunchwar,IFS, Deputy Director and Shri Anil Biala, JTA.

The text part of the report has been typed by Smt. Gressamma Varghese, Jr.Steno and tables have been typed by Shri D.N. Kadu, Jr.Steno.

It is hoped that the report has covered various aspects highlighting the critical areas requiring immediate attention by the State Forest Department.

Dehradun  
Date 15.2.1996

Dr. S.N.Rai  
Director

# C O N T E N T S

## PREFACE

Map of India showing survey area

Road map of Lohit District of  
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## CHAPTER - I

### INTRODUCTION.

#### 1.0 GENERAL

In the north-eastern extreme of Arunachal Pradesh, lies the 'Lohit' District between 27°33' to 29° 22' North latitudes, and 95°15' to 97°24' East longitudes. The District has derived the name "Lohit" after one of the principal rivers popularly spelt as 'Luhit', originating from Eastern Tibet, traversing south-west, almost through the middle of the District, culminating, after forming confluence with other tributaries and the Dibang river, into the Brahmaputra. The District is skirted by Tibet-China on the north, and to the north-east, and east bordering Myanmar (Burma), further on to the western front the Siang District of Arunachal Pradesh, and to the south it stretches upto Tirap District and part of Assam.

During 1976-77, the Eastern Zone of Preinvestment Survey of Forest Resources had carried out survey of 'Tirap' and 'Lohit' Districts covering an area of 4,598 km<sup>2</sup>. In view of the decision taken in the meeting held at Itanagar on 19.9.89, for a more scientific resurvey on the present Forest Survey of India methodology to meet the requirements of the Working Plan, and for planning resources developments, as also for obtaining a realistic picture of the reserved forests and unclassed forests, the present inventory was planned in the Lohit District from January, 1990 to February, 1991, by the Central Zone of Forest Survey of India, Nagpur.

#### 1.1 AREA AND POPULATION

Geographical area of the District is 11,402 Km<sup>2</sup> with a population of 1,09,632 (Census of 1991 provisional), reckoning to a sparse population density of 9 per Km<sup>2</sup>. Almost 81% of the population has rural base.

## 1.2 ADMINISTRATIVE UNITS AND AREAS

The Lohit District has been divided into three main sub-divisions viz; Tezu, Namsai and Hayuliang. These sub-divisions are situated in Lohit and Kamlang valleys under the control of Dy. Commissioner, Lohit District. Headquarters of the District is at Tezu.

i) Tezu:- Tezu consists of Tezu circle including Tezu township, and adjoining villages occupied by the Taraon (Digaru) Mishmis tribe. The other circle of the sub-division is Sunpara in charge of a Circle Officer.

ii) Namsai:- This sub division is divided into Namsai, Wakro Chowkham and Lekang circles. All the four circles are in-charge of an Extra Assistant Commissioner, with headquarter at Namsai. The tribe Khampis and the Singphos live in Namsai and Chowkam circles, while the Wakro circle is inhabited by Taraons.

iii) Hayuliang:- This sub-division has six circles viz; Hayuliang, Chaglagam, Hawaii, Walong, Goiliang and Kibithoo. The tribe Kaman(Miju) and Taraon Mishmis dwell in the three sub-divisions, while the Zakhrings and Meyors dwell in Walong Kibithoo areas. These sub-divisions are in the neighbourhood of Burma and Tibet. The circles are incharge of Circle Officers.

All the developmental activities in the District are manned by sub-divisions, and Revenue Circles.

## 1.3 FOREST AREA

The forest area estimates of the District are not consistent, and are varying from time to time in different publications brought out by the State Government. Therefore, for the purpose of this survey the area figures published in the 1984-85 Statistics Hand Book of Lohit District, by the Economics and Statistics Department of the Deputy Commissioner's office, Lohit District, Teju available at the time of inventory have been adopted as authentic. As per this publication, the classification of forest area by legal status existing in two Forest Divisions as on 31st March, 1985 is as under:-

S.No.	Name of forest divn.	Reserved forests (km <sup>2</sup> )	Protected forests (km <sup>2</sup> )	Unclassed forests (km <sup>2</sup> )	Anchal forest (km <sup>2</sup> )	Total forest (km <sup>2</sup> )
1	2	3	4	5	6	7
1.	Lohit	2402.21	2057.00	2000.00	99.84	6559.05
2.	Namsai	853.20	755.79	1444.00	55.40	3108.39
Total:		3255.41	2812.79	3444.00	155.24	9667.44

Barring Reserved forests, the other categories of forests viz; Protected Forests, Unclassed forests and Anchal forests have not been demarcated on the ground and also not delineated on the map, hence all these forests have been clubbed together as unclassified forests reckoning to 6,412.03 km<sup>2</sup> for the purpose of this survey.

Owing to hilly and rugged terrain, a sizeable forest area in the District is not accessible, obviously restricting the forest inventory work. Thus an area of 2898.82 km<sup>2</sup> of forests (RF-1545.32 km<sup>2</sup> + USF 1353.50 km<sup>2</sup>) alone has been surveyed. The inaccessible forest area in the form of National Parks, Wild life sanctuaries and the forest area lying along the International border for which toposheets from the Survey of India were not available have been excluded.

#### 1.4 CLIMATE AND RAINFALL

The tract has tropical moist climate, where the terrain plays an important role in influencing the climate. At the foot hills particularly at Tezu, Chowkham and Namsai, the summer months are extremely hot ranging between June to August while valleys provide pleasant, cool and humid climate. Temperature at times rises up to 106°F, while in winter it goes as low as 41°F. Pre-monsoon thunder storms are common, followed by regular south-west monsoon commencing from June and lasting upto mid October. Precipitation is obtained from both the monsoons. The winter prevails from late October to November. Humidity is at its peak in May reaching upto 94% and least for February, maintaining around 56%. At places, November to March

precipitation is in the form of snow. Rainfall is maximum at foot hills. Average rainfall of the District is 3500 mm per annum. In the foot hills of Teju, Namsai and Chowkham, the summer months are severe while winter is moderately cool, but at higher altitudes of Kibithoo, Walong, Hawaii and Chaglagam, winters are severe with moderate summer temperatures.

Incidence of flood is of common occurrence in the District. Frost as also mist, is a common feature during post-monsoon period as well as during winter and is conspicuous in valleys. High precipitation, temperature and humidity have contributed for the growth of rich tropical vegetation with great diversity.

### 1.5 TOPOGRAPHY

The terrain of the District is largely mountainous with steep to moderate hill ranges of Himalayan formation. Along the international border towards the North, the mountains are clad with perpetual snow, the peak height ranging from 610 m to 5182 m. Towards the south-western portion of the District, Man Bum hill range projects from Patkai hill range gradually merging in the plain area. Numerous springs and rivers originate from the mountains at high reaches ultimately joining the 'Lohit' and 'Dibang' rivers. Due to several rivers, streams, rugged terrain and deep valleys, most of the areas in the District are cut off and inaccessible. Vast stretches of valleys support luxuriant tropical evergreen forest, providing an amazing landscape.

### 1.6 DRAINAGE

'Lohit' is the main river in the District which rises across the North-Eastern border in the high mountains. The Mishmis tribe identify the river as 'Tellu' while at the place of origin the river is known as 'Zayal Chu'. The river traverses southward entering the deep gorge for about 6 km north of 'Kibithoo'. Near 'Tezu', the river meets the plains at 'Parusuram Kund', a place of worship, after flowing over about 190 kms through steep hills, deep ravines and vast stretches of valleys along with snow-fed tributaries; Dau(Dou), Derai (Delai), Digaru, Ghalum (Kallung), Dichu, and Tidding. The

other prominent rivers are Kamlang and Noa- Dihing, flowing towards the Southern part of the District along with their tributaries finally draining into the Brahmaputra in Assam.

### 1.7 GEOLOGY, ROCK AND SOIL

The District lies in the seismic zone subjected to frequent tremors. Earthquakes have been reported in 1897 and 1930. But the earthquake of 1950 was violent with high intensity resulting in avalanches, land slides, and explosions that wiped out wooded and scrubby land masses, leaving behind only barren ground. Following the earthquake, flood waters entered very deep inside the plain areas changing the water courses of many rivers. The impact of the earthquake was so severe that many roads were totally damaged and bridges blown away. Many villages reeled under the hill side over burden and virtually disappeared. A major part of Sadiya township along with neighbouring villages were virtually shattered, leaving no trace behind.

Geologically, varying views are offered on the District. One school of thought holds that the formations are of Pre-cambrian age, while the second opinion purports successive tectonic and intrusive phases of Pre-early Paleozoic to Tertiary period. Most striking formations obtained are Diorite gneisses in foliated grey to greenish form, in addition Schists in bands of amphibole and chlorite alongwith marbles, as obtained in the Minutang valley. Schistose Meta sediments are also found in Tidding valley. At places folding and tendency for dislocation movements is exhibited. Limestones, quartzites, quartz schists are conspicuous in Tidding valley. In the outermost Himalaya, towards South-western mountainous tract of the District, folded high grade schists made up of quartz, mica, garnets, graphites, sillimanite and para-gneisses are found underlying the limestone belt. These parametamorphites extend upto Kamlang valley. In Lohit plains, Tertiary-Quaternary rocks are observed below the alluvium.

Amongst important minerals found in the area; Asbestos, Clay, Copper ore, Graphite, Limestone, Mica, Pyrite and Pyrrhotite as well as Talc are common.

Soils are characteristic of the river deposits containing sand, clay and other finer matter of silt. Floods largely attribute to the formation of alluvium. Past earthquakes have also contributed to the soil formation. The sediments at places are deep but in general soil depth is between 15 cm to 90 cm with varying pH between 7 to 5 with acidic tendency.

The Graphite and Limestone minerals have high potential in the area. An estimate of 71 million tonnes of Graphite has been made while Limestone deposits are in the region of 25 million tonnes.

### 1.8 LAND USE PATTERN

The extent of land put to various uses in the District is detailed below (Source:- Statistical Handbook of Lohit District for 1984-85 & 1988).

S.No.	Type of utilisation	Area(km <sup>2</sup> )
1.	Forest	9667.44
2.	Barren and uncultivable land	59.62
3.	Land put to non-agricultural use	20.89
4.	Cultivable waste	11.28
5.	Permanent pastures and grazing land	19.32
6.	Misc. tree crops and grass not included in net area sown	1425.32
7.	Current fallows	27.22
8.	Old fallows	17.22
9.	Net area sown	153.69
Total geographical area.. ..		11402.00

### 1.9 PEOPLE AND SOCIO-ECONOMIC CONDITIONS

The inhabitants of the Lohit District are predominantly tribals of Indo-Mongoloid origin. Mishmis, Khantis and Singpho tribes form the bulk of the local population. Besides these tribes, Tibetans and Chakma refugees have been rehabilitated in various settlements. Mishmis are further spread out into three categories popularly known as Chulikata or Idu, Miju

or Kaman and Digaru or Taraon. A sub-tribe of Idus is identified as Bebejya Mishmis. Idus dwell in Lohit valley towards east, while Taraons and Kamans have spread out in the valley region along the Kamlang and several other tributaries between Hayuliang and Walong. Towards South-eastern part of the District, Khampti and Singpho habitations are found. In addition to Mishmis, towards the northern reaches of Lohit valley, Meyor and Zakhring settlements are prominent having cultural affinity to Mishmis. Few other groups viz; Miris and Kacharis are living in Namsai area along the foot hills while Deoris are settled in the neighbourhood of Assam in foot hills.

Mishmis practise the traditional agriculture with little response to adopt advanced methods of cultivation, and modern implements. Their main diet is Maize and Buckwheat, but in upper reaches wheat and barley are also grown. In the foot hills with good soil fertility, rice and millets are cultivated. Amongst all the tribes of Arunachal Pradesh, Singphos are the most advanced, highly skilled in agriculture, while Khamptis are the literarily advanced tribe having their own script. They are also good agriculturists possessing a well knit social organisation. On community basis they construct granaries near the water sources. They grow rice, potatoes and vegetables as also rear cattle for ploughing and barter, besides they are good in the trade of handicrafts, food grains and ornaments. Khampti women are gifted with the art of weaving and embroidery. Singphos are settled along Tengapani river. They are skilled blacksmiths gifted with the art of making iron implements for domestic and agricultural requirement. Khampti women are also good weavers skilled in dress making.

About 95% of the tribal population depend upon agriculture, but majority of them still practise shifting cultivation known as 'jhooming'.

The tribal society is free from caste system but by convention they follow classes such as Chiefs, Priests, Rich, Commoner, Free Man and Slaves. All the tribes prefer collective hunting. The dialects amongst the tribes vary from one another. People of the tract speak Kaman, Taraon, Khampti and Singpho languages. The social organisations care for the welfare of the people, regulate marriage ethics, maintain discipline and settle routine internal disputes. By and large they are good artisans in painting, pottery, cane crafts, black

smithy, traditional wooden crafts, weaving, dress making etc. Almost all of them wear costumes made of cotton and indigenous fibre.

#### 1.10 INFRASTRUCTURE

The difficult mountainous terrain coupled with the remote location of the District, received very little attention for road communication system. Prior to independence, the mule paths and porter tracks were the only means of carrying out trade, animal transportation and supply of food grains. The Lohit Valley Road motorable from Sadiya to Denning was constructed in 1912. Sadiya-Tezu road constructed in 1967 has now been linked to Walong Circle Headquarter over a length of 197 km from Tezu. In addition, the existing motorable roads linking Alubari, Chaukham and Namsai have also been stretched upto the plains of Assam. Tinsukia National Highway No.37 has been connected to Rupai. Besides the Highway, Namsai, Manabhum, Tengapani, Turung, Lohit, Khamang and Noa-Dehing Reserved Forests have been connected by Black topped metalled, gravelled roads constructed by P.W.D. and Forest Departments. For Chowkham Reserve and Noa-Dehing Reserved Forests only the fair weather roads exist as the vehicles are taken across the rivers by deploying ferry boats. Till 1991, about 702 km of roads have been constructed by the P.W.D., Border Roads Organisation and Forest Department. Maintenance of roads pose a herculean task during monsoon when almost all rivers are in full spate. At places, roads remain under water over a long period. Occurrence of land slides are common feature of the tract that washes away a large number of bridges and road portions disrupting normal communication and food supplies. In such a difficult situation, frequently, food supply is manoeuvred by air dropping. The fragile soil and ecosystem, as well as the rugged terrain have provided very little scope for layout of rail line in the District.

#### 1.11 FOREST PRODUCE AND FOREST BASED INDUSTRIES

The forest in the District has tremendous potential in supporting couple of wood based industries, particularly the Saw Mills, Plywood Industries, Veneer Mills and Wood based Cottage Industries. The Plywood Industries have been provided with certain annual quota of timber by the State Government to meet the raw material requirements from Government Forests.

Bamboos and resins are also collected on small scale from some forest areas. There are also few furniture units and cane craft centres. Major portion of Sawn timber, Plywood and Cane articles have market potential in the neighbouring States of Assam and West Bengal.

Important Wood based Industries are listed below:-

1. M/s Arunachal Plywood Industries Ltd., Namsai.
2. " Guna Saw Mill, Chowkham.
3. " Mein Wood Industry, Alubari, Chowkham.
4. " Bicitra Wooden Furniture, Namsai.
5. " Manmow Wooden Furniture, Manmow, Namsai.
6. " S.K. Wooden Furniture, 32 Mile.
7. " Nyumto Wooden Furniture, Tezu Bazar.
8. " B.K. Timbers Changlieng, Tezu.
9. " Tafragam Vineer Mill, Tafragam.
10. " Tumba Saw Mill, Wakro.
11. " Chaukham Saw Mill, Chaukham.
12. " Noniprora Wooden Furniture, Mohadevpur.
13. " Tafragam Saw Mill, Tafragam.
14. " Arunachal Wood Industry, Tafragam.
15. " M.K. Timber, Tezu.
16. " Kabeseng, Piniya Saw Mill, 32 Mile.  
(Tamla Lamps New name)
17. " O.K. Timbers, 32 Mile.
18. " Namchoom Saw Mill, Tezu.
19. " Babu Carpentry Unit, Tezu.
20. " Bohai Wooden Furniture, Tezu.
21. " Baying Cane & Wooden Furniture, Tezu.
22. " Marep Cane Unit; Loling.
23. " Parasuram Saw Mill, Medo.
24. " Takliang Cane Unit, Loliang.
25. " Kamlang Saw Mill, Wakro.
26. " Lohit Saw Mill & Veneer Mill, Surpure.
27. " Lavto Saw Mill, Medo.
28. " Mantaw Saw Mill, Chaukham.
29. " Mansai Furniture, Kherem.
30. " Kaman Furniture, Medo.
31. " Grear Valley Furniture, Wakro.
32. " Y.M.Wood Industry, Dunahling, Tezu.
33. " Mining Cane work, Kamlong Nagar, Wakro.
34. " Bijoyshree Wood Industry, Namsai.
35. " Gautam Wooden Furniture, Tezu.

36. " Eastern Saw Mill, Chaukham.  
 37. " Boo Cane Furniture, Loiliang.  
 38. " Jacob Wooden Furnitures.  
 39. " Mimi Cane Industry, 10 Tezu.  
 40. " Yun Furniture.  
 41. " Zingnu Wood Industries, Lathao.  
 42. " Namsai Timber, Namsai.

The out turn of timber and fuel from the District during 1990-91 is as follows:-

Sl. No.	Name of Forest Division	Timber in m <sup>3</sup>	Fuel in M.Tonnes	Remarks
1.	Lohit Forest Division, Tezu.	11,540.734	36 Tons 10 Trucks 68.60 m <sup>3</sup> 7 B/c.	-
2.	Namsai, Forest Division, Namsai	40,415.372	3325 M. Tonnes.	-

The minor forest produce collected from Lohit District during 1990-91 are shown in the following table:-

Sl. No.	Minor Forest produce	Unit	Lohit Qty.	Dvn. Value	Namsai Quantity	Forest Division Value
1.	Cane	kaps	-	-	168225	Rs.4,07,168
2.	Sand	cu.m.	-	-	2371.63	Rs.1,34,440
3.	Shingles	cu.m.	-	-	1652	Rs. 46,202
4.	Boulders	cu.m.	-	-	14573	Rs.2,03,898
5.	Earth-Soil	cu.m.	-	-	145	Rs. 1,564
6.	Kako-Bamboo	no.	-	-	14090	Rs. 1,102
7.	Jati Bamboo	no.	-	-	4604	Rs. 1,332
8.	Patidol	no.	-	-	90900	Rs. 1,957
9.	Thatch	bundles	-	-	58000	Rs. 1,588
10.	Toko Leaves	no.	-	-	102500	Rs. 884
11.	Jeng Leaves	no.	-	-	66500	Rs. 298
12.	Poles	no.	-	-	3618	Rs. 2,829
13.	Fishery Mohol (I,II,III & IV of 91)	no.	-	-	4	Rs. 39,552
14.	Fire wood	trucks	-	-	665	Rs.1,69,144

The revenue and expenditure of the Forest Division of the survey area during 1990-91 is as follows:-

Sl. No.	Name of Forest Division	Revenue	Expenditure		Total
			Plan	Non-plan	
2	3	4	5	6	1
1.	Lohit Forest Divn., Tezu	Rs.1,22,62,357	-	-	Rs.1,22,62,357
2.	Namsai Forest Divn., Namsai	Rs. 37,238.68	4189.16	5554.28	Rs.9743.44 (Rs.27,495.24 Net)

Source: Statistical Hand Book of Lohit District 1991, published by Economics & Statistics Department, D.C.B office, Lohit District, Tezu.

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## CHAPTER - II

### THE FOREST

#### 2.0 GENERAL DESCRIPTION

The tract is endowed with ideal tropical climate, coupled with adequate rainfall, conducive temperature, pronounced humidity, besides deep and fertile soil, supporting luxuriant vegetation with wide range of Bio-diversity. In general the forests are heterogenous with variety of tree species rich in biota. Although the forest area of the District is spread beyond the zone of tropics towards the north, favourable conditions have resulted in emergence of tropical evergreen forests. The influence of soil, microclimate, and biotic factors in determining the species composition is very much apparent. Though the forest types are not easily identified on the ground, the relative dominance of species within the crop, determine the broad forest types. Owing to the peculiar socio-economic conditions, the tribals in the tract sustain on traditional 'Jhum' cultivation (shifting cultivation) from times immemorial. Such repeated 'Jhum' cultivation has virtually replaced the original crop by scrubby vegetation of secondary nature. In addition to this, occurrence of annual floods causing innumerable landslides and heavy silt deposits have entirely changed the vegetation.

#### 2.1 FOREST TYPES

As per the Champion and Seth's classification of forests, the following main forest types are identified in the District.

1. 1B/C1 - Northern Tropical Evergreen Forests  
(Assam valley - Tropical Wet Evergreen Forests - Dipterocarpus).
2. 3C/152(b) - North Indian Tropical Moist Deciduous Forests  
(Eastern Hollock Forests - Terminalia - Duabunga).

3. Miscellaneous Forests.

4. Bamboo Forests.

5. Riverian Forests

1. 1B/C1 - Northern Tropical Evergreen Forests

(Assam Valley Tropical Wet Evergreen forests - Dipterocarpus). In this type, Hollong (*Dipterocarpus macrocarpus*) is the dominant tree species obtained in the top canopy, attaining a height of about 45 m with breast height girth upto 6 m and clear cylindrical bole of about 30 m. The Hollong forests are easily distinguished from long distance due to whitish trunks and projecting massive crowns much above the second storey. The soils are residual with old alluvium of Dehing series, deep, well-drained and rich in organic matter. Along with Hollong another Dipterocarpaceae, Mekai (*Shorea assamica*) occurring in top canopy is found in pure patches, at higher elevations on well drained gravelley soils. In gregarious form at times Mekai forms upto 70% of the stand. The forest type is obtained in Namsai, Man Bum and Tengapani Reserves. Both Hollong and Mekai contribute to the bulk of raw material supply to the local plywood and vineer industries. Alongwith these two, another dominant species occurring in top canopy is the Jutuli (*Altingia excelsa*), a slightly inferior one, compared to Hollong and Mekai. Over ridges, at times, Jutuli is seen even replacing Hollong due to its gregarious habit. Amongst other important tree species found in top storey are:- Champ (*Michelia champaca*) Sam (*Artocarpus chaplasha*), Amari (*Amoora wallichii*), Gonsoroi (*Cinnamomum cecicodaphne*), Hilika (*Terminalia citrina*), Poma (*Toona ciliata*), Gendheli poma (*Dysoxylum hamiltonii*), Makahi (*Phoebe cooperiana*), and Hollock (*Terminalia myriocarpa*) growing along the streams and at foot hills.

The middle storey is represented by a mixture of many tree species where no particular species exhibit dominance. The composition of the middle storey is made up of Dhuna (*Canarium resiniferum*), Nahor (*Mesua ferrea*) Hingori (*Castanop-*

sis indica), Morhal (*Vatica lanceaefolia*), Rudrakshya (*Elaeocarpus ganitrus*), Banderdima (*Dysoxylum binectariferum*), Phulgamari (*Endospermum chinense*), Jamen (*Syzygium cumuni*), Kadam (*Anthocephalus cadamba*), Pichola (*Kydia calycina*), Khokan (*Duabanga grandiflora*), and Moz (*Albizia lucida*).

In the lower storey mostly shade bearing species occur, and are oftenly replaced by deciduous species. Common species occurring are:- Lateku (*Baccaurea sapida*), Jagaru (*Macranga denticulata*) Tejranga (*Myristica linifolia*), Owtenga (*Dillenia indica*), Gohara (*Premna bengalensis*), Baranthuri (*Talauma hodgsonii*), Thekera (*Garcinia cowa*), Rali (*Cyclostomon assamicus*), and Dalmugra (*Gyrocarpus odorata*).

The most common Bamboo occurring is Kako (*Dendrocalamus hamiltonii*), reckoning to almost 95% of the Bamboo composition, while Bajal (*Pseudostachyum polymorphum*), Bijuli (*Bamboosa pallida*), Jati (*Bamboosa tulda*) and Dulu (*Teinostachyum dulloa*), occur sporadically. Amongst canes Raideng (*Calamus flagellum*) Leziabet (*Calamus floribundus*), Jatibet (*Calamus tenuis*), and Jeng (*Calamus erectus*) are common.

The ground flora consists of thickets of woody shrubs of *Clerodendron* species, Kukura tenga (*Leea indica*), Kaupat (*Pyrinium imbricatum*), Osbekia spp (*Lateku*, *Phutki*), Musaenda glabra, Surot (*Laportea crenulata*), Tekapat (*Livistona jenkinsiana*), Garuga tamul (*Pinanga graeillis*) are common.

Regeneration of *Dipterocarpus* species including Hollong and other species like Mekal and Jutuli are not satisfactory due to dense lower storey and heavy undergrowth which prevent light samara seeds of *Dipterocarpus* species. from reaching the ground, moreover the viability of seeds of these species is for a very short span. Further, penetration of sun's rays for providing optimum light conditions to facilitate timely germination of seeds in tropical forests is restricted by dense canopy of lower storey. In such a situation succession tends to favour species preferring moist environment, resulting in poor stocking of dominant tree species.

2. 3C/152 (b) North Indian Tropical Moist Deciduous Forest  
(Eastern Hollock Forests - *Terminalia myriocarpa*)

Hollock is the most dominant semi-evergreen tree species of this type. Invariably most of the tree species in this type shed their leaves during February-March, while the trees in the lower storey are evergreen in character. Hollock occurs either in pure chunks or along the riversides and nallah banks on recently formed silt deposits and alluvium. The other associates in the top canopy are:- Khokan (*Duabanga grandiflora*), Hilika (*Terminalia citrina*), Bahera (*Terminalia bellirica*), Champ (*Michelia champaka*), Tita sopa (*Talauma phellocarpa*), Sopa (*Magnolia oblonga*), Hatipolia (*Pterospermum acerifolium*), Gamari (*Gmelina arborea*), Amari (*Amoora wallichii*), Sam (*Artocarpus chaplasha*), Urium (*Bischofia javanica*), Dhuna (*Canarium resiniferum*), Bola (*Morus laevigata*), Bogipoma (*ChXukrasia tabularis*), Udal (*Sterculi villosa*), and Barpat (*Ailanthus grandis*).

In the middle storey no single species is dominant, but is composed of Miscellaneous species of dense stand in varying proportions. Important species occurring are :- Jamun (*Syzygium cumunii*), Urium (*Bischofia javanica*), Outenga (*Dillenia indica*), Pichola (*Kydia calycina*), Paroli (*Stereospermum personatum*). Hingori (*Castanopsis indica*), Jagaru (*Macranga denticulata*), Banderdima (*Dysoxylum binectariferum*), Dalmugra (*Gyrocarpus odorata*), Baranthuri (*Talauma hodgsonii*), Phulgamari (*Endospermum chinense*), Dhuna (*Canarium resiniferum*), Morhal (*Vatica lanceaefolia*), and Moz (*Albizia lucida*). Amongst bamboos Bajal (*Pseudostachyum polymorphum*) and Kako (*Dendrocalamus hamiltonii*) are common.

The understorey consists of young crop of dominant tree species of top canopy and middle storey represented by Gohara (*Premna bengalensis*), Thekera (*Garcinia cowa*), Tejranga (*Myristica linifolia*), Outenga (*Dillenia indica*), Madar (*Erythrina suberosa*), Rudrakshya (*Elaecarpus ganitrus*), Rali (*Cyclostemon assamicus*), and Lateku (*Baccaurea sapida*).

The undergrowth consists of thick growth of woody shrubs, annuals and large number of ferns. Most common shrubs occurring are:- Digloti (*Litsea salicifolia*), Bornrihar (*Boehmeria species*), Dhopatika (*Clerodendron serratum*), Kukratenga (*Leea sambucina*), Kaupat (*Pyrrhuloxia imbricatum*) Surot (*Laportea crenulata*), Tota (*Alpinia allughus*), Mussaenda glabra and Eupatorium etc. Common canes found are Lezaibet (*Calamus floribundus*) and Jengu (*Calamus imbricatum*). In gaps variety of ferns, shrubs and herbs spring up profusely.

These forests are infested with variety of climbers and creepers like *Acacia oxyphylla*, *Acacia pinnata*, *Acacia puinescens*, *Urtica latifolia*, *Tinospora cordata*, *Bauhinia retusa*, and *Michelia cordata*. Hollock forests are interspersed with numerous grassy blanks made up of Khus, kher, Meoheli and Ikra species.

The status of natural regeneration of Hollock forest is very poor. On freshly formed silt deposits caused by flood, along the river course and flood plains, Hollock regeneration comes up profusely.

### 3. Miscellaneous Forests

This Forest type has emerged due to mingling of various sub-types according to edaphic conditions and drainage. Fairly large to small extent of miscellaneous vegetation is obtained in Dipterocarpus and Hollock zone rendering difficulty in delineating the forest type in the field. Broadly, the Miscellaneous Forest Type falls partly in 1B/251 and partly in 3C/151 of Champion and Seth's classification. No single species domination is observed in these forests. The vegetation is mainly confined to low level alluvium subjected to frequent inundation during monsoon. These species have low economic value. The canopy of Miscellaneous forest is mostly open due to emergence of fresh regeneration following clearance of original crop for shifting cultivation (Jhuming) as well as due to seasonal floods damaging the original vegetation. These forests are conspicuous at Tengapani, Turung and Lohit Forest Reserve. Most common species of these forests are Hingori (*Castanopsis indica*), Outenga (*Dillenia indica*), Udal (*Stercu-*

lia villosa), Khokan (*Duabanga grandiflora*), Urium (*Bischofia javanica*), Barpat (*Ailanthus grandis*), Hatipolia (*Pterospermum acerifolium*), Hilika (*Terminalia citrina*) Semul (*Salmalia insignis*), Pichola (*Kydia calycina*), and Paroli (*Stereospermum personatum*). Dense undergrowth of *Pyrinium imbricatum* and *Leea accuminata* and amongst climbers *Acacia pinnata* and *Michenia cordata* are found. Important canes occurring are *Calamus erectus* and *Calamus flagellum*. Natural regeneration of important miscellaneous species is poor in these forests. Soil and drainage mainly determine the conditions of the crop in Miscellaneous Forests.

#### 4. Open Forest

Scattered patches of trees in open form are found in almost all the forest types which have resulted due to incessant Biotic influence and onslaught of flood, bringing about primary changes into edaphic and climatic conditions. Top canopy is mainly occupied by important species like Hollong, Hollock, Khokan, Outenga, Jutuli, Dhuna, Champ, Nahar, Hilika and Banderdima. The species composition in the lower storey and ground vegetation is more or less the same as obtained in Dipterocarpus forests (1B/C1).

#### 5. Bamboo Forest

On hill slopes and abandoned 'Jhum' areas under drier conditions, Bamboo occurs gregariously in pure form. In low lying areas over degraded soils not favourable for the growth of tree vegetation, Bamboo colonizes. Important Bamboos occurring are :- Kako (*Dendrocalamus hamiltonii*), Dulu (*Teinostachyum dulloa*), Bijuli (*Bamboosa pallida*), Bajal (*Pseudostachyum polymorphum*) and Jati (*Bamboosa tulda*). Bamboo growth is conspicuous over the ridges and steep slopes of Man Bum in Tengapani Reserves.

#### 6. Riverian Forest

In the flood plains, extensive to patchy grassy blanks, interspersed with thinly spaced trees have emerged in the process of succession. The Forest Type broadly identified is 3C/151 (Low Alluvial Savannah Woodland, *Salmalia-Albizia* combination). In this type tall grassy patches interspersed with tree species without any species dominance occur. The

soils obtained are mostly stable, alluvial to sandy to sandy loam with accumulated humus in depressions. Important tree species found are Semul (*Salmalia insignis*), *Albizia procera*, *A. lucida*, *Dalbergia sisoo*, *Dillenia indica*, *Kydia calycina* and *Sterculia villosa*.

Amongst grasses the thatch varieties like *Imperata arundinacea* and *Saccharum spontaneum* (Khagri) are common.

## 2.2 INJURIES TO FORESTS

Illicit felling of trees, encroachments and shifting cultivation in Government Forests are the prime causes for depletion of Natural Resources. Incessant unauthorised cutting of trees in Namsai, Man Bum and Tengapani Reserve Forest have virtually destroyed the virgin tropical vegetation. Besides human agency, the domesticated elephants, goats and stray cattle have extensively damaged young regeneration in natural forests and plantations. Generally, stormy weather prevails during March-April, which results in uprooting of large number of shallow rooted standing trees, while the hail storms damage the nurseries and young plantations. Annual floods are causing severe damage to natural forests by carriage of heavy silt load besides accelerating the process of river bank erosion. At times the rivers change their courses wiping out the chunks of natural forests and young plantations. Stagnated water in the post flood period also destroys the tree growth due to physical drought.

Dense weed growth is found to be quite inimical, suppressing the young regeneration of commercial tree species. Besides, the weed growth compete with the main forest crop for nutrients and soil moisture. Under tropical conditions damage to forests by climbers and creepers is extensive. The climbers suppress the leading shoots of forest trees. In the felled area the climbers quickly infest the leftover trees forming advance growth and seed bearers, while the creepers occupy the gaps and poorly stocked forest stand. Most common creepers are *Mikani macrantha*. Damage by epiphytes and parasites are, however, insignificant. Amongst wild animals, deer damage is

conspicuous as they devour the edible seeds of Amari, Dhuna, Mekai and Poma etc. The wild elephants and gaur trample the young regeneration of forest crop. Porcupines feed on bark of several trees while monkeys and rodents damage the tender shoots. In nurseries and young plantations the wild boars and rodents uproot the tender seedlings and saplings. Damage by cattle and goats is quite heavy in accessible forest areas and plantations around habitation. Fungi and insect damage is very common but not severe. Hollong seeds are infested by a Weevil (*Alcides exassus*), while Mekai seeds are attacked by other species of *Alcides*. A root fungus also attacks the Hollong trees in all the age groups, at times killing the tree.

### 2.3 RIGHTS AND CONCESSIONS

The tribals in the survey area are allowed to collect fuelwood, timber and minor forest produce to meet their domestic need. In addition to these, the tribals have a special privilege to get permits for felling of certain quantity of timber yielding trees from Unclassed State Forest on payment of nominal royalty amount fixed by the Government from time to time. The timber received under the permit could be disposed off by the tribals in market in whatever manner they think it proper. This facility is extended in Aruanchal Pradesh in order to uplift economically backward tribal population. The Government determines the annual quota by number of trees in each Forest Division. The trees under such permits are not scientifically marked but the choice of selection is left to the permit holders. The Forest Department regulates the marking of trees, felling and conversion of logs, transit of forest produce and realization of royalty.

### 2.4 MINOR FOREST PRODUCE

Main minor forest produce of the District are Canes, Sand, Shingles, Boulders, Kako-Bamboo, Jati Bamboo, Patidoi, Thatch, Toko leaves, Jeng leaves, Poles and firewood. These are permitted to be collected by the tribals free of cost to meet their domestic requirement.

## 2.5 WILDLIFE

Fauna of Lohit District has rich diversity. Amongst carnivores, Tigers and Panthers are common and amongst the herbivores, Elephants, Sambhars, Hog deers, Barking deers, Himalayan Black bear, Wild buffallaos, Wild Jungle cat, Golden cat, Indian civet, Palm civet, Assamese macaque, Langur, Flying squirrel, variety of rat species, Reptiles, Snakes and lizzards, Chinese pangolin are found. In all 20 species of mammals have been reported from the District. Bird life is also quite rich. As the tribals are traditional hunters, unchecked hunting and jhum cultivation have drastically reduced the wild animal population in the area. Fresh water fishing for Mahaseer and Boka are also common in the tract.

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## CHAPTER - III

### RESOURCES SURVEY METHODOLOGY

#### 3.0 OBJECTIVES OF THE SURVEY

The main objectives laid down for the resources survey of the Lohit District are outlined as follows:-

1. To collect District level information on landuse and distribution of forests with regard to crop composition, topography, aspect, soil depth and canopy layers etc.
2. To collect relevant information on crop data, regeneration status, biotic factors such as fire incidence, grazing, injuries to crop, presence of weeds etc.
3. To estimate the growing stock of trees, Bamboos and canes in the vegetated area.
4. To assess the plantation potential of the poorly stocked and degraded forest land.
5. To highlight the critical aspects and the status of forests for timely remedial measures so as to meet the future planning need in right perspective.

#### 3.1 AREA CONSIDERED FOR SURVEY

The present survey covered entire forest area of the Lohit District. The latest survey of India toposheets on 1:50,000 scale and in their absence 1" = 1 mile scale maps were used as base maps. For the purpose of reckoning the forests, all the areas covered within the double dotted boundaries as well as the green wash were taken up for inventory.

### 3.2 INVENTORY DESIGN

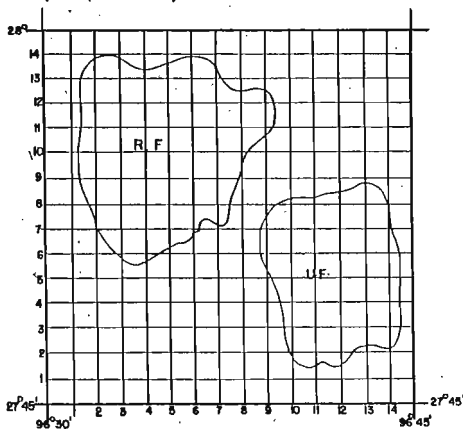
Almost 70% of the forest area of Lohit District is hilly and mountainous and inaccessible. Two separate categories of forests viz; Reserved Forests and Unclassed State Forests exist in Lohit District. Although initially it was aimed for pre-stratification of the forests for adopting a stratified sampling design, in the absence of requisite thematic maps, the design could not be finalised. Further, since the Chief Conservator of Forests, Arunachal Pradesh desired to have maximum accuracy in respect of Reserved Forests on which the Department had absolute control while over the Unclassed State Forests, there is practically very little control, as such, the present inventory design of random selection of cluster of two plots of 0.1 ha area each in the grid of 2 1/2' x 2 1/2' adopted in the Forest Survey of India, with a sampling intensity of 0.01% had to be modified in the case of Lohit District survey. In order to have more accuracy, the sampling intensity for Reserved Forests was increased from 0.01% to 0.03% by increasing the number of sampling plots, while for Unclassed State Forests having comparatively smaller extent of vegetated area the sampling intensity was reduced from 0.01% to 0.006%.

The inventory design was executed as follows:-

- i. At the first stage the Reserved Forests/Unclassed State Forest boundaries were transferred on all the toposheets of Survey of India covering Lohit District, by referring to the details from the maps made available by the State Forest Department.
- ii. The grids were marked at the interval of 1' latitude x 1' longitude on each toposheet of 1:50,000 scale.
- iii. The plot centres were marked for each grid at the cross section of 1' x 1' grid lines. Then the grid numbers were assigned from 00 to 14 along 'X' axis and 00 to 14 along 'Y' axis. Thus in all 15 x 15 = 225 grids/plots were obtained in each toposheet covering 15'x15' area, so that their numbers were within the range of 0000 to 1414. As only one plot at the cross section of each grid of 1'x1' was marked, no separate numbers were assigned to plots, but were identified by grid numbers.

DIAGRAM - 1

DIAGRAM SHOWING IDENTIFICATION OF PLOT ON  
1:50,000 OR 1:63,360 SCALE TOPOSHEETS



- 1 ALL PLOTS OF RESERVE FOREST WAS TAKEN FOR SURVEY
- 2 ONLY 20% PLOTS OF UNCLASSED FOREST TAKEN RANDOMLY FOR SURVEY

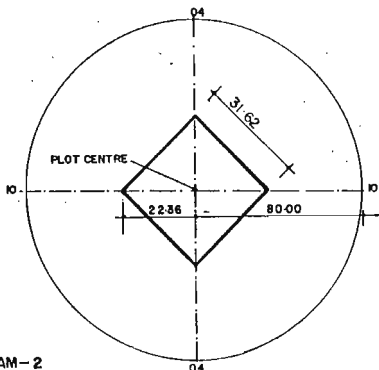


DIAGRAM - 2

DIAGRAM SHOWING LAY-OUT OF PLOT

iv. In the Reserved Forests all the plots marked at the cross section of each grid of 1' x 1' were taken up for survey work to ensure sampling intensity of 0.03%.

v. In respect of Unclassed State Forests, in each toposheet, all sample plots were assigned running numbers serially to enable selection of plots on random basis. In all 20% of such plots from the USF in each toposheets were selected randomly so as to ensure a sampling intensity of 0.006%. Few additional plots were also allotted to crew leaders for tackling, in the event of inaccessibility of randomly selected plots initially. Thus it was aimed for keeping a sampling intensity of 0.006% in the Unclassed State Forest area. Same numbering procedure as referred to at (iii) above for grids/plots selected from inventory was adopted in case of Unclassed State Forests.

vi. The size of the plots to be laid out in field was restricted to 0.1 ha both for Reserved Forests as well as for Unclassed State Forests. The layout and shape of the plot is indicated at diagram 1,2 & 3.

vii. Area: The following Forest areas in Lohit District were taken into account during survey work

Sl. No.	Legal classification of forest land.	Total forest area in the district km <sup>2</sup>	Forest area not surveyed*	Forest area surveyed km <sup>2</sup>	No. of plots surveyed	Weight of each plot km <sup>2</sup>
1.	Reserved Forests(RF)	3255.41	1710.09	1545.32	483	3.20
2.	Unclassed State Forests(USF)	6412.03	5058.53	1353.50	84	16.11
Total		9667.44	6768.62	2898.82	567	-

\* Forest area not surveyed due to inaccessibility, non-availability of toposheets and W.L.Sanctuary etc.(sq.km.).

Note: 1. The area figures were taken from Statistical Hand Book of Lohit District, 1984-85 published by Statistical Department, Lohit District, Tezu, Arunachal Pradesh.

2. In all 828 plots (712 in RF+116 plot in USF) covering forest area of 4147.16 km<sup>2</sup> (RF 2278.40 + USF 1868.76 km<sup>2</sup> were allotted in the available toposheets of Arunachal Pradesh, which has a total of 9667 km<sup>2</sup> forest area, out of which only 567 plots covering forest area of 2898.82 km<sup>2</sup> (30%) were surveyed and the rest were found to be inaccessible due to difficult terrain.

3. The results and estimation of this survey are based on the data collected from 567 plots only, which represent about 2898.82 km<sup>2</sup> forest areas mainly located in plains and lower altitudes of Lohit District.

### 3.3 LOCATION OF PLOT ON THE GROUND

As stated earlier, the survey was confined to the forest areas only, as decided on the basis of forest boundaries and green wash shown on the toposheets. The plots in Reserved Forests and Unclassed State Forests areas were allotted to various crew leaders for survey in Lohit District. The plots were marked on the toposheets issued to various crews for field work. The crews had drawn up their programme of halts at some convenient places in order to tackle maximum plots from those camps. The plots marked on the toposheet had to be exactly located on the ground with the help of some conspicuous features which could be identified on the map as well as on the ground. Usually following features were selected for this purpose.

1. Bench Mark.
2. Triangulation point.
3. Village or road trijunction point.
4. Old bridges and culverts.
5. Old temples, mosques and churches.
6. Crossing of railtracks with roads, streams, rivers etc.
7. Junctions of rivers or streams and roads.
8. Confluence of streams and rivers.
9. Junction of roads.
10. Prominent bends on roads, rivers or streams.
11. Old ponds and wells.
12. Springs.
13. Prominent topographical features in hilly region such as spurs, knolls etc.
14. Mile stones or kilometer stones.
15. Boundary pillars of International, State, District and forest areas etc.
16. Prominent bends of boundary etc.

After locating one of the above reference points on the ground as well as on the map, the bearing and distance from reference point to the plot centre were marked. This distance has to be traversed on the bearing calculated for the plot using Silva Compass and distance measured with a nylon rope/tape etc. While using compass the magnetic declination as indicated on the concerned toposheet was also taken into account. Similarly, for distance measurement the slope correction was applied to cover the actual horizontal distance of the plot measured from the map.

On reaching the plot centre, a square plot was laid out by taking distance of 22.36m in all the four directions (north, south, east and west) from the plot centre. Thus an exact plot of 0.1 ha area (having each side of 31.62m and diagonal of 44.72 m ) was laid out horizontally after making corrections for the slopes measured with the help of Blumleiss Hypsometer along 4 semi-diagonals(north, south, east and west).

#### 3.4 FORMAT FOR DATA COLLECTION

After laying out the plots in the field, various data were collected in the following field forms in codified manner (except in Plot Approach Form wherein information was collected in descriptive manner) as described in the Field Manual issued to the crews for the purpose of data collection. This facilitated the transfer of data on punch cards, consistency checking of collected data and finally in processing the data on electronic computer at a later stage. Various field forms used in this survey are:

1. Plot Approach Form.
2. Plot Description Form.
3. Plot Enumeration Form.
4. Sample Tree Form.
5. Bamboo Enumeration-cum-Clump Analysis Form.
6. Bamboo Weight Form.
7. Cane Data Form.

### 1. Plot Approach Form

As the title indicates, the form is a record of approach to the plot centre from the field camp of a crew. It is filled in by the crew leader as he proceeds from his camp to some conspicuous feature called reference point existing nearby the plot. The distance and bearing from this well-defined reference point to the plot centre were also recorded in it. The exact location of plot centre i.e. bearing and distance from two trees to the plot centre is also mentioned together with the time of departure from camp, as well as time taken in various studies and time of arrival in the camp. This form helps the check crew or any other person to relocate the plot easily when required. The data on this form is recorded in descriptive manner with a neatly drawn sketch showing the location of reference point and the plot centre.

### 2. Plot Description Form.

This form is designed for recording qualitative description of 2 ha area around the plot centre. The information regarding administrative units, legal status, land use, topography, soil, vegetation, bamboo regeneration, biotic influence, accessibility and plantation potential etc. were recorded. The data were recorded in codified manner and transferred to punch cards for further computer analysis. The stratification of area and classification of growing stock were done on the basis of these descriptions only.

### 3. Plot Enumeration Form.

In this form, all the trees having dia 10 cm over bark and above and all the bamboo clumps occurring in whole of 0.1 ha sample plot were recorded by species. This was meant for computing total growing stock existing in all such sample plots and finally in whole of the survey area which was estimated on the basis of these plots. This form helps in distributing the growing stock in terms of stems and volume by various parameters like species, diameter classes, forest types etc.

#### 4. Sample Tree Form.

Detailed information regarding the species, diameter at breast height (over bark), height of tree, clear bole, bark thickness, dominance and defects etc. of all the trees occurring in north-west quadrant of all the plots, were recorded in this form. On the basis of these parameters (i.e. height, diameter and clear bole), we get volume of the plots which further enables us to estimate the total growing stock of the area falling under various strata.

#### 5. Bamboo Enumeration-cum-Clump Analysis Form.

In this form, the data of individual culms occurring in the selected clumps bearing S.No. 1,9,17,25,33 .....etc. (i.e. the first and every eighth clump) appearing in Plot Enumeration Form were recorded. Thus, the information about age, soundness, size and condition etc. of the culms of the above clumps was obtained and analysed in various columns of this form. This information gave the position of total bamboo stock by clump sizes occurring under various conditions.

#### 6. Bamboo Weight Form.

This form was designed for collecting data to determine the green weight of bamboos of different species and sizes and further for establishing relationship between green weight and dry weight of bamboo culms. The data were recorded in respect of two selected culms from each dia class i.e. 2 to 5 cm, 5 to 8 cm and 8 cm and above and the green weight of three, 50 cm long sub-samples, each taken from the bottom, the middle and the top portions of the culms were recorded. Further, these three samples were dried in air and finally in

the oven in order to remove entire moisture content to get their air dry weight. This facilitated to establish relation between the green weight and the dry weight of culms by species and sizes to know the total growing stock of bamboos in terms of weight.

## 7. Cane Data Form.

The number of canes existing in the plot were counted under three length classes i.e. 0-10 m, 10-20 m, and above 20 m to assess the growing stock of canes in the District.

### 3.5 FIELD WORK

The inventory data collection from the forests of Lohit District of Arunachal Pradesh commenced in the month of January, 1990 and was completed in February, 1991. The field work continued in two field seasons covering January, 1990 to April, 1990 and November, 1990 to February, 1991 (May to October being slack season for field work). The movement of field parties, allotment, checking and supervision was controlled from the Base Camp established at 'Namsai' a town located near Assam-Arunachal Border being the entry point for Lohit District and Headquarter of Namsai Forest Division of the District. During field work eight field parties were formed to tackle the work in both seasons. Each party comprised of one Jr.Technical Asstt., One Dy., Ranger and two Fieldmen. Five jeeps and one truck were deployed to carry out the field work.

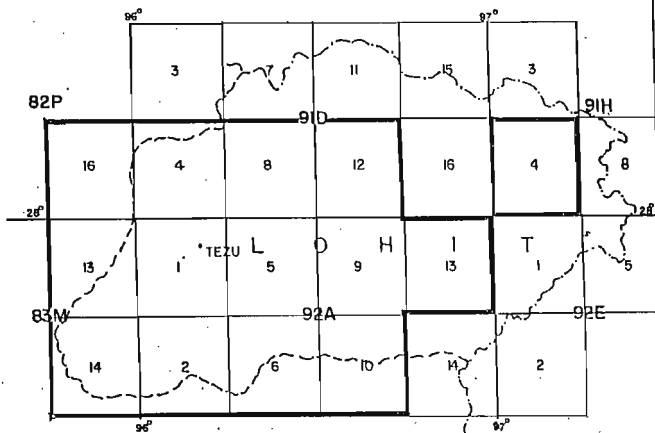
### 3.6 FIELD CHECKING AND SUPERVISION

The field work in Lohit District of Arunachal Pradesh was monitored and supervised by Shri M.D.Singh, Senior Technical Assistant who was in over all charge of survey work in both the seasons. Besides him, the field work was regularly being checked by a check crew led by Shri B.R.Pandey, Senior Technical Assistant. In all, about 10% of the total number of plots tackled by various crews were checked randomly.

### 3.7 MAPS AND PLOTS

The Survey of India toposheets covering the forest areas of Lohit District of Arunachal Pradesh are listed below giving details of their scale, year of survey and number of plots tackled in each toposheet.

MAP OF LOHIT DISTRICT OF ARUNACHAL PRADESH  
 SHOWING TOPOSHEETS OF  
 SURVEYED AREA



INDEX:-

- INTERNATIONAL BOUNDARY: - - - - -
- DISTRICT BOUNDARY: . . . . .
- SURVEYED TOPOSHEETS:

Sl. No.	Map sheet No.	Scale of map	Year of survey of topo-sheet	No. of plots allotted	No. of plots surveyed		
					RF	USF	Total
1.	92 A/1	1:50,000	1974-75	126	105	12	117
2.	92 A/2	"	1963-65	127	114	02	116
3.	92 A/5	"	1963-64	168	59	04	63
4.	92 A/6	"	1963-65	84	43	07	47
5.	92 A/9	"	1963-64	10	04	02	06
6.	92 A/10	"	1964-65	02	-	-	-
7.	92 A/13	"	1963-64	66	11	07	18
8.	91 D/4	"	1963	76	33	13	46
9.	91 D/8	"	1963-64	11	07	04	11
10.	91 D/12	"	1963-64	26	14	09	23
11.	91 H/4	"	1963-64	24	09	04	13
12.	83 M/13	"	1963	48	46	01	47
13.	83 M/14	"	1963-65	59	38	17	55
14.	82 P/16	"	1963-64	01	-	02	02
Total		..	..	828	483	84	567

Note: Out of 828 plots covering 4147 km<sup>2</sup> areas allotted for survey in the above available toposheets, only 567 plots (RF 483 + USF 84) covering an area of 2898.82 km<sup>2</sup> (RF 1545.32 + USF 1353.50) could be surveyed. The rest could not be tackled due to inaccessibility, international boundary, wild life sanctuary and nonavailability of toposheets etc.

### 3.8 CONSISTENCY CHECKING AND FORWARDING OF FIELD FORMS TO DATA PROCESSING UNIT

After completion of field work, the field forms pertaining to the inventory of 828 plots (712 RF + 116 USF) including 261 inaccessible in Lohit District of Arunachal Pradesh were manually checked in the Zonal office Nagpur as per Field Manual and coding instructions derived for the purpose. Inconsistencies in the field forms were rectified after discussing the specific points with the concerned crew leaders. All the field forms were finally forwarded to the Data Processing Unit of Headquarter office at Dehradun, on 27th March, 1991 for computer analysis and processing the data for deriving various kinds of compatible information to conform to the objectives of the survey.

### 3.9 CONSTRAINTS IN DATA COLLECTION

Lohit District of Arunachal Pradesh is situated in a mountainous region of Himalayan Ranges. Lack of infrastructure, difficult terrain, large number of perennial rivers, nonavailability of several mapsheets due to International boundary with China (Tibet) and adverse climatic conditions made the task difficult to cover the interior areas of the District. Execution of survey was also difficult in many remote areas due to lack of labourers, convenient approaches and proper camping facilities.

.....

## CHAPTER - IV

### DATA PROCESSING.

#### 4.0 SAMPLING DESIGN

In case of Lohit District of Arunachal Pradesh existing design standardized for Forest Inventory Survey, developed by Forest Survey of India was not used. During this survey in 1989-1990 by Central Zone, Nagpur, a new design was, however, adopted. Accordingly, a stratified random sampling was done by increasing the sampling intensity from existing 0.01% to 0.312% in Reserved Forest areas and 0.006% for Unclassed Forest areas. In order to adopt the above design, the grids were marked on Survey of India toposheets of 1:50,000 at the interval of 1' latitude by 1' longitude and the required number of sample plots were selected by random method in Reserved Forest areas and Unclassed Forest areas. In this way only one plot i.e. at the intersection of 1' x 1' grid was selected for the purpose of survey. The plots were square in shape having an area of 0.1 ha each.

#### 4.1 FIELD DATA

The basic data of the inventory survey were collected in Plot Description Form, Plot Enumeration Form, Sample Tree Form, Bamboo Enumeration Form etc. The field forms were pre-coded so that the data could easily be transferred on to the floppy/tape/disk directly. There were in all 2266 field forms which required data entry of the following number of records in each card design in Lohit District.

Card design	No.of records
1. Plot description	828
2. Plot enumeration	1444
3. Sample tree form	2576
4. Bamboo enumeration (non-clump forming)	12
5. Bamboo weight form	240
Total	5457

## 4.2 PLOT DETAILS IN LOHIT DISTRICT

In Lohit District there were 828 total plots in all. Out of these, 712 plots were taken in Reserved Forest areas giving weightage to each plot by 3.2 km<sup>2</sup> and 116 plots were taken in Unclassed Forest areas giving weightage to each by 16.11 km<sup>2</sup>.

## 4.3 DATA PROCESSING

The data processing involved the following operations:-

### 1) Manual processing

The field forms received in the MDMU were checked with the list supplied by the zonal office. Entries of the field forms were made in the register regarding the number of field forms relating to each map sheet, grid and plot. The total number of records required to be entered under each card design were also estimated and indicated in the register for future references.

Job number, Card design and left hand zeros, wherever missing were filled up in the field forms to avoid mistakes during entering the data on to the floppy or disk. Each entry in the field form was checked for consistency in the data. The main checks applied were range check for the maximum and minimum value of the codes and logical checks for inter- relation between the entries for two or more fields. Card designwise all the data were loaded on to the floppy/disk and verified. Then the listings were taken and checked manually to ensure the complete loading and proper sequence of data. Mistakes, if any, were rectified. Sample statistics were calculated and checked with the computer output results to see if the calculations on computer were correct. These involved Sample tree volumes, Local volume equations, Volume of enumerated tree, Plot volumes, Standard error etc. Prior to this, the programmes were developed according to the requirement of the data processing.

Intermediate and final computer output results were checked for consistency and relevance of results. Area tables were also prepared manually.

ii) Processing on electronic computer

The data were loaded on floppy/disk through direct data entry operation. Then they were verified and sorted. The listings of loaded data were taken to check if the data have been loaded completely in the desired sequence. Volume of each tree was estimated with the help of the Local Volume Equations developed in MDMU by using General Volume Equations as described in para of volume estimates.

Contribution of the volume of each enumerated tree per hectare was derived and stored in a tree/plot volume file created for future processing. Using the tree/plot volume file; growing stock tables by species and diameter class under each crop composition were prepared and standard error of the estimated growing stock was calculated.

The data of this survey were processed on VAX 11/780 of Forest Survey of India, Dehradun. The computer has the following configuration:-

1. Memory	4 MB
2. Tape drives	2
3. Disk drives	3
4. Line printer	1
5. Image processing Terminals (Peri color-2001 with VT-220)	3
6. Alphanumeric terminals	5
7. Digitizer	1
8. Dunn camera	1
9. 80 Column printer	3
10. Console with hard copy	1

#### 4.4 AREA

Area figures were supplied by the zonal office. The geographical area and the forest areas were given as under:-

(a) Geographical area	-	11402 km <sup>2</sup> .
(b) Forest area	-	9667.44 km <sup>2</sup> .
1. Forest area under Reserved Forest	-	3255.41 km <sup>2</sup> .
2. Forest area under Unclassed Forest	-	6412.03 km <sup>2</sup> .
3. (a) Forest area under Reserved Forest allotted for survey i.e. 712 plots. Weightage given to each plot is 3.2 km <sup>2</sup>	-	2278.40 km <sup>2</sup> .
(b) Forest area under Unclassed Forest allotted for survey i.e. 116 plots. Weightage given to each plot is 16.11 km <sup>2</sup> .	-	1868.76 km <sup>2</sup> .
Total	-	4147.16 km <sup>2</sup> .
4. (a) Forest area surveyed under Reserved Forest i.e. 483 plots. Weightage given to each plot is 3.2 km <sup>2</sup> .	-	1545.32 km <sup>2</sup> .
(b) Forest area surveyed under Unclassed Forest i.e. 84 plots. Weightage given to each plot is 16.11 km <sup>2</sup> .	-	1353.50 km <sup>2</sup> .
Total	..	2898.82 km <sup>2</sup> .
5. Inaccessible forest area (allotted inaccessible + unallotted inaccessible)		
Reserved Forest	-	1710.09 km <sup>2</sup> .
Unclassed Forest	-	5058.53 km <sup>2</sup> .
Total	-	6768.62 km <sup>2</sup> .
Total Forest Area (4+5)	-	9667.44 km <sup>2</sup> .

In Lohit District, weightage of each plot was calculated with the separate factor as stated above in case of Reserved Forests and Unclassed Forests, to estimate area under different parameters.

The total forested area was calculated on the above basis and classified by land use class, and given in Table no. 5.1T(x,y,z) for RF and USF and combined category respectively.

The area falling in land use classes, such as dense tree forests, moderately dense tree forests, open tree forests, bamboo forests, young plantations and young crop of regeneration was considered as tree vegetated area and was classified

mainly by three crop compositions viz. (1) Conifers, which include Fir, Chir pine, and Khasi pine, (2) Hardwood which includes Hardwood with mixed Conifers, Upland Hardwood, Teak forests and Miscellaneous forests, (3) Bamboo forests and corresponding areas are given in Table No. 5.2T(x,y,z,) for RF, USF and combined category respectively. The area under each crop composition was classified by Topography in Table No. 5.3T (x,y,z,), by slope class in Table No. 5.4T (x,y,z,), by Soil depth class in Table No. 5.5T(x,y,z,). Similarly breakup of forest area is done by Plantation potential in Table No., 5.10 T(x,y,z,) for RF, USF and combined category respectively.

However, it may be noted that in many cases the area is based on a few sample plots, therefore, these tables should be considered indicative only and used with due caution.

#### 4.5 VOLUME ESTIMATION

1. Felled tree data for developing general volume equations were not collected during the inventory, because of restrictions on felling of trees. General volume equations, already derived and used in case of Lohit and Tirap districts Forest Inventory Survey in 1981 by Eastern Zone, Calcutta were adopted to develop local volume equations for each of the main species or group of the species including miscellaneous group of species. The general volume equations referred were as under:-

##### GROUP-1

Name of species - Dipterocarpus macrocarpus

$$V/D^2H = 0.00003608 + 0.03849/d^2H$$

or

$$V = 0.03849 + 0.00003608 D^2H$$

##### GROUP-2

Name of species -Shorea assamica

$$V/D^2H = 0.000035 + 0.01199/D^2H$$

or

$$V = 0.01199 + 0.000035 D^2H$$

GROUP-3

- Name of species -
1. Terminalia myriocarpa
  2. Cinnamomum cecidodaphne
  3. Altingia excelsa
  4. Castanopsis spp.
  5. Terminalia citrina
  6. Duabanga sonneratidoes
  7. Phoebe cooperiana
  8. Artocarpus lakoocha
  9. Terminalia bellirica

$$V/D^2H = 0.0000257 + 0.0346/D^2H$$

or

$$V = 0.0346 + 0.0000257 D^2H$$

GROUP-4

- Name of species :
1. Amoora wallichii
  2. Gmelina arborea
  3. Chukrassia tabularis
  4. Talauma phellocarpa
  5. Adina cordifolia
  6. Lagerstroemia flosreginae
  7. Bischofia javanica
  8. Cedrela toona
  9. Pterospermum acerifolium
  10. Kydia calycina
  11. Trewia nudiflora
  12. Stereospermum chelonioides

$$V = 0.0778 + 0.0000286 D^2H$$

GROUP-5

Name of species : Bombax ceiba

$$V = 0.06076 + 0.0000294 D^2H$$

GROUP-6

Name of species : Bombax ceiba

$$V = 0.06076 + 0.0000294 D^2H$$

GROUP-7

Name of species : *Dillenia indica*

$$V/D^2H = 0.0000411 - 0.01013/D^2H$$

or

$$V = -0.01013 + 0.0000411 D^2H$$

GROUP-8

Name of species : *Mesua ferrea*

$$V/D^2 = 0.000157 + 0.000035 H - 0.03037/D^2$$

or

$$V = -0.03037 + 0.000157 D^2 + 0.000035 D^2H$$

GROUP-9

Name of species :

1. *Morus laevigata*
2. *Michelia champaca*
3. *Schima wallichii*
4. *Adina oligocephala*
5. *Betula alnoides*
6. *Tetrameles nudiflora*
7. *Anthocephalus cadamba*
8. *Alostonia scholaris*
9. *Kayea assamica*
10. *Pterospermum lanceaefolium*
11. *Dalberiga sissoo*
12. Others/ Miscellaneous

$$V = -0.1368 + 0.00318 D + 0.01424 H + 0.0000176 D^2H$$

Where

V = Under bark volume (m<sup>3</sup>)

D = Diameter (cm)

H = Height (m)

General volume equation developed for Group-9, should not be applicable for trees having height less than 7 metres and such trees were ignored while the local volume equations were developed.

For each of the main species, sample tree volume was calculated by using the respective general volume equation. The estimated sample tree volume and its transferred form is considered as dependent variable and the diameter or its transferred form as independent variable for the regression. Thus from the available volume/diameter of sample tree data, following set of regression functions were tried for each of the main species or group.

1.  $V = a + bD^2$
2.  $V = a + bD + cD^2$
3.  $V = a + bD + cD^2 + dD^3$
4.  $V = a + bD + cD^2$
5.  $V = a + bD$
6.  $V = a + bD + cD$
7.  $V/D^2 = a + b/D^2$
8.  $V/D^2 = a + b/D + c/D^2 + dD$
9.  $V/D^2 = a + b/D + c/D^2 + dD$
10.  $\text{Log}V = a + b \text{ log}D$

Where  $V$  = Under bark volume  $m^3$  upto 5 cm.  
top overbark limits.  
 $D$  = Diameter at breast height.

One of the best fitted local volume equations from these was selected after carrying out the regression analysis.

The following local volume equations were selected for different species as under :-

1. *Albizia lucida* (61)  
 $\sqrt{V} = 0.44360 + 5.25340D - 2.16829 \sqrt{D}$   
 $R^2 = 0.98207$
2. *Altingia excelsa* (31)  
 $\sqrt{V} = -1.58432 - 0.67366D + 5.041802 \sqrt{D}$   
 $R^2 = 0.94070$

3. *Amoora wallichii* (33)  
 $V = -0.10099 + 0.93273D + 5.28022 D^2$   
 $R^2 = 0.95518$
4. *Ailanthus grandis* (23)  
 $V = -0.09362 + 9.93014 D^2$   
 $R^2 = 0.96323$
5. *Artocarpus chaplasha* (21)  
 $\sqrt{V} = 0.50943 + 4.40226 D - 2.15151\sqrt{D}$   
 $R^2 = 0.99770$
6. *Bischofia javanica* (44)  
 $\sqrt{V} = -0.00273 + 2.56199 D$   
 $R^2 = 0.95117$
7. *Bombax ceiba* (21)  
 $V = 0.15958 - 1.57976 D + 8.25014 D^2 - 0.48518 D^3$   
 $R^2 = 0.97252$
8. *Canarium resiniferum* (20)  
 $\sqrt{V} = -0.21948 + 3.49665 D$   
 $R^2 = 0.97610$
9. *Castanopsis hystrix* (35)  
 $\sqrt{V} = 0.34640 + 3.99269D - 1.64666 \sqrt{D}$   
 $R^2 = 0.98954$
10. *Cedrela toona*(26)  
 $\sqrt{V} = -0.05514 + 2.67753 D$   
 $R^2 = 0.95658$

11. *Stereospermum personatum* (30)  
 $\sqrt{V} = -0.24440 + 3.26068 D$   
 $R^2 = 0.98312$
12. *Chukrasia tabularis* (13)  
 $V = -0.07559 + 9.23051 D^2$   
 $R^2 = 0.99962$
13. *Cinnamomum cecidodaphne* (15)  
 $V = -0.13819 + 2.28497D - 4.27569D^2 + 11.34220 D^3$   
 $R^2 = 0.99270$
14. *Dillenia indica* (17)  
 $\sqrt{V} = -0.27474 + 3.25935 D$   
 $R^2 = 0.97009$
15. *Dipterocarpus macrocarpus* (41)  
 $\sqrt{V} = -0.16526 + 3.31350 D$   
 $R^2 = 0.97324$
16. *Duabanga grandiflora* (37)  
 $\sqrt{V} = 0.13199 + 3.35856 D - 0.79250 \sqrt{D}$   
 $R^2 = 0.99438$
17. *Gmelina arborea* (27)  
 $V = 0.01156 + 0.21230 D + 5.10448 D^2$   
 $R^2 = 0.96923$
18. *Kydia calycina*(53)  
 $\sqrt{V} = -0.02297 + 2.68423 D$   
 $R^2 = 0.98825$
19. *Lagerstroemia parviflora* (9)  
 $V = -1.25621 + 24.09007D - 135.30588D^2 + 258.26669 D^3$   
 $R^2 = 0.94770$

20. *Melia azadirachta* (18)  
 $V = -0.03510 + 5.32981 D^2$   
 $R^2 = 0.94124$
21. *Terminalia citrina* (19)  
 $\sqrt{V} = -0.05527 + 2.59229 D$   
 $R^2 = 0.98954$
22. *Shorea assamica* (22)  
 $\sqrt{V} = -0.24358 + 3.58273 D$   
 $R^2 = 0.99631$
23. *Pterospermum acerifolium* (23)  
 $\sqrt{V} = -0.14844 + 3.16395 D$   
 $R^2 = 0.99608$
24. *Mesua ferrea* (28)  
 $V = -0.30694 + 3.97443 D - 10.57969 D^2 + 23.00092 D^3$   
 $R^2 = 0.99797$
25. Misc. species group (1753)  
 $V = 0.15958 - 1.57976 D + 8.25014 D^2 - 0.48518 D^3$   
 $R^2 = 0.97252$

Figures in the brackets against each of the species denote the number of trees on which the equations are based.

#### 4.6 ENUMERATED TREE VOLUME

The volume of each enumerated tree of a species was estimated by substituting its breast height overbark diameter in a local volume equation of that species. The enumerated tree volumes were converted to per hectare volumes and stored in a tree/plot volume file together with species code, diameter of a tree, parameters of plot description form, per hectare volume and stems and the volume of that plot. The elements of information stored in the above files were utilised to classify the tree by species and diameter class, estimates of number of the

stems and volume per hectare and total by species and diameter classes were obtained for different strata viz, District, crop composition etc.

#### 4.7 PLOT VOLUME

The estimated volume of each enumerated tree in a plot when added up over the whole plot provided the plot volume. It was converted to per hectare volume and also stored in the tree/plot volume file. The per hectare plot volumes were used to estimate volume under different classes of desired parameters. The plot volumes were also used to estimate the sampling error of the growing stock for each crop composition.

#### 4.8 STAND TABLES

The elements of tree/plot volume file were utilised to classify the tree by species, diameter, crop composition etc. Estimates of the number of stems per hectare and total stems by species and diameter class were obtained for all the three crop compositions viz; Conifers, Hardwoods and Bamboo forests in case of Reserved Forests and Unclassed Forests separately. The number of stems per hectare and total stems over all crop compositions were also derived for RF and USF.

#### 4.9 STOCK TABLES

Estimates of volume per hectare and total volumes by species and diameter classes were obtained for each crop composition for RF and USF from the tree/plot volume file.

Estimates of volume per hectare and total volume by species and diameter classes for the entire survey area were also derived in RF and USF.

.....

## CHAPTER - V

### INVENTORY RESULTS : AREA

#### 5.0 GENERAL:

In all, the data was collected in respect of 567 sample plots (483 in Reserved Forests and 84 in Unclassed State Forests), reckoning to 2898.22 km<sup>2</sup> of forest area, and was analysed to obtain the forest resources position of the Lohit District of Arunachal Pradesh. Further, in order to find out the information pertaining to 1545.32 km<sup>2</sup> of the Reserved Forests, altogether 483 plots had to be laid out against sampling of 84 plots in Unclassed State Forest to represent 1353.50 km<sup>2</sup>. Although the total forest area of Lohit District is spread over 9667.44 km<sup>2</sup>, an area of 2898.82 km<sup>2</sup> alone was surveyed, comprising about 30% of the forest area. Hostile terrain and inaccessible conditions, besides the existence of international boundaries confronting with China, as well as the non-availability of toposheets and protected areas of wildlife sanctuaries, prohibited the coverage of entire forest area. Hence a major part of the forests forming about 70%, spread over 676862 km<sup>2</sup> could not be tackled.

The survey results have been compiled separately for Reserved Forests (R.F.) and Unclassed State Forests (U.S.F.). As per the survey design, an intensity of 0.03% was adopted for Reserved Forests while for Unclassed State Forests the sampling intensity of 0.06% was adhered to. Thus an over all sampling intensity for Lohit survey was in the region of 0.02%. Therefore, a sampled square plot of 0.1 ha in the Reserved Forests represented 3.2 km<sup>2</sup> of forest area, whereas the similar sample plot of 0.1 ha in the Unclassed State Forests represented 16.11 km<sup>2</sup>. The following Table, 5.0T details forest land under various legal classification, no. of plots actually surveyed, weight assigned to each plot and sampling intensity.

TABLE NO. 5.0T

Break up of the area by legal status.

Legal classification of land.	Total area of Distt. forest	Area surveyed km <sup>2</sup>	No. of plots tackled	Weight of each plot km <sup>2</sup>	Sampling intensity	Area left unsurveyed
1	2	3	4	5	6	7
R.F.	3255	1545.32	483	3.20	.03%	1709.68
U.S.F.	6412	1353.50	84	16.11	.006%	5058.50
Total	9667	2898.82	567	-	.02%	6768.18

## 5.1(X) FOREST AREA BY LAND USE CLASSES - RESERVED FORESTS

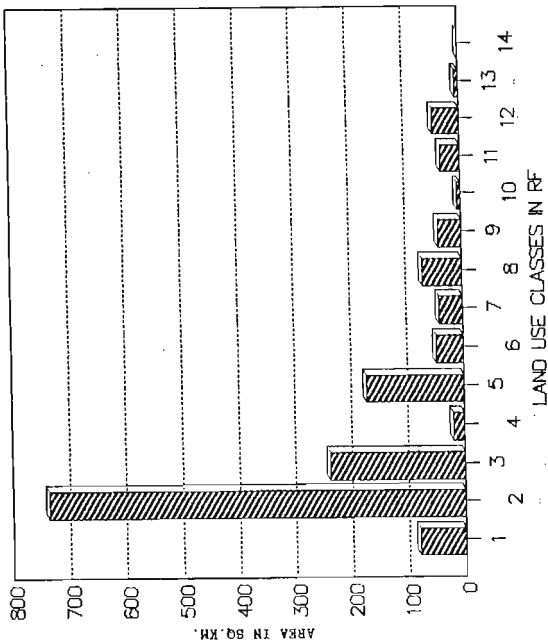
Table 5.1T(X) gives a fairly good picture of various land uses in Lohit District. From the table it transpires that 68.32% of the Reserved Forest area is under tree forests with a density of more than 0.7, in addition 47.62% is supporting moderately dense tree forests having a density range of 0.3 to 0.7, and the balance area of 15.52%, falls in the category of open forests, where the density is between 0.5 to 0.3. As for young crop having 2-10 cm dia class, a meagre 2.69% area is covered, while the regeneration crop (below 2 cm dia at breast height) is poorly represented by 0.41% of the Reserved Forest area. Bamboos contribute, by 11.18% of the Reserved Forest area. Thus, it is obvious that an area of 1276.57 km<sup>2</sup> comprising in all 82.44% of the Reserved Forest area obtained from 399 sample plots is under the land use codes 01,02,03,05,07 and 18, and is estimated to bear the vegetation. The other land uses viz; shifting cultivation, permanent agriculture and habitation account for 8.00% which is being exclusively used for non-forestry purposes (ref.graph at page 48).

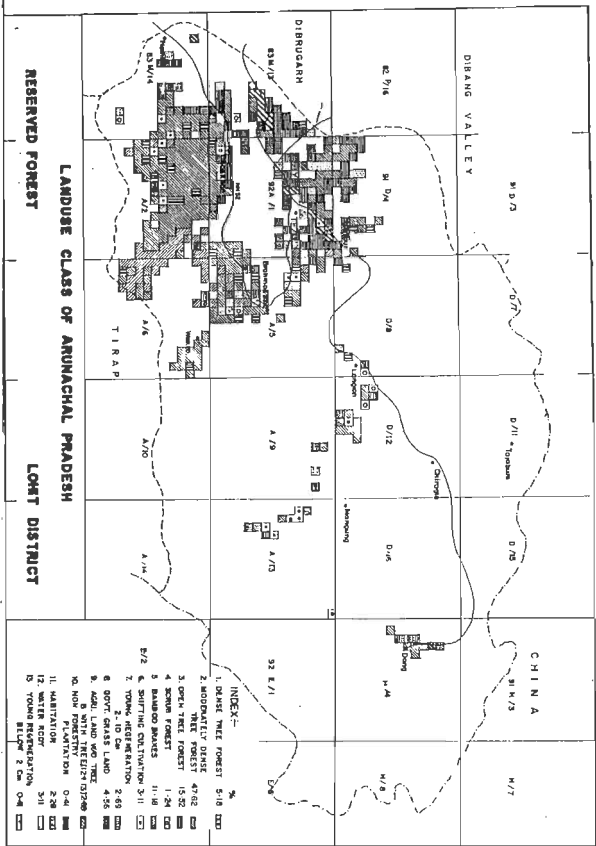
# LAND USE PATTERN IN LOHIT DISTRICT (A.P)



## INDEX

1. Dense Tree forest
2. Moderately dense tree forests
3. Open tree forests
4. Scrub forests
5. Bamboo forests
6. Shifting cultivation
7. Young crop
8. Forest Road
9. Govt. grass land
10. Agriculture land
11. Non-forestry plantn.
12. Habitation
13. Water bodies
14. Regn. crop





**LANDUSE CLASS OF ARUNACHAL PRADESH**

**RESERVED FOREST**                      **LOHT DISTRICT**

- INDEX:-**
- |                                 |       |   |
|---------------------------------|-------|---|
| 1. BAREE TREE FOREST            | 5/16  | □ |
| 2. MODERATELY DENSE TREE FOREST | 47/62 | ▨ |
| 3. OPEN TREE FOREST             | 15/32 | ▧ |
| 4. SCOPY FOREST                 | 1-24  | ▩ |
| 5. BAROOD BRACKS                | 11-18 | ▪ |
| 6. SWIFTING CULTIVATOR          | 3-11  | ▫ |
| 7. YOUNG HEER FERATION          | 2-69  | ▬ |
| 8. GOVY GRASS LAND              | 4-56  | ▭ |
| 9. MODY GRASS LAND              | 4-56  | ▮ |
| 10. NOW FOREST                  | 0-44  | ▯ |
| 11. HABITATION                  | 2-28  | ▰ |
| 12. WATER BODY                  | 3/11  | ▱ |
| 13. YOUNG RESERVATION           | 0-44  | ▲ |
| 14. OPEN 2 CM                   | 0-44  | △ |

TABLE NO. 5.1T(X)

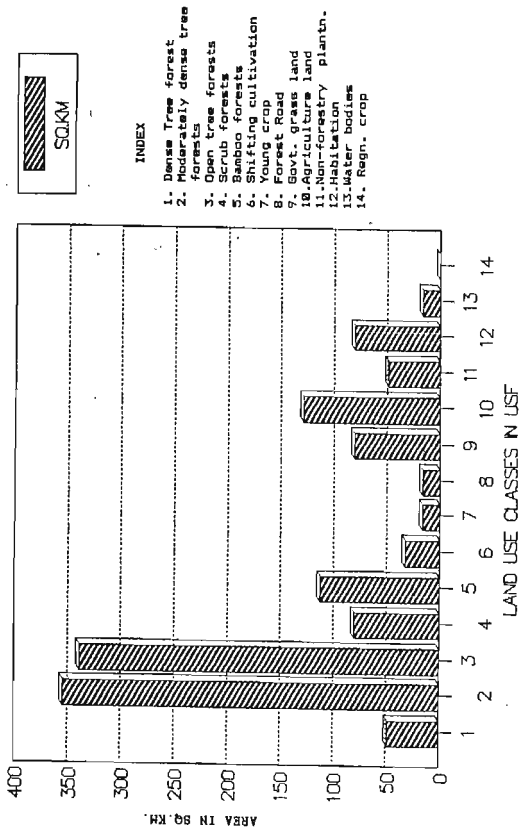
Break up of the forest area by Land use classes- Reserved Forests (R.F.)

S.No.	Land use class	Code	No. of plots	Area km <sup>2</sup>	Percentage.
1.	Dense Tree forests	01	25	80.00	5.18
2.	Moderately dense tree forests	02	230	735.86	47.62
3.	Open tree forests	03	75	239.95	15.52
4.	Scrub forests	04	6	19.20	1.24
5.	Bamboo forests	05	54	172.77	11.18
6.	Shifting cultivation	06	15	47.99	3.11
7.	Young crop	07	13	41.59	2.69
8.	Forest Road	09	-	-	-
9.	Govt. grass land	10	22	70.39	4.56
10.	Agriculture land	12, 13	13	41.59	2.69
11.	Non-forestry plantation	14	2	6.40	0.41
12.	Habitation	15	11	35.19	2.28
13.	Water bodies	16	15	47.99	3.11
14.	Regeneration crop	18	2	6.40	0.41
Total			.. ..	483	1545.32 100.00

## 5.1(Y) FOREST AREA BY LAND USE CLASSES - UNCLASSIFIED STATE FORESTS (USF)

The land use position in respect of Unclassified State Forests has been projected from 84 sample plots. Table 5.1T(Y) presents a clear picture of land utilization under USF in the survey area. From the table it is seen that a sizeable area of 4.76% has the tree forests, out of which 3.55% is under dense tree forests, 26.19% is occupied by moderately dense forests, and the open forests occupy 25% of the USF area. The share of young crop and regeneration crop is 1.19% each, while Bamboo contributes 8.33% of the USF area. The table further shows that in all 65.47% (886.16 km<sup>2</sup>) of the USF areas, obtained from 55 plots under the land use codes 01,02,03,05,07 and 18, are estimated to have vegetation. In other land uses, areas occupied under shifting cultivation, permanent agriculture and habitation, codes 12,13 and 15, contribute to 15.49% of the USF and are utilized for non-forestry purposes (ref. graph at page 51)

# LAND USE PATTERN IN LOHIT DISTRICT(A.P)

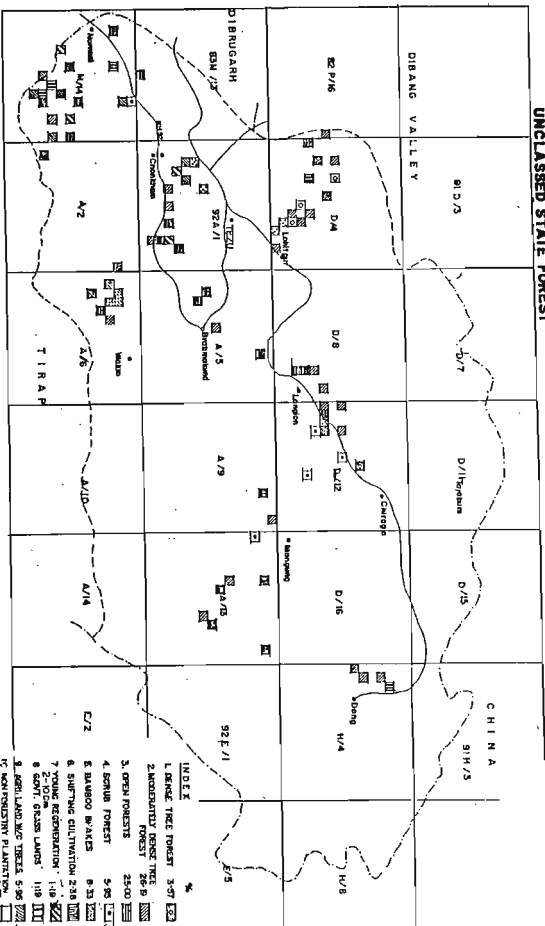


# LAND USE CLASS OF ARUNACHAL PRADESH

## UNCLASSIFIED STATE FOREST

LOHIT DISTRICT

No. S.117/M



- INDEX**
- 1. LARGE TREE FOREST 3-57
  - 2. MODERATELY ROSE TREE FOREST 58-8
  - 3. OPEN FORESTS 25-60
  - 4. SCRUB FORESTS 5-95
  - 5. BAMBOO WAKES 8-33
  - 6. SHIFTING CULTIVATION 2-38
  - 7. YOUNG RESERVATION 1-18
  - 8. GOVT. GRASS LANDS 1-18
  - 9. AGRIC. LAND W/O TREES 5-95
  - 10. NON-PROTECTIVE PLANTATION 5-53
  - 11. HABITATION 5-58
  - 12. WATER BODY 5-95
  - 13. YOUNG RESERVATION BELOW 2feet 1-9

TABLE NO. 5.1T(Y)  
Break up of the forest area by Land use classes  
Unclassed State Forests (USF)

S.No.	Land use classes	Code	No. of plots	Area km <sup>2</sup>	Percentage.
1.	Dense Tree forests	01	3	48.33	3.57
2.	Moderately dense tree forests	02	22	354.47	26.19
3.	Open tree forests	03	21	338.36	25.00
4.	Scrub forests	04	5	80.56	5.95
5.	Bamboo forests	05	7	112.78	8.33
6.	Shifting cultivation	06	2	32.22	2.38
7.	Young crop	07	1	16.11	1.19
8.	Forest Roads	09	1	16.11	1.19
9.	Govt. grass land	10	5	80.56	5.95
10.	Agriculture land	12, 13	8	128.98	9.53
11.	Non-forestry plantation	14	-	-	-
12.	Habitation	15	3	48.35	3.58
13.	Water bodies	16	5	80.56	5.95
14.	Regeneration crop	18	1	16.11	1.19
Total .. ..			84	1353.50	100

5.1(2) TOTAL FOREST AREA BY LAND USE CLASSES -  
RESERVED FORESTS+UNCLASSED STATE FORESTS (RF+USF)

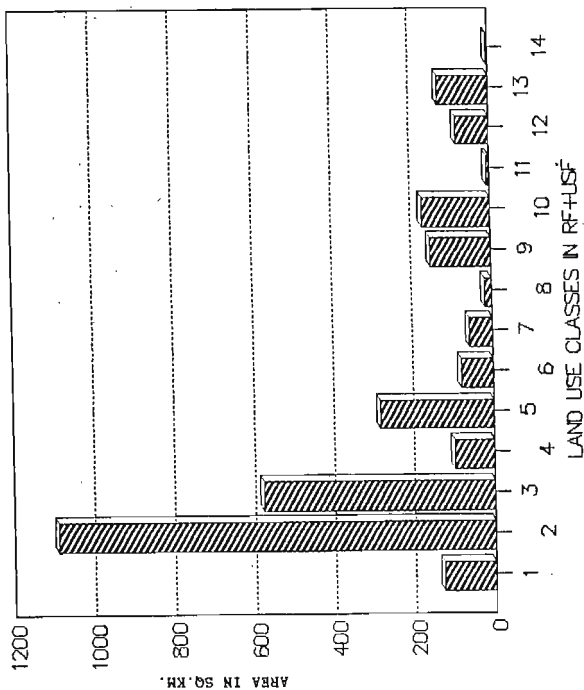
Following table gives an overall land use scenario of total forest area (RF+USF) surveyed in Lohit District. From the Table it emerges that only 4.43% of the forest area is under dense tree forests with density more than 70%. Further, an area of 37.61% of the forest is under moderately dense category with crown density between 30% to 70%. In all, 74.61% of the forest land has supports tree growth including open forests, young crop, regeneration crop and Bamboos. Area under non-forest uses, non-forestry plantations and shifting cultivation covers 11.75% of the total forests (ref.graph at page 54).

# LAND USE PATTERN IN LOHIT DISTRICT (A.P)



## INDEX

1. Dense Tree forest
2. Moderately dense tree forests
3. Open tree forests
4. Scrub forests
5. Bamboo forests
6. Shifting cultivation
7. Young crop
8. Forest Road
9. Govt. grass land
10. Agriculture land
11. Non-forestry plantn.
12. Habitation
13. Water bodies
14. Regn. crop



# CROP COMPOSITION OF ARUNACHAL PRADESH

RESERVED FOREST

LOHT DISTRICT

No-527.X.II

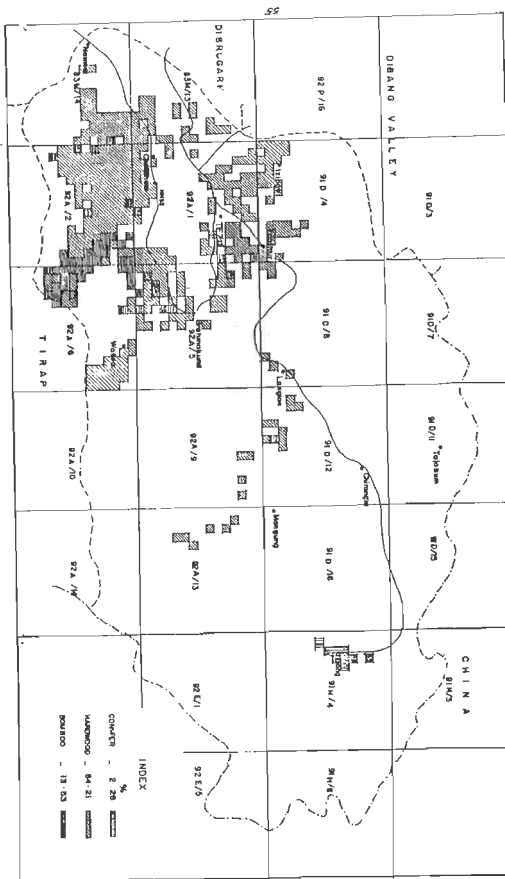




TABLE NO.5.1T(Z)

Break up of the Total forest area by land use classes in Reserved Forests + Unclassed State Forests (RF+USF)

S.No.	Land use classes	Code	Area km <sup>2</sup>	Percentage.
1.	Dense Tree forests	01	128.33	4.43
2.	Moderately dense tree forests	02	1090.33	37.61
3.	Open tree forests	03	578.31	19.95
4.	Scrub forests	04	99.76	3.44
5.	Bamboo forests	05	285.55	9.85
6.	Shifting cultivation	06	80.21	2.77
7.	Young crop	07	57.70	1.99
8.	Forest Road	09	16.11	0.56
9.	Govt. grass land	10	150.95	5.21
10.	Agriculture land	12, 13	170.57	5.88
11.	Non-forestry plantation	14	6.40	0.22
12.	Habitation	15	83.54	2.88
13.	Water bodies	16	128.55	4.43
14.	Regeneration crop	18	22.51	0.78
Total			2898.82	100.00

#### 5.2(X) AREA BY CROP COMPOSITION - RESERVED FORESTS

As already detailed at 5.1(X), the vegetated area under Reserved Forests is 1276.57 km<sup>2</sup>, categorised under tree forests, young crop, young regeneration, and Bamboo brakes. These are further classified into distinct crop compositions of which conifers form the first stratum, covering Fir, Chir-pine and Khasipine. In the second stratum, Hardwood mixed with Conifers, Upland Hardwoods, Teak and Miscellaneous forests occur. The last stratum includes Bamboo brakes. Crop compositions of very low and poor representation were merged in the main strata. The distribution of crop composition has been detailed in the following table.

TABLE NO. 5.2T(X)

Break up of the forest area by crop composition-  
Reserved Forests

Stratum	No. of plots	Area in km <sup>2</sup>	Percentage
Conifers (codes 01,06,16)	9	28.80	2.26
Hardwoods (Codes 08,09,10&20)	336	1075.01	84.21
Bamboo forests (code 12)	54	172.76	13.53
Total ..	399	1276.57	100.00

From the above it is amply evident that the major vegetation in the R.F. comprises of Hardwoods forming about 84.21% of the crop. Bamboo forests have also substantially contributed by 13.53%, and even in Hardwood stratum, Bamboo occurs as overlapping vegetation. The distribution of conifers is insignificant as it contributes marginally by 2.26% of the crop composition for the reason that the survey was restricted to the accessible forest areas only.

5.2(Y) AREA BY CROP COMPOSITION - UNCLASSIFIED STATE FORESTS  
(USF):

The land use details of USF have been indicated at 5.1(Y) with an USF coverage of 1353.50 km<sup>2</sup> of which vegetated area occupies over 886.16 km<sup>2</sup>. The crop composition in USF under different stratum has been classified in the table below. Like R.F., in USF also the Hardwood stratum has maximum vegetation of 81.82% followed by Bamboo forests occupying 12.73%. The contribution of conifers also is negligible being 5.45% where the survey was mainly confined to plain and lower altitudinal areas.

TABLE NO. 5.2T(Y)

Break up of the forest area by crop composition - Unclassed State Forests (USF)

Stratum	No. of plots	Area in km <sup>2</sup>	Percentage
Conifers (codes 01,06,16)	3	48.34	5.45
Hardwoods (codes 08,09,10&20)	45	725.04	81.82
Bamboo forests (code 12)	7	112.78	12.73
Total ..	55	886.16	100.00

5.2(Z) TOTAL FOREST AREA BY CROP COMPOSITION - RESERVED FORESTS + UNCLASSIFIED STATE FORESTS (RF+USF).

A total of 2898.82 km<sup>2</sup> of R.F and USF have been surveyed in Lohit District of which, area occupied by vegetation is 2162.73 km<sup>2</sup>, reckoning to 74.61%. The distribution of the crop by different strata is detailed in the Table 5.2T(Z), from which it is seen that the main stratum Hardwood occupies 83.23%, while Bamboo contributes 13.20%. The share of Conifers is negligible with about 3.57% only. From the inventory results it transpires that primarily the District has broad-leaved forests (Hardwoods) of miscellaneous species. Conifers are confined to high altitudes with a very small proportion. Bamboo has a significant contribution in the tract.

TABLE NO. 5.2T (Z).

Break up of the Total forest area by Crop composition-Reserved Forests + Unclassified State Forests (R.F +U.S.F.)

Stratum	Area in km <sup>2</sup>	Percentage
Conifers (codes 01,06,16)	77.14	3.57
Hardwoods (codes 08,09,10&20)	1800.05	83.23
Bamboo forests (code 12)	285.54	13.20
Total ..	2162.73	100.00

5.3(X) AREA BY CROP COMPOSITION AND TOPOGRAPHY  
RESERVED FORESTS (R.F.).

The topography reveals that 62.66% of the crop is supported on flat and undulating terrain while the remaining 37.24% is confined to hilly and very hilly land. Conifers are conspicuous over hilly terrain while Hardwoods and Bamboos are spread over flat and undulating tract. The following table depicts the position of crop composition in relation to topography.

TABLE NO. 5.3T(X)

Break up of the forest area in km<sup>2</sup> by crop composition and topography - Reserved Forests (R.F.).

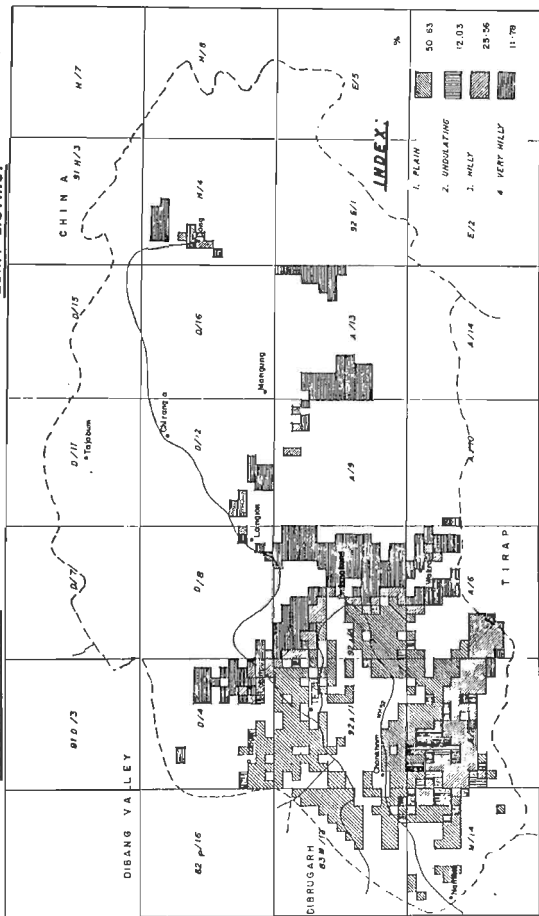
Stratum	Topography								Total	
	Flat		Gently rolling		Hilly		Very hilly			
	No. of plots	Area of plots	No. of plots	Area of plots	No. of plots	Area of plots	No. of plots	Area of plots	No. of plots	Area of plots
Conifers	-	-	-	-	4	12.80	5	16.00	9	28.80
Hard-woods	173	553.50	46	147.17	77	246.37	40	127.97	336	1075.01
Bamboos	29	92.78	2	6.40	21	67.18	2	6.40	54	172.76
<b>Total</b>	<b>202</b>	<b>646.28</b>	<b>48</b>	<b>153.57</b>	<b>102</b>	<b>326.35</b>	<b>47</b>	<b>150.37</b>	<b>399</b>	<b>1276.57</b>
<b>Percentage</b>	<b>50.63</b>	<b>12.03</b>	<b>25.56</b>	<b>11.78</b>	<b>100</b>					

# TOPOGRAPHY OF ARUNACHAL PRADESH

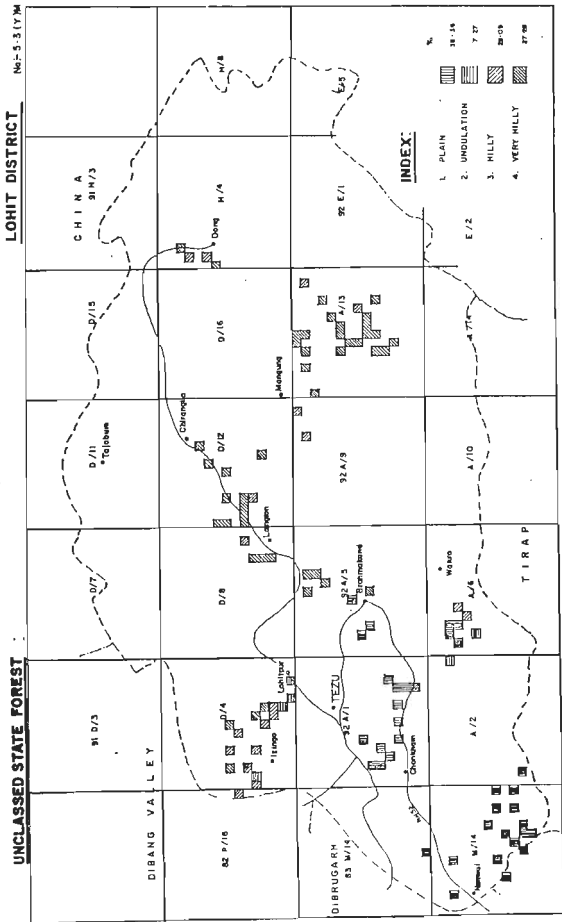
## RESERVED FOREST

## LOHIT DISTRICT

NO-5-3 (X) M



# TOPOGRAPHY OF ARUNACHAL PRADESH



5.3(Y) AREA BY CROP COMPOSITION AND TOPOGRAPHY  
UNCLASSIFIED STATE FORESTS (USF).

In respect of USF, 43.63% of the crop is confined to flat and undulating terrain and remaining 56.37% is occupied by hilly and very hilly terrain falling mainly over accessible areas at lower altitudes. Following Table reveals the distribution of crop by topography.

TABLE NO. 5.3T(Y)

Break up of the forest area in km<sup>2</sup> by crop composition and topography - Unclassified State Forests (USF)

Stratum	Topography									
	Flat		Gently rolling		Hilly		Very hilly		Total	
	No. of plots	Area	No. of plots	Area	No. of plots	Area	No. of plots	Area	No. of plots	Area
Conifers	-	-	-	-	2	32.23	1	16.11	3	48.34
Hardwoods	16	257.80	2	32.22	13	209.45	14	225.57	45	725.04
Bamboos	4	64.45	2	32.22	1	16.11	-	-	7	112.78
Total	20	322.25	4	64.44	16	257.79	15	241.68	55	886.16
Percentage	36.36		7.27		29.09		27.28		100	

5.3(Z) TOTAL FOREST AREA BY CROP COMPOSITION AND TOPOGRAPHY  
RESERVED FORESTS + UNCLASSIFIED STATE FORESTS(RF+USF).

Bulk of the vegetation forming about 54.86% in the District is confined to flat and undulating terrain, while 27.01% is supported by hilly ground and about 18.13% is obtained in very hilly tract. Conifers are invariably restricted to hilly and very hilly terrain. Bamboo mostly exists on flat, undulating and hilly terrain but gradually tends to decline on very hilly terrain. The position is detailed in the following Table.

TABLE NO. 5.3T(Z)

Break up of the forest area in km<sup>2</sup> by crop composition and topography - Reserved Forests + Unclassed State Forests (RF+USF)

Stratum	Topography (Area in sq.km.)				Total
	Flat	Gently rolling	Hilly	Very hilly	
Conifers	-	-	45.03	32.11	77.14
Hard-woods	811.30	179.39	455.82	353.54	1800.05
Bamboos	157.23	38.62	83.29	6.40	285.54
Total	968.53	218.01	584.14	392.05	2162.73
Percentage	44.78	10.08	27.01	18.13	100

#### 5.4(X) AREA BY CROP COMPOSITION AND SLOPE CLASSES RESERVED FORESTS (R.F.).

Most of the cropped area, comprising about 94.74%, exists on slopes less than 30°. On steep slopes above 30°, scanty vegetation is found. Conifers are mostly found on gentle slopes between 5° to 30°, while bulk of the Hardwood and Bamboos are spread over a slope range of 0-30° and gradually declining on steep terrain.

TABLE NO. 5.4T(X)

Break up of the forest area by crop composition and slope classes - Reserved Forests (R.F.).

Crop Composition	Slope classes (Area in km <sup>2</sup> ).				Total area/ (no. of plots)
	0-9% (0-5°)	10-58% (5-30°)	59-100% (30°-40°)	100+% (45°+)	
Conifers	-	28.80 (9)	-	-	28.80 (9)
Hardwoods	745.47 (233)	268.75 (84)	54.39 (17)	6.40 (2)	1075.01 (336)
Bamboos	108.78 (34)	57.58 (18)	6.40 (2)	-	172.76 (54)
Total	854.25 (267)	355.13 (111)	60.79 (19)	6.40 (2)	1276.57 (399)
Percentage	66.92	27.82	4.76	0.50	100

Note: Figures in brackets denote the number of plots.

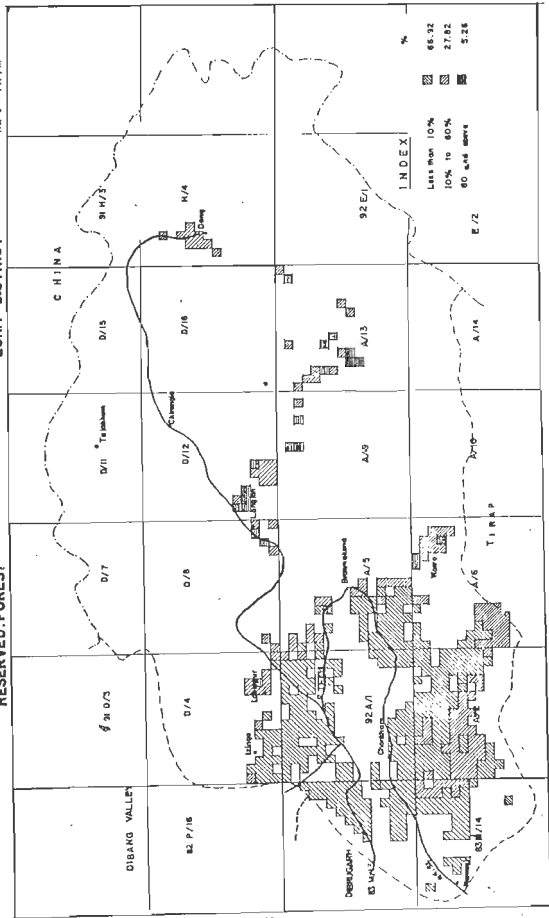
#### 5.4(Y) AREA BY CROP COMPOSITION AND SLOPE CLASSES - UNCLASSIFIED STATE FORESTS (USF).

About 51% of the vegetation in USF is confined to gentle slope less than 5°, while 34.55% of the vegetation occurs between 5° to 30° slope. However, over steep slopes vegetation gradually diminishes. Bamboo is virtually absent on steep slopes.

# SLOPE CLASSES OF ARUNACHAL PRADESH RESERVED FOREST

## LOHTI DISTRICT

No.-5-4 (X) M



# SLOPE CLASSES MAP OF ARUNACHAL PRADESH

**UNCLASSIFIED STATE FOREST**

**LOHIT DISTRICT**

No. S-4 (Y) 1 M

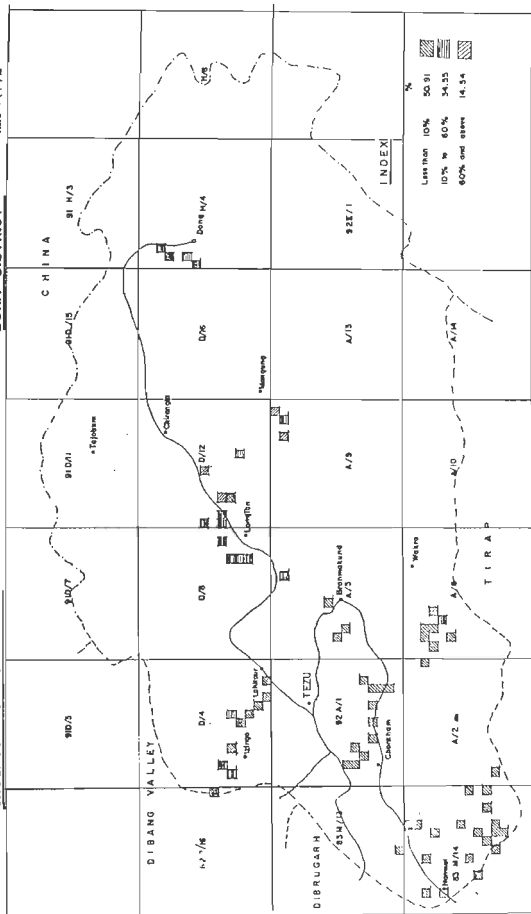


TABLE NO.5.4T(Y)

Break up of the forest area by crop composition and slope classes - Unclassed State Forests (USF).

Crop Composition	Slope classes (Area in km <sup>2</sup> )				Total area/ (no. of plots)
	0-9% (0-5°)	10-58% (5-30°)	59-100% (30°-40°)	100+% (45°+)	
Conifers	-	48.34 (3)	-	-	48.34 (3)
Hardwoods	354.46 (22)	241.68 (15)	64.45 (4)	64.45 (4)	725.04 (45)
Bamboos	96.67 (6)	16.11 (1)	-	-	112.78 (7)
Total	451.73 (28)	306.13 (19)	64.45 (4)	64.45 (4)	886.16 (55)
Percentage	50.91	34.55	7.27	7.27	100

Note: Figures in brackets denote the no. of plots.

5.4(Z) TOTAL AREA BY CROP COMPOSITION AND SLOPE CLASSES -  
RESERVED FORESTS + UNCLASSED STATE FORESTS (R.F.+U.S.F.)

Table no. 5.4T(Z) showing occurrence of vegetation by crop composition and slope classes reveals that 60.36% of the vegetation falling in Hardwoods and Bamboos stratum is confined to gentle slope 0-5°. Conifers are supported on moderate slopes between 5° to 30° alongwith Hardwoods and Bamboos covering 30.57% of the forest area. Conifers are almost absent on steep slopes. Bulk of the vegetation forming about 91% is supported on plains and undulating terrain having moderate slopes below 30°. There is marked decline in vegetation at higher slopes. Bamboo is totally absent on high slopes above 45°.

TABLE NO.5.4T(Z)

Break up of the total forest area by crop composition and slope classes - Reserved Forests + Unclasses State Forests(RF+USF).

Crop Composition	Slope classes (Area in km <sup>2</sup> )				Total area/ (no.of plots)
	0-9% (0-5°)	10-58% (5-30°)	59-100% (30°-40°)	100+% (45°+)	
Conifers	-	77.14	-	-	77.14
Hardwoods	1099.93	510.43	118.84	70.85	1800.05
Bamboos	205.45	73.69	6.40	-	285.54
Total	1305.38	661.26	125.24	70.85	2162.73
Percentage	60.36	30.57	5.79	3.28	100

5.5(X) AREA BY CROP COMPOSITION AND SOIL DEPTH CLASSES  
RESERVED FORESTS (R.F.).

On the basis of soil depth data collected for R.F., it is revealed that 22.56% of the crop is supported by the soils with medium depth (30-90 cm) and major crop of about 75.19% exists on deep soils (depth more than 90 cm). All the three strata of the crop exhibit similar trend. From the following table it is apparent that very shallow and shallow soils hold very little vegetation.

TABLE NO. 5.5T(X)

Break up of the forest area by crop composition and soil depth classes -Reserved Forests(RF).

Crop Composition	Soil depth (Area in km <sup>2</sup> )					
	No soil	Very shallow	Shallow	Medium	Deep	Total
Conifers	-	-	-	19.20 (6)	9.60 (3)	28.80 (9)
Hardwoods	-	3.20 (1)	22.39 (7)	246.36 (77)	803.06 (251)	1075.01 (336)
Bamboos	-	-	3.20 (1)	22.39 (7)	147.17 (46)	172.76 (54)
Total	-	3.20 (1)	25.59 (8)	287.95 (90)	959.83 (300)	1276.57 (399)
Percentage		0.25	2.00	22.56	75.19	100

Note: Figures in brackets denote number of plots.

5.5(Y) AREA BY CROP COMPOSITION AND SOIL DEPTH CLASSES  
UNCLASSIFIED STATE FORESTS(USF).

In the USF, about 50.91% of the crop is supported on medium soils while 47.27% of the vegetation is obtained on deep soils. There is hardly any vegetation on shallow soils.

TABLE NO. 5.5T(Y)

Break up of the forest area by crop composition and soil depth classes - Unclassed State Forests (USF).

Crop Composition	Soil depth (Area in km <sup>2</sup> .)					Total
	No soil	Very shallow	Shallow	Medium	Deep	
Conifers	-	-	-	48.34 (3)	-	48.34 (3)
Hardwoods	-	-	16.11 (1)	386.69 (24)	322.24 (20)	725.04 (45)
Bamboos	-	-	-	16.11 (1)	96.67 (6)	112.78 (7)
Total	-	-	16.11 (1)	451.14 (28)	418.91 (26)	886.16 (55)
Percentage	-	-	1.82	50.91	47.27	100

Note: Figures in brackets denote number of plots.

5.5(Z) TOTAL FOREST AREA BY CROP COMPOSITION AND SOIL DEPTH CLASSES--RESERVED FORESTS+UNCLASSED STATE FORESTS (RF + USF)

In the combined forests of R.F. and USF, about 63.75% of the crop is confined to deep soils while 34.17% is supported on medium soils. Shallow soils are poorly stocked with just 2% of the crop. Following table shows the relative position of distribution of vegetation by soil depth classes.

TABLE NO.5.5T(2)

Break up of the total forest area by crop composition and soil depth classes-Reserved Forests+Unclassed State Forests(RF+USF)

Crop Composition	Soil depth (Area in km <sup>2</sup> )					Total
	No soil	Very shallow	Shallow	Medium	Deep	
Conifers	-	-	-	67.54	9.60	77.14
Hardwoods	-	3.20	38.50	633.05	1125.30	1800.05
Bamboos	-	-	3.20	38.50	243.84	285.54
<b>Total</b>	-	3.20	41.70	739.09	1378.74	2163.73
<b>Percentage</b>	-	0.15	1.93	34.17	63.75	100

5.6(X) AREA BY CROP COMPOSITION AND TOP HEIGHT CLASSES  
RESERVED FORESTS(R.F.)

The crop data in respect of top height class in R.F. reveal that a sizeable vegetation of about 40% is in the top height class between 21 to 30 m. In addition 24.81% of the crop is found in top height class above 30 m. Thus a major part of the vegetation comprising 64.81% has top height above 20 m exhibiting the luxuriance of growth. Young crop between the top height range of 11-20 m, contributes 18.55%, while regeneration crop having 1 to 10 m top height represents just 4.01%. In respect of Bamboo stratum, the top height has no relevance hence the data have not been recorded.

TABLE NO.5.6T(X)

Break up of the area by crop composition and top height class -  
Reserved Forests(R.F.)

Stratum	Top height class (Area in km <sup>2</sup> )					Total
	1-10	11-20	21-30	31+	Not recorded	
Conifers	-	3.20 (1)	12.80 (4)	12.80 (4)	-	28.80 (9)
Hardwoods	51.19 (16)	233.56 (73)	486.31 (152)	303.95 (95)	-	1075.01 (336)
Bamboos	-	-	-	-	172.76 (54)	172.76 (54)
Total	51.19 (16)	236.76 (74)	499.11 (156)	316.75 (99)	172.76 (54)	1276.57 (399)
Percentage	4.01	18.55	40.00	24.81	13.53	100

Note: Figures in brackets denote the number of plots.

Map no. 5.6(X)M, prepared for top height distribution of the vegetation of the Reserved Forests in Lohit District, appended as page no. 75 indicates that a major chunk of forests situated in the south-western portion comprising about 40% has top height between 20 m to 30 m. Towards western and eastern side of this vegetation, the forests are luxuriant having a top height above 30 m. In the north-western portion, the vegetation has mostly mixed top height classes ranging from 0 to 30 m. The central portion of the District and the north-eastern part have mixed top height classes without exhibiting a particular trend as the vegetation in these areas is sparsely distributed. However, the coniferous chunk in the north-eastern portion has mature and over mature stand between top height range of 20 to 30 m and above. The young crop in R.F. areas is poorly represented.

5.6(Y) AREA BY CROP COMPOSITION AND TOP HEIGHT CLASSES  
UNCLASSIFIED STATE FORESTS(USF).

In case of USF, the bulk of vegetation forming about 76.36% is distributed in the top height range of 11 to 30 m. However, the distribution of the crop in upper top height class above 30 m is poor, contributing 7.27% only, while in the regeneration crop representation is meagre i.e. by 3.64%. From the table it is seen that in USF mature trees are not adequate, perhaps, due to over exploitation of selected trees. In case of Bamboo, top height, which is of no significance, has not been recorded.

# TOP HEIGHT OF ARUNACHAL PRADESH

**RESERVED FOREST**

**LOHT DISTRICT**

No. 5 (X) 1 M

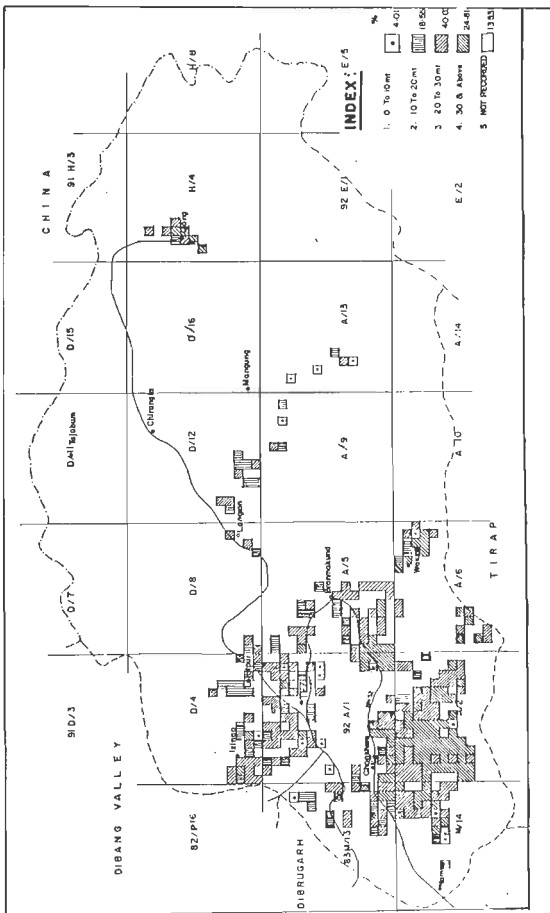


TABLE NO.5.6T(Y).

Break up of the area by crop composition and top height classes  
- Unclassed State Forests (USF).

Stratum	Top height class (Area in km <sup>2</sup> )					Total
	1-10	11-20	21-30	31+	Not recorded	
Conifers	-	16.12 (1)	32.22 (2)	-	-	48.34 (3)
Hardwoods	32.22 (2)	306.13 (19)	322.24 (20)	64.45 (4)	-	725.04 (45)
Bamboos	-	-	-	-	112.78 (7)	112.78 (7)
Total	32.22 (2)	322.25 (20)	354.46 (22)	64.45 (4)	112.78 (7)	886.16 (55)
Percentage	3.64	36.36	40.00	7.27	12.73	100

Note: Figures in brackets denote the number of plots.

The top height map no. 5.6(Y)M for Unclassed State Forests at Page no.77 shows scattered vegetation having a top height range between 10 to 30 m. However, there is poor representation of lower top height class i.e. 0-10 m as well as the higher top height class of 30 m and above, indicating poor regeneration as also insignificant mature tree growth in USF areas.

5.6(Z) TOTAL FOREST AREA BY CROP COMPOSITION AND TOP HEIGHT CLASSES - RESERVED FORESTS + UNCLASSED STATE FORESTS (RF+USF).

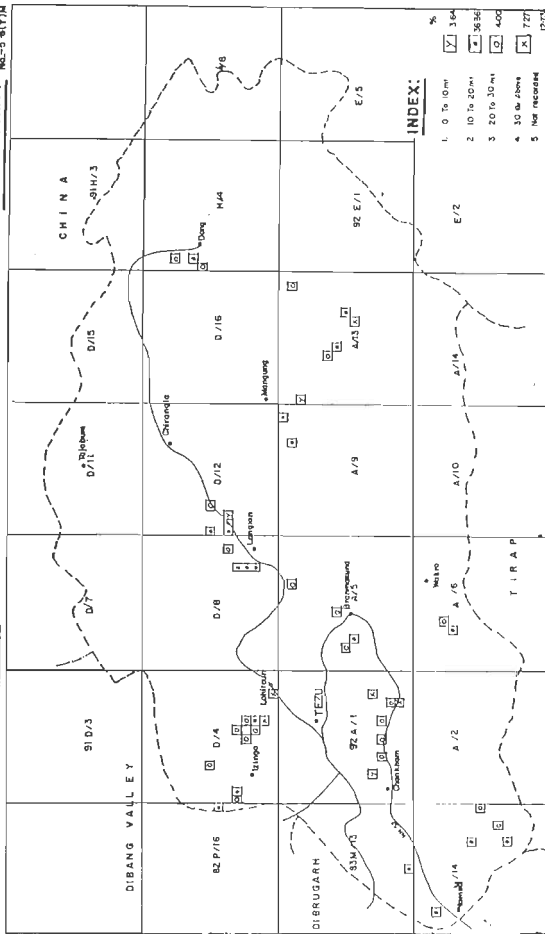
In the combined category, Hardwoods alone contribute to the regeneration crop below 10 m top height, mainly scattered in the open-forests. Further, it is seen that about 25.85% of the crop comprising of conifers and Hardwood strata is within the top height range of 11 to 20 m, whereas a sizeable crop of 39.47% is distributed in 21 to 30 m top height class. The share of mature trees is by 17.63%. Thus, in both the forests (RF+USF), mature crop contributes substantially by 57.10% exhibiting the luxuriance of growth in the forests.

# TOP HEIGHT OF ARUNACHAL PRADESH

## UNCLASSIFIED STATE FOREST

## LOHIT DISTRICT

No. 5 4(T)M



### INDEX:

- 1. 0 To 10 mt  364
- 2. 10 To 20 mt  3636
- 3. 20 To 30 mt  400
- 4. 30 ft Above  727
- 5. Not recorded  1275

TABLE NO.5.6T(Z).

Break up of the total forest area by crop composition and top height classes - Reserved Forests + Unclassed State Forests (US+RSF).

Stratum	Top height class (Area in km <sup>2</sup> )					Total
	1-10	11-20	21-30	31+	Not recorded	
Conifers	-	19.32	45.02	12.80	-	77.14
Hardwoods	83.41	539.69	808.55	368.45	-	1800.05
Bamboos	-	-	-	-	285.54	285.54
Total	83.41	559.01	853.57	381.25	285.54	2162.73
Percentage	3.85	25.85	39.47	17.63	13.20	100

#### 5.7(X) AREA BY CROP COMPOSITION AND SIZE CLASSES RESERVED FORESTS(RF).

Following table reveals the distribution of vegetated area by crop composition and various size classes. Broadly, five size classes have been identified in the crop, depending upon the pre-dominance of a particular size class in 2 ha surround of the sample plot. The details of the size classes are as under:-

- (i) Regeneration crop with 2-10 cm dia at breast height.
- (ii) Pole crop with 10-20 cm dia at breast height.
- (iii) Small timber with 20-30 cm dia at breast height.
- (iv) Big timber with more than 30 cm dia at breast height.
- (v) Mixed size class with no marked dominance of any particular size. The mixed size class is the most heterogenous crop with regard to size.

From the table it transpires that bulk of the crop reckoning to 59.15% is in the mixed size. However, the pole crop, small timber, and big timber contribute more or less equally. The share of regeneration crop is very poor by just 2.76%. In the coniferous stratum, young crop, poles and small timber are virtually absent while in Hardwoods, all the sizes are adequately obtained, barring regeneration crop which is poorly represented.



TABLE NO. 5.7T(X)

Break up of the forest area by crop composition and size class  
- Reserved Forests(RF)

Stratum	Size class (Area in km <sup>2</sup> )						Total
	Not reco- rded	Rege- nera- tion	Pole crop	Small timber	Big timber	Mixed size	
Conifers	-	-	-	-	16.00 (5)	12.80 (4)	28.80 (9)
Hardwoods	-	35.19 (11)	118.38 (37)	92.78 (29)	86.39 (27)	742.27 (232)	1075.01 (336)
Bamboos	172.76 (54)	-	-	-	-	-	172.76 (54)
Total	172.76 (54)	35.19 (11)	118.38 (37)	92.78 (29)	102.39 (32)	755.07 (236)	1276.57 (399)
Percen- tage	13.53	2.76	9.27	7.27	8.02	59.15	100

Note: Figures in brackets denote the number of plots.

The size class map No. 5.7(X)M for Reserved Forests appended as page no. 65 reveals a sizeable area of 59.15% under mixed sizes, mostly confined towards the south-western part of the District as well as few patches above in the north-western area. The other size classes are scattered, contributing poorly. The vegetation under big timber accounts for 8.02% and regeneration crop is extremely poor with 2.76%.

5.7(Y) AREA BY CROP COMPOSITION AND SIZE CLASSES -  
UNCLASSIFIED STATE FORESTS (USF).

In the USF, regeneration crop and big size timbers are inadequate being 3.64% each. In the pole category the contribution is by 20%, while majority of the crop in USF is of mixed sizes contributing to 52.72%. In the coniferous stratum, there is no representation of crop in regeneration, pole, small

timber and big timber category but poorly distributed mixed sizes exist. Inadequate representation of big timber class indicates incidence of heavy felling of mature trees under permit system.

TABLE NO.5.7T(Y)

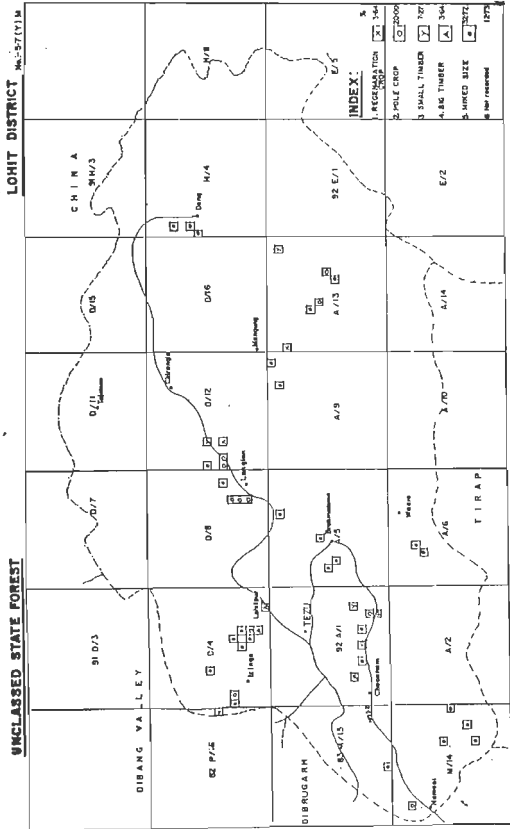
Break up of the forest area by crop composition and size class  
Unclassed State Forests(USF).

Stratum	Size class (Area in km <sup>2</sup> .)						Total
	Not reco- rded	Rege- nera- tion	Pole crop	Small timber	Big timber	Mixed size	
Conifers	-	-	-	-	-	48.34 (3)	48.34 (3)
Hardwoods	-	32.22 (2)	177.23 (11)	64.45 (4)	32.22 (2)	418.92 (26)	725.04 (45)
Bamboos	112.78 (7)	-	-	-	-	-	112.78 (7)
Total	112.78 (7)	32.22 (2)	177.23 (11)	64.45 (4)	32.22 (2)	467.26 (29)	886.16 (55)
Percentage	12.73	3.64	20.00	7.27	3.64	52.72	100

Note: Figures in brackets denote the number of plots.

Map no. 5.7(Y)M showing the distribution of vegetation by size classes in the Unclassed State Forests appended as page no.82 indicates mixed sizes distributed almost all over the area, contributing about 52.72%, while the pole crop accounts for 20%. The regeneration crop, small timber and big timber are poorly represented. The coniferous stratum shows mixed sizes.

**SIZE CLASS OF ARUNACHAL PRADESH**



5.7(Z) TOTAL FOREST AREA BY CROP COMPOSITION AND SIZE CLASSES-  
RESERVED FORESTS + UNCLASSIFIED STATE FORESTS(RF+USF).

The analysis of crop by 10 cm dia class interval indicates that out of 2162.73 km<sup>2</sup> of vegetation, a small extent of 3.12% alone is obtained in the regeneration class i.e. below 10 cm dia at breast height, while in poles category with 10 to 20 cm dbh, the distribution is by 13.67%. Further the crop representation in small timber having 20-30 cm dbh and big timber with 30 cm dbh and above are 7.27% and 6.22% respectively, thus contributing inadequately. The bulk of the crop comprising about 56.52% is made up of heterogenous character having no specific dominance of size classes. In the coniferous stratum, barring mixed sizes and a small share in big timber class, the other lower classes are not at all represented. However, in Hardwoods (Broad leaved forests) all the size classes are adequately distributed.

TABLE NO.5.7T(Z)

Break up of the total forests by crop composition and size class-Reserved Forests + Unclassified State Forests (RF+USF).

Stratum	Size class (Area in km <sup>2</sup> )						Total
	Not reco- rded	Rege- nera- tion	Pole crop	Small timber	Big timber	Mixed size	
Conifers	-	-	-	-	16.00	61.14	77.14
Hardwoods	-	67.41	295.61	157.23	118.61	1161.19	1800.05
Bamboos	285.54	-	-	-	-	-	285.54
<b>Total</b>	<b>285.54</b>	<b>67.41</b>	<b>295.61</b>	<b>157.23</b>	<b>134.61</b>	<b>1222.33</b>	<b>2162.73</b>
Percentage	13.20	3.12	13.67	7.27	6.22	56.52	100

5.8(X) AREA BY CROP COMPOSITON AND CANOPY LAYERS-  
RESERVED FORESTS (RF).

In the Reserved Forests, the crop composition by canopy classification shows that major portion of the crop constituting 73.94% has two storeyed forests in both Conifers and Hardwoods strata. One storeyed forest is obtained in 9.02% of the crop while in young crop without any canopy differentiation, there is inadequate representation by 2.76%. The multistoreyed forests are almost absent, as they contribute a meagre 0.75% of the crop.

TABLE NO.5.8T(X)

Break up of the forest area by crop composition and canopy layers - Reserved Forests (R.F.)

Stratum	Canopy layers (Area in km <sup>2</sup> )					Total
	Not recorded	No storey	One storey forest	Two storey forest	Three or more storey forest.	
Conifers	-	-	-	28.80 (9)	-	28.80 (9)
Hardwoods	-	35.19 (11)	115.18 (36)	915.04 (286)	9.60 (3)	1075.01 (336)
Bamboos	172.76 (54)	-	-	-	-	-
Total	172.76 (54)	35.19 (11)	115.18 (36)	943.84 (295)	9.60 (3)	1276.57 (399)
Percentage	13.53	2.76	9.02	73.94	0.75	100

5.8(Y) AREA BY CROP COMPOSITON AND CANOPY LAYERS-  
UNCLASSSED STATE FORESTS (USF)

The canopy classification of the USF reveals that a major portion of about 67.27% of the crop falls in two storeyed forests in both Conifers and Hardwoods strata. In addition, one storeyed forests are found over 18.18% of the forests in Hardwoods stratum, while a negligible 1.82% has no storey differentiation. The Conifers do not exhibit one storey differentiation. Due to frequent removal of overwood selectively the multistoreyed character of these forests is totally lost.

TABLE NO.5.8T(Y)

Break up of the forest area by crop composition and canopy layers - Unclassed State Forests(USF)

Stratum	Canopy layers (Area in km <sup>2</sup> .)					Total
	Not recorded	No storey	One storey forest	Two storey forest	Three or more storey forest.	
Conifers	-	-	-	48.34 (3)	-	48.34 (3)
Hardwoods	-	16.11 (1)	161.12 (10)	547.81 (34)	-	725.04 (45)
Bamboos	112.78 (7)	-	-	-	-	112.78 (7)
Total	112.78 (7)	16.11 (1)	161.12 (10)	596.15 (37)	-	886.16 (55)
Percentage	12.73	1.82	18.18	67.27	-	100

Note: Figures in the brackets denote number of plots.

5.8(Z) TOTAL AREA BY CROP COMPOSITION AND CANOPY LAYERS-  
RESERVED FORESTS+UNCLASSIFIED STATE FORESTS(RF+USF)

In the combined category of forests, the Hardwoods constitute 2.37% of the no storeyed vegetation where canopy differentiation has not yet set in, and the crop is in regeneration stage. The extent of one storeyed forests is about 12.78% confined exclusively to the Hardwoods stratum while the major portion of the crop exhibits two storeyed forests contributing 71.21% of the total crop. However, multistoreyed forests are insignificant as they barely represent 0.44% of the tree crop. Although Bamboo occupies 13.20% of the total vegetation, it does not contribute towards any canopy formation.

TABLE NO.5.8T(Z)

Break up of the forest area by crop composition and canopy layers-Reserved Forests+Unclassified State Forests(RF+USF)

Stratum	Canopy layers (Area in km <sup>2</sup> )					
	Not recorded	No storey	One storey forest	Two storey forest	Three or more storey forest.	Total
Conifers	-	-	-	77.14	-	77.14
Hardwoods	-	51.30	276.30	1462.85	9.60	1800.05
Bamboos	285.54	-	-	-	-	285.54
Total	285.54	51.30	276.30	1539.99	9.60	2162.73
Percentage	13.20	2.37	12.78	71.21	0.44	100

## 5.9(X) PLANTATION POTENTIAL-RESERVED FORESTS(R.F).

The estimation of plantable area in the Reserved Forest was restricted to forests having crown density below 0.3. These areas are invariably devoid of any vegetation, poorly stocked having scattered vegetation. Such areas fall in land use classes - open forests, scrub forests, shifting cultivation, agricultural crop land with or without vegetation encroached by local population, as well as include the barren land. The estimates for plantability of plot and its surround of 2 ha area are based on various aspects such as soil depth, slope altitude of terrain, as also the present land use. While assessing the plantation potential, all the well stocked forests, both dense and moderately dense, with canopy density above 30%, besides the established well stocked young crop including bamboos with no canopy formation have been excluded. Such forest areas under adequate vegetation cover do not require further afforestation, enrichment or rehabilitation works, hence, were assigned 'not applicable' code.

In all, plantation potential was assessed for 483 plots covering 1545.32 km<sup>2</sup> of forest area in Reserved Forests. From the ground data it is estimated that 393.53 km<sup>2</sup> of Reserve Forest is suitable for carrying out plantation works. While an area of 1046.22 km<sup>2</sup> with adequate stocking of tree crop, regeneration and Bamboo growth does not require any plantation or rehabilitation works. However, about 25.60 km<sup>2</sup> R.F. area has been found unsuitable for planting due to steep terrain, very shallow soils and other adverse factors. In addition an area of 79.97 km<sup>2</sup> of R.F was excluded for plantability estimation being covered under habitation and water bodies.

TABLE NO.5.9T (X)

Plantation Potential	No. of plots	Area in km <sup>2</sup>
Plantable	123	393.53
Unplantable	8	25.60
Not applicable	327	1046.22
Not recorded (Habitation and water bodies)	25	79.97
Total	483	1545.32

## 5.9(Y) PLANTATION POTENTIAL-UNCLASSIFIED STATE FORESTS(USF)

In the USF an area of 580.03 km<sup>2</sup> has been estimated for plantability while 80.56 km<sup>2</sup> are not found suitable for rehabilitation works for the reason that these are mostly confined to steep slopes and shallow soils. Out of the total area of 1353.50 km<sup>2</sup> of USF, an area of 547.81 km<sup>2</sup> has been adequately stocked hence rehabilitation by enrichment plantation would not be necessary. Further an area of 145.10 km<sup>2</sup> of USF is occupied under habitation and water bodies for which plantation potential has not been assessed.

TABLE NO. 5.9T (Y)

Break up of the forest area under plantation potential- Un-classed State Forests (USF)

Plantation Potential	No. of plots	Area in km <sup>2</sup>
Plantable	36	580.03
Unplantable	5	80.56
Not applicable	34	547.81
Not recorded (Habitation and water bodies)	9	145.10
Total	84	1353.50

5.9(Z) PLANTATION POTENTIAL - RESERVED FORESTS+UNCLASSSED  
STATE FORESTS (RF+USF)

In the entire survey area of 2898.82 km<sup>2</sup> (RF+USF), about 973.56 km<sup>2</sup> area, reckoning to 33.59% bears plantation potential. Such areas mostly comprise of poorly stocked forests, forest blanks, and heavily eroded areas due to flood damage and need rehabilitation by suitable tree species. The areas unsuitable for plantation/rehabilitation works due to steep gradient, extremely shallow soils, and being refractory in nature account for 83.66%. However, an area of 1594.03 km<sup>2</sup> forming about 54.99% of the total forest area bearing good vegetation being adequately stocked does not require any plantation/enrichment works. In addition, a forest area of 225.07 km<sup>2</sup> comprising about 7.76% is under habitation and water bodies for which plantation potential has not been assessed.

TABLE NO.5.9T(Z)

Break up of the forest area under plantation potential-Reserved Forests+Unclassed State Forests (RF+USF)

Plantation Potential	Area km <sup>2</sup>	Percentage.
Plantable	973.56	33.59
Unplantable	106.16	3.66
Not applicable	1594.03	54.99
Not recorded (Habitation and water bodies)	225.07	7.76
Total	2898.82	100.00

5.10(X) REGENERATION STATUS-RESERVED FORESTS(R.F.)

Regeneration being an important facet of forest productivity on sustained basis, an assessment of regeneration was attempted in the inventory. Seedlings of all the commercially important tree species were counted over a sample of 16 m<sup>2</sup> quadrant around the plot centre of each sample plot and data collected.

The results of regeneration survey reveal that a meagre 6.40% (0.41%+5.99%) alone bear profuse and adequate regeneration in the Reserved Forests. However, a sizeable extent of 36.78% of the R.F. shows inadequacy of regeneration while 45.04% of the R.F. area is devoid of any regeneration of economically important tree species. Thus a sizeable forest area of 81.82% of the R.F has either inadequate regeneration or regeneration is totally absent. Hence such a critical situation warrants drastic measures of protection from biotic interference and encroachment followed by rehabilitation works to restock the depleting forests. In respect of 11.78% of the R.F. area utilized for non-forestry purposes such as permanent agriculture, habitation, non-forestry plantations and shifting cultivation, regeneration has not been recorded.

TABLE NO.5.10T (X)

Break up of the forest area indicating regeneration status-Reserved Forests(R.F.)

Definition	Intensity of regeneration	No. of plots	Area (km <sup>2</sup> )	Percentage.
More than 16 seedlings	Profuse	2	6.40	0.41
8-16 seedlings	Adequate	29	92.78	5.99
Upto 8 seedlings	Inadequate	178	569.50	36.78
No regeneration	Absent	218	697.48	45.04
Not recorded	Not recorded	56	179.16	11.78
Total		483	1545.32	100%

5.10(Y) REGENERATION STATUS-UNCLASSIFIED STATE FORESTS(USF)

As already discussed at para 5.10(X), the regeneration status of commercially important tree species was assessed by adopting the same methodology. In USF, the regeneration of important tree species is either inadequate or totally absent affecting a major portion of 69.05%. However, a negligible

area of 2.38% has adequate regeneration. Poor regeneration in USF forests is largely attributed to incessant biotic interference and pressure on account of removal of natural trees under permit system. These forests need total protection and proper restocking measures by raising tree species of desired compatibility. No regeneration data have, however, been collected for land uses falling in non-forestry purposes.

TABLE NO.5.10T(Y)

Break up of the forest area indicating regeneration status-  
Unclassed State Forests(USF)

Intensity of Regeneration	No. of plots	Area km <sup>2</sup>	%
1. Profuse	-	-	-
2. Adequate	2	32.22	2.38
3. Inadequate	36	580.03	42.86
4. Absent	22	354.47	26.19
5. Not recorded	24	386.78	28.57
Total	84	1353.50	100.00

5.10(Z) REGENERATION STATUS-RESERVED FORESTS+UNCLASSED  
STATE FORESTS (R.F.+ U.S.F.)

The combined picture of regeneration status indicates that only 4.53% of the total forest area has adequate and profuse regeneration of commercially important tree species. A sizeable 39.66% of the area has inadequate regeneration, moreover, about 36.29% of the total forest has practically no regeneration. Such a critical situation needs immediate steps to restock the depleting forests for improving the stand to mitigate the growing demand of local population for fuel, small timber and constructional timber. In 19.52% of the forest area under non-forestry land use, the regeneration assessment was not made.

TABLE NO. 5.10(2)

Break up of the forest area indicating regeneration status  
- Reserved Forests+Unclassed State Forests (RF+USF)

Intensity of Regeneration	Area in km <sup>2</sup>	Percentage
1. Profuse	6.40	0.22
2. Adequate	125.00	4.31
3. Inadequate	1149.53	39.66
4. Absent	1051.95	36.29
5. No recorded	565.94	19.52
Total	2898.82	100.00

#### 5.11 SOIL EROSION

The status of soil erosion in the entire survey area was assessed on the basis of data collected from various sample plots. In the R.F., 48.8% area has suffered heavy erosion. In these areas almost 75% of the top soil has been removed and at places parent rock has been exposed. Heavy gully formation with ravinous terrain and virtual absence of soil cover to support vegetation are characteristic of such eroded sites. In addition, moderate and mild soil erosion have also been observed over 10.4% and 28.6% of the R.F area respectively. In moderately eroded area about 25.75% of the top soil gets washed away wherein wide nallas are not usually noticed and gullies are not visible, while in the mildly eroded areas sheet erosion only takes place causing rill erosion and less than 25% of the top soil gets washed away. In R.F. only 12.1% area is free from any soil erosion.

The USF presents more or less same picture as of R.F. About 40.0% area has been heavily eroded while 10.0% and 31.2% have been affected by moderate and mild erosion respectively. An area of 18.7% of the USF is least affected by soil erosion.

TABLE NO. 5.11 T

Break up of the forest area affected by the incidence of soil erosion - Reserve Forests+Unclassed State Forests (RF+USF).

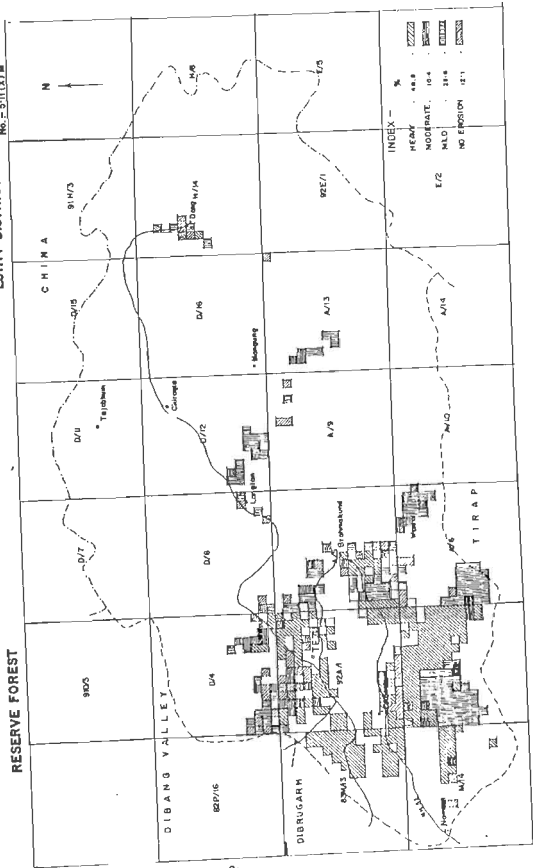
Forest Areas	Heavy	Moderate	Mild	No erosion
R.F.	48.8%	10.4%	28.6%	12.1%
U.S.F.	40.0%	10.0%	31.2%	18.7%

A map no. 5.11 (X)M on the present status of soil erosion in Reserved Forests has been prepared and appended as page no.94. As per the details seen from the map in the Hardwoods stratum confined to south-western portion, mild erosion is seen and adjoining these vegetated areas on all the western, northern and eastern portions, a sizeable area has been affected by heavy erosion. However, in the northern portion the impact of mild, moderate to heavy erosion is conspicuous. The central portion as well as the coniferous stratum are subjected to mild to moderate soil erosion. The forest area affected by heavy erosion is about 48.8% while about 28.6% area is affected by mild erosion. Moderate erosion is to the extent of 10.4% and a balance of 12.1% is intact.

The Soil erosion map no. 5.11(Y)M exhibited at page no.95 presents the position of soil erosion in the Unclassed State Forests. These forests are subjected to heavy erosion in the south-western portion affecting about 40% of the vegetation, while the areas affected by mild to moderate erosion lie towards north-western portion, northern as well as central region. Though the Coniferous stratum is partly free from erosion, heavy erosion and mild erosion are seen towards north-eastern and south-western side of the stratum. The area under USF affected by heavy erosion reckons to 40% while an area prone to mild erosion accounts for 31.2% and moderately eroded area comprises 10%. In USF about 18.70% area is free from erosion.

SOIL EROSION OF ARUNACHAL PRADESH  
LOHIT DISTRICT

No. 5-5(11)M



INDEX - %

HEAVY	48.8
MODERATE	16.4
MILD	31.8
NO EROSION	2.1



## 5.12 GRAZING INCIDENCE

In general, grazing is the most inimical feature for the sustained productivity of the forests as it adversely affects the young regeneration and growth of plants besides hardening the forest floor by incessant trampling. The domesticated elephants, goats and cattle have greatly affected the regeneration of forests as detailed at para 5.10(X), 5.10(Y) and 5.10 (Z). On the basis of sample survey it is seen that 6.2% of the R.F. area is under the influence of heavy grazing, while 8.0% and 13.3% of the area are affected by moderate and light grazing respectively. About 72.3% of the forest area situated mostly on inaccessible steep terrain is free from grazing menace. In case of USF, incidence of heavy grazing is noticed over 7.1% of the area while 11.4% each of the area is affected by moderate and light grazing. About 70% of the USF area is free from grazing incidence. The following table reveals the position of grazing incidence in R.F.& U.S.F.

TABLE NO.5.12T

Extent of grazing incidence in Reserved Forests+Unclassed State Forest(RF+USF)

Forest area	Heavy	Moderate	Light	No grazing
R.F.	6.2%	8.0%	13.3%	72.3%
U.S.F.	7.1%	11.4%	11.4%	70.0%

## 5.13 FIRE INCIDENCE

The forests of Lohit are evergreen in nature, hence damage by fire is not significant. From the sample survey it is revealed that the fire incidence is not at all heavy in both R.F. and U.S.F. However, a meagre portion of 0.9% of the R.F. is frequently damaged by fire while 4.3% of the area is affected by occasional fire. A major portion of 94.6% of the R.F. is free from fire due to moist conditions prevailing in the forests. In respect of USF, the incidence of fire is comparatively more due to its proximity to habitation. An area of

4.4% is subjected to frequent fires while 10.4% of the USF area is affected from occasional fires mainly during shifting cultivation season. A sizeable area of 85% is totally free from fire damage. The incidence of fire in R.F. and USF is detailed in the following table.

TABLE NO.5.13T

Extent of fire incidence in Reserved Forests & Unclassed State Forests

Forest Area	Very heavy	Frequent	Occasional	No fire
R.F.	-	0.9%	4.3%	94.6%
U.S.F.	-	4.4%	10.4%	85.0%

#### 5.14 BAMBOO OCCURRENCE

In Lohit District Bamboo occurs in pure form commonly termed as Bamboo brakes as also in association with tree forests. The extent of Bamboo occurring in its pure form as a separate stratum of vegetation is detailed below:

Legal status	Total vegetated area surveyed	Tree forest km <sup>2</sup>	Pure bamboo forests km <sup>2</sup>	Percentage of pure bamboo forests.
R.F.	1276.57	1103.81	172.76	13.53
U.S.F.	886.16	773.38	112.78	12.73
Total	2162.73	1877.19	285.54	13.20

Apart from the occurrence of Bamboo brakes in association of tree vegetation, Bamboo is also obtained in Coniferous and Hardwoods strata. The details are as under.

Legal status	Total vegetated area	Area under pure bamboo forests	Areas where bamboos found with trees (overlapping)	Total area where bamboo was found	Percentage of Total bamboo forests
R.F.	1276.57	172.76	316.84	489.60	38.35
U.S.F.	886.16	112.78	112.76	225.54	25.45
<b>Total</b>	<b>2162.73</b>	<b>285.54</b>	<b>429.60</b>	<b>715.14</b>	<b>33.07</b>

5.14(X) BAMBOO AREAS BY DENSITY AND QUALITY - RESERVED FORESTS(R.F)

The distribution of Bamboo area by density and quality in R.F. is as follows:

Bamboo density	Bamboo quality (Area in km <sup>2</sup> )				%
	1	2	3	Total	
1. Pure bamboo (above 200 clump/ha)	67.20	-	-	67.20	13.72
2. Very dense (150-200 clumps/ha)	80.00	-	-	80.00	16.34
3. Dense (100-150 clumps/ha)	102.40	-	-	102.40	20.92
4. Moderately dense 50-100 clumps/ha)	96.00	-	-	96.00	19.61
5. Scattered (25-50 clumps/ha)	73.60	-	-	73.60	15.03
6. Sparse (1-25 clumps/ha)	57.60	6.40	3.20	67.20	13.73
7. Bamboo present but hacked	3.20	-	-	3.20	00.65
<b>Total</b>	<b>480.00</b>	<b>6.40</b>	<b>3.20</b>	<b>489.60</b>	<b>100.00</b>

From the above table it is seen that pure bamboo is found over 13.72% of the total area under Bamboo in R.F., while dense Bamboo occurs over 56.87% of the Bamboo stratum. Scattered and sparse Bamboo exists over 15.03% and 13.73% of the Bamboo area. About 0.65% of the bamboo area is hacked by the local people in Reserved Forests to meet their domestic need. It is pertinent to note that almost all the Bamboo occurring in Lohit District is of the 1st quality, whereas inferior quality Bamboos are almost negligible.

5.14(Y) BAMBOO AREAS BY DENSITY AND QUALITY - UNCLASSIFIED STATE FORESTS (USF)

The break up of Bamboo areas in USF is detailed below:

Bamboo density	Area 1st quality	Percentage
1. Pure bamboo (above 200 clumps/ha)	16.11 km <sup>2</sup>	7.14
2. Very dense (150-200 clumps/ha)	64.44 "	28.57
3. Dense (100-150 clumps/ha)	64.44 "	28.57
4. Moderately dense (50-100 clumps/ha)	32.22 "	14.29
5. Scattered (25-50 clumps/ha)	16.11 "	7.14
6. Sparse (1-25 clumps/ha)	32.22 "	14.29
Total	225.54 "	100

In USF, pure bamboo is spread over 7.14% of the Bamboo stratum, while 71.43% is dense. However, scattered, sparse bamboo occupies over 21.43% of the Bamboo stratum. Almost all the bamboo occurring in USF is of 1st quality.

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## CHAPTER VI

### INVENTORY RESULTS: GROWING STOCK

#### 6.0 GENERAL

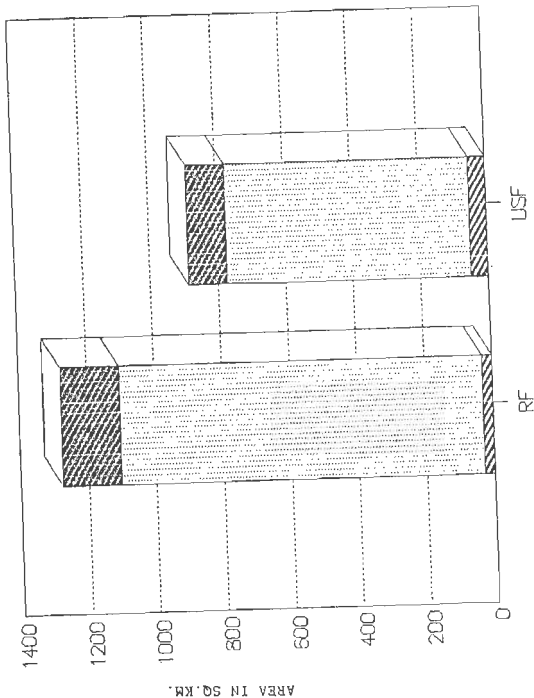
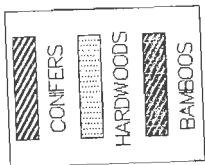
Out of the total forest area of 2898.82 km<sup>2</sup> (R.F. 1545.32 + U.S.F. 1353.50 km<sup>2</sup> inventoried in the Lohit District, an area of 2162.73 km<sup>2</sup> (R.F. 1276.57 + USF 886.16 km<sup>2</sup> alone have been found to be vegetated. The vegetated areas were estimated from 454 plots (R.F. 399 + USF 55 plots). Further, the stand and stock of the trees were projected on the basis of enumeration of vegetated sample plots. The survey revealed three main strata in the District viz, Conifers, Hardwoods and Bamboos in both Reserved Forests and Unclassed State Forests. The growing stock position was projected for the following three main strata (ref. graph at page 101).

#### VEGETATED AREA

Stratum	Area in km <sup>2</sup>			
	R.F.	U.S.F.	Total area	%
Conifers	28.80	48.34	77.14	3.57
Hardwoods	1075.01	725.04	1800.05	83.23
Bamboos	172.76	112.78	285.54	13.20
<b>Total</b>	<b>1276.57</b>	<b>886.16</b>	<b>2162.73</b>	<b>100</b>

The following paragraphs present the stand and stock position of the survey area:

VEGETATED AREA IN LOHIT DISTRICT



#### 6.1 STEMS PER HA AND TOTAL STEMS: STRATUM CONIFERS- RESERVED FORESTS (R.F.)

The distribution of stems per ha and total stems for the Coniferous stratum over an area of 28.80 km<sup>2</sup> in the R.F. is detailed at Table Nos. 6.1T(a) and 6.1T(b).

From the Coniferous stratum it is evident that the dominating species is the *Pinus roxburghii* (Chir Pine) forming 83.696% of the composition while the other species contribute about 16%. The representation of *Albizzia*, Oak and Miscellaneous species is insignificant in higher dia classes beyond 30 cm. Even the distribution of *Pinus roxburghii* in higher dia class is not satisfactory. A major portion of the stand is made up of pole size crop and in mature and over mature class the stand position is decreasing considerably. In all 102.222 Nos. of stems per ha have been obtained in the stratum. Total stems in the stratum are in the region of 294400 with maximum representation of 105600 stems (35.87%) in 10-20 cm dia class (ref. graph at page 104).

#### 6.2 STEMS PER HA AND TOTAL STEMS : STRATUM HARDWOODS- RESERVED FORESTS (R.F.)

In Hardwoods stratum of R.F. which includes upland and low land Hardwoods found in broad leaved forests, the important tree species occurring are: *Dysoxylum binectariferum* (5.486%), *Terminalia myriocarpa* (3.989%), *Dipterocarpus* species (2.724%), *Bischofia javanica* (2.091%), *Kydia calycina* (1.859%), *Michelia* species (1.756%) and *Mesua ferrea* (1.562%). The diversity of tree species is rich in these forests but no specific tree species has exhibited any dominance. In lower dia class, in pole sizes, a sizeable percentage of the stand is distributed while in very limited species, distribution of trees is seen in all the dia classes. Species like *Altingia excelsa*, *Cedrela toona*, *Stereospermum personatum*, *Duabanga grandiflora*, and *Terminalia myriocarpa* are represented in almost all the dia classes with very low contribution in higher dia classes. Per ha stems are estimated at 240.591 while total stems in the stratum are assessed at 25 867 071 numbers. The detailed distribution of stems by species and dia classes are shown at Table Nos. 6.2T(a) and 6.2T(b) (ref. graph at page 104).

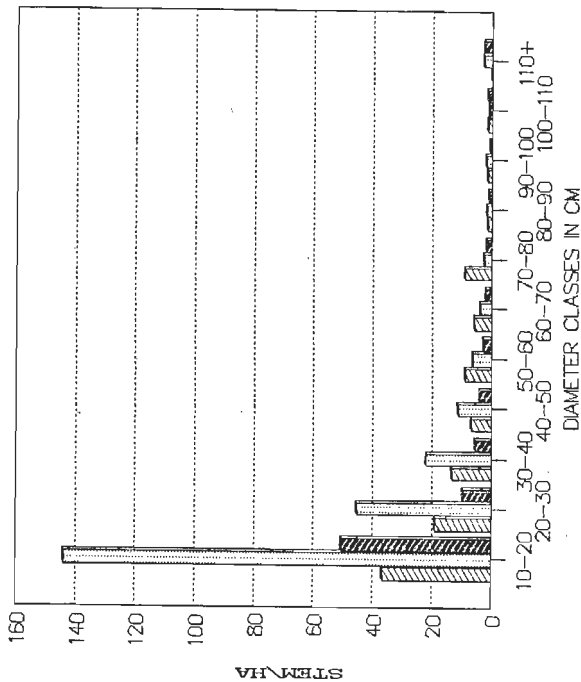
### 6.3 STEMS PER HA AND TOTAL STEMS : STRATUM BAMBOO FORESTS- RESERVED FORESTS (R.F.)

Table Nos. 6.3T(a) and 6.3T(b) show the distribution of stems per ha and total stems by different species and diameter classes in the Bamboo stratum of R.F. Although the stratum has been identified for Bamboo forests, a large number of tree species occur in this stratum. Important tree species found are: *Disoxylum binectariferum* (5.966%), *Terminalia myriocarpa* (5.012%), *Michelia* species (3.579%), *Amoora wallichii* (2.854%), *Duabanga grandiflora* (2.864%), *Kydia calycina* (2.386%), and *Stereospermum personatum* (2.624%). Most of these species are also common in the Hardwoods stratum. Like Hardwoods stratum, here also no particular species has contributed significantly to the stand and that most of the trees are distributed in pole sizes at the lower diameter limits. In higher diameter classes trees are almost absent or are insignificant. Stems per ha has been estimated to 79.057, whereas total stems occurring are estimated at 13 65 796 in number (ref. graph at page 103).

### 6.4 STEMS PER HA AND TOTAL STEMS : ALL FOREST TYPES COMBINED- RESERVED FORESTS (R.F.)

In the combined stratum of Reserved Forests presented in Table Nos. 6.4T(a) and 6.4T(b) the stand position is decreasing from lower diameter classes to higher diameter classes. Only a few species have represented in all the diameter classes but in higher diameter classes the distribution is insignificant. The distribution of *Dysoxylum binectariferum* shows maximum stand of 11.753 per ha followed by *Terminalia myriocarpa* at 8.617. *Dipterocarpus* species contributes 5.569 stems per ha while *Kydia calycina* contributes 4.022 stems per ha. Most of the tree species are conspicuous in lower diameter classes only, while exhibiting negligible distribution in higher diameter classes. The total stems distribution Table No. 6.4T(b) projects overall stems at 27 527 267 Nos. of heterogeneous composition. The average stems per ha in the combined stratum of R.F. are 215.605 numbers per ha. A comparative position of the stand for all the strata in Reserved Forests is presented below:

STEM PER HA IN RESERVED FORESTS



Stratum	Area in km <sup>2</sup>	Total stems	Stems per ha
1. Conifers	28.80	2 94 400	102.222
2. Hardwoods	1075.01	25 867 071	240.591
3. Bamboo forest	172.76	13 65 796	79.057
4. All combined (as per table)	1276.57	27 527 267	215.605

(Also ref. graph at page 106).

#### 6.5 VOLUME PER HA AND TOTAL VOLUME: STRATUM CONIFERS-RESERVED FORESTS (R.F.)

The volume per ha and total stock of the survey area by stratum have been estimated on the basis of the plot volume of the trees enumerated for various species by dia classes. Per ha volume for Coniferous stratum has been detailed at Table No.6.5 T(a). The only conifer of the stratum, *Pinus roxburghii* (Chir Pine) contributes maximum by 97.533% of the stock, while other species being broad leaved are insignificant. Chir contributes to the bulk of the volume by 59.709% in the middle sizes between 50-80 cm dia classes, whereas in the other dia classes also adequate share of the conifer is conspicuous. The stratum contributes a growing stock of 102.535 m<sup>3</sup> per ha with an estimated total volume of 2 95 298 m<sup>3</sup> as presented at Table No. 6.5 T(b)(ref.graph at page 108).

#### 6.6 VOLUME PER HA AND TOTAL VOLUME: STRATUM HARDWOODS-RESERVED FORESTS (R.F.).

The growing stock position of Hardwoods stratum is comparatively on higher side than the other two strata. Per ha volume has been estimated at 164.804 m<sup>3</sup> in the stratum as indicated at Table No. 6.6 T(a), while it is 102.535 M<sup>3</sup> in Conifers and 114.729 m<sup>3</sup> in Bamboo stratum (Table Nos. 6.5T(a) & 6.7T(a)). The Hardwoods stratum has rich diversity of species, however, the major contribution to volume is by few important species only. The share of the *Dipterocarpus* species is maximum i.e. 5.818% of the stock followed by *Terminalia myriocarpa* 5.107%, *Stereospermum personatum* 3.741%, *Pterospermum acerifolium* 3.305%, and *Altingia excelsa* 2.950%. Although the contribution of other species is margin. PN107

al, they add to the over all stock substantially. The Hardwoods stratum contributes maximum volume in the survey area to the tune of 17 716 589 m<sup>3</sup> as indicated at Table No.6.6T(b)(ref. graph at page 108).

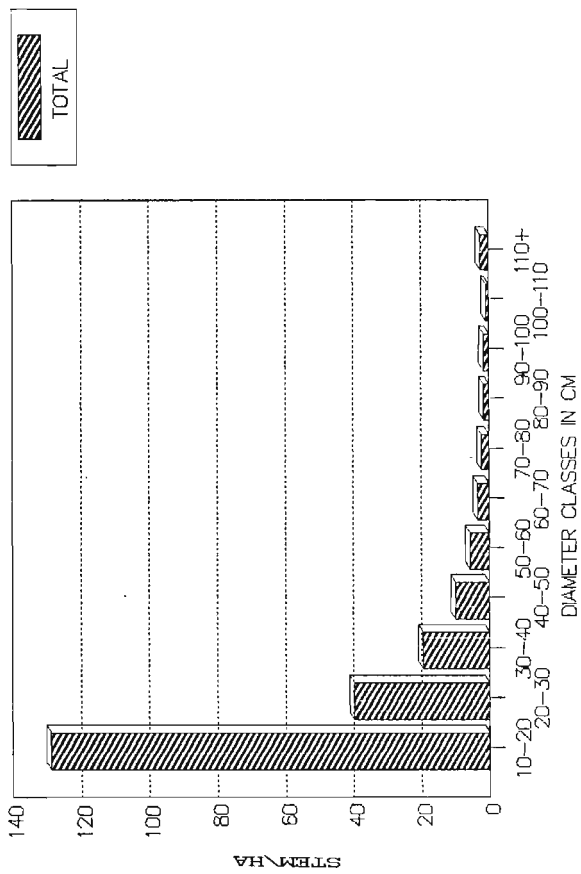
#### 6.7 VOLUME PER HA AND TOTAL VOLUME: STRATUM BAMBOO FORESTS- RESERVED FORESTS (R.F.)

The Bamboo stratum is also occupied by various broad leaved species besides the main Bamboo vegetation. The stock position of Bamboo has been separately shown in Chapter VII. Amongst important broad-leaved species of the stratum, *Duabanga grandiflora* contributes maximum by 23.906% of the total stock followed by *Bombax ceiba* contributing 10.309%, *Stereospermum personatum* 10.241%, *Terminalia myriocarpa* 8.918%, *Canarium resiniferum* 3.573%, *Michelia* species 3.509%, and *Kydia calycina* 3.051%. The remaining species have partially contributed to build up a stock of 114.729 m<sup>3</sup> per ha as could be seen from the Table No. 6.7T(a). The volume distribution pattern does not show any specific trend in various dia classes but is quite erratic and inadequate. The overall stock position of Bamboo stratum has been estimated to be 19 82 047 m<sup>3</sup>, detailed at Table No.6.7T(b)(ref.graph at page 108).

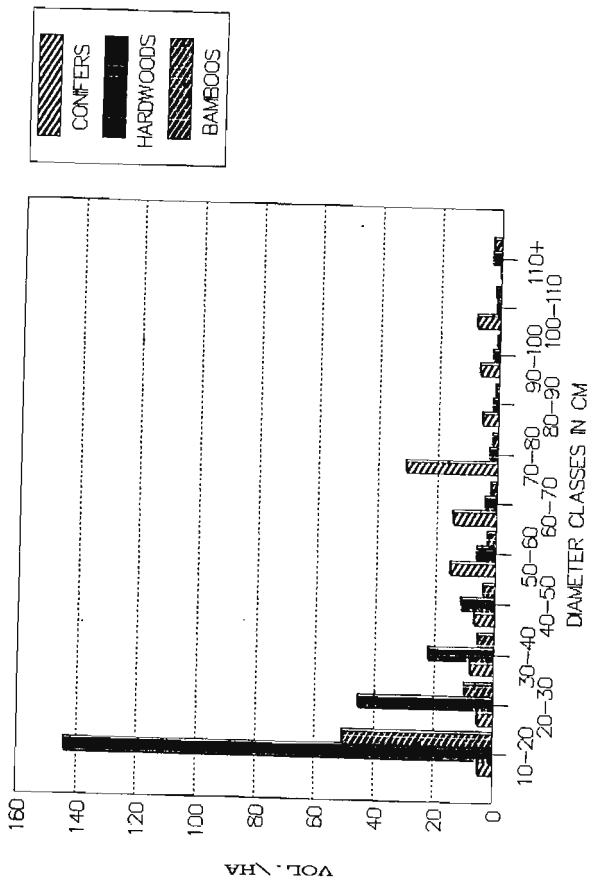
#### 6.8 VOLUME PER HA AND TOTAL VOLUME: ALL STRATA COMBINED - RESERVED FORETS(R.F).

The overall stock position in respect of R.F. is shown at Table No.6.8T(a) and 6.8T(b). Amongst various tree species *Terminalia myriocarpa* contributes significantly by 5.408% followed by *Dipterocarpus* species 5.195%, *Duabanga grandiflora* 4.707%, *Stereospermum personatum* 4.329%, *Shorea assamica* 2.676%, and *Altingia excelsa* 2.655%, of the total volume. All other species contribute marginally. From the tables it transpires that while only a few species represent all the dia classes, the other species are either absent or poorly represented in the middle and higher dia classes exhibiting an uneven pattern of distribution. Per ha volume in the combined stratum has been estimated at 156.617M<sup>3</sup>, whereas the total volume is estimated at 19 993 934 m<sup>3</sup> in the R.F. Stratawise comparative stock position has been presented below:-

STEM PER HA - ALL STRATA COMBINED (R.F)



VOLUME PER HA IN RESERVED FORESTS (R.F)



A COMPARATIVE TABLE OF STOCK PER HA AND  
TOTAL STOCK IN RESPECT OF ALL STRATA

Stratum	Total area Km <sup>2</sup>	Total volume m <sup>3</sup>	Volume m <sup>3</sup>
1. Conifers	28.80	2 95 298	102.535
2. Hardwoods	1075.01	17 716 589	164.804
3. Bamboo forest	172.76	19 82 047	114.729
All combined	1276.57	19 993 934	156.617

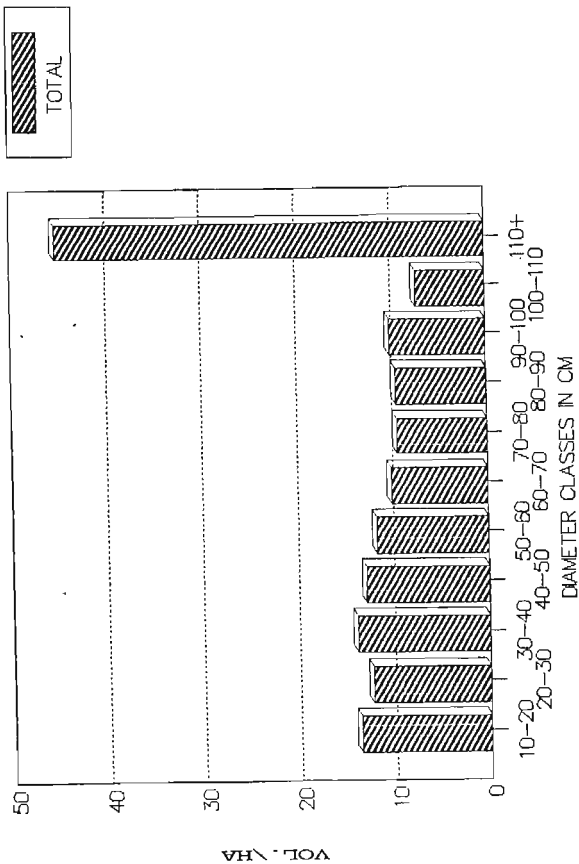
From the above it is apparent that the Hardwoods is the main stratum largely contributing to the stock in R.F., particularly due to its heterogeneous composition more or less adequately represented by number and dia classes (ref.graph at page 110).

The map no. 6.8(X)M showing the distribution of vol/ha in Reserved Forest areas appended as page no.111. indicates that a maximum of 53.24% of the volume is in the range of 80 m<sup>3</sup> and above which is mainly confined to south-western area of the District. Further, about 11.31% of the volume, though scattered, is between 50 to 80 m<sup>3</sup> range, while other volume ranges are poorly represented. However, in the lowest limit of 0 to 10 m<sup>3</sup> the contribution is by 17.65%.

6.9 STEMS PER HA AND TOTAL STEMS: STRATUM CONIFERS -  
UNCLASSIFIED STATE FORESTS (USF)

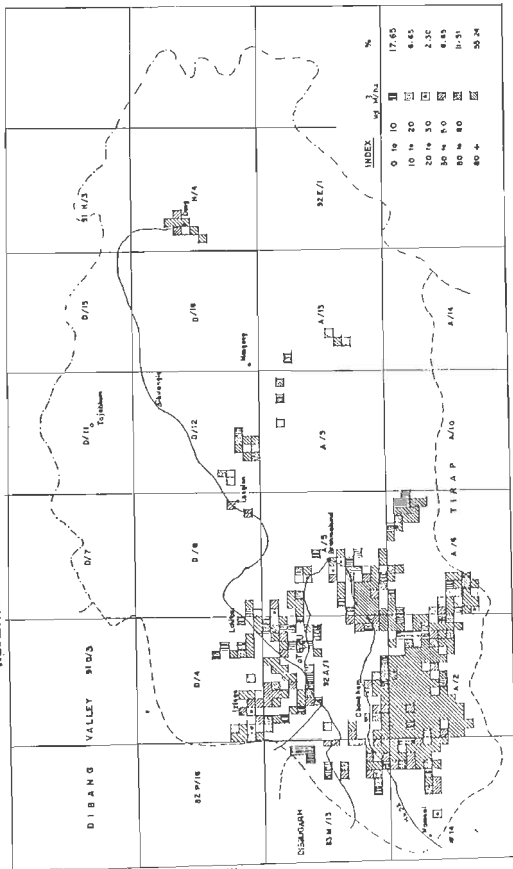
Estimation of stems per ha and total stems in Coniferous stratum of the USF has been indicated in Table no. 6.9T(a) and 6.9T(b). The Dominant species of the stratum is *Pinus roxburghii*, contributing 67.858% of the total stand. Representation of Chir is not adequate in 10-20 cm dia class, which is barely 6.667 stems/ha, while in 20-30 cm and 30-40 cm dia classes the stand distribution is around 20 in numbers whereas in 40-50 cm and 50-60 cm dia classes the population has decreased to 3.333 stems/ha. Further 60-70 cm, 80-90 cm and 90-100 cm as well as 110 cm and above dia classes are not at all represented. However, 6.667 stems/ha and 3.333 stems/ha are found in dia classes 70-80 cm and 100-110 cm respectively. Obviously the trend of stem distribution has not followed any

VOLUME PER HA - ALL STRATA COMBINED (R.F)



VOLUME MAP OF ARUNACHAL PRADESH  
LOHIT DISTRICT  
RESERVED FOREST

No. - 6-8(X)M



particular pattern in all the dia classes. Although the broad leaved species share about 32% of the stand the stem distribution is confined exclusively to pole sizes with total absence of higher dia classes. Per ha stand, in the Coniferous stratum is estimated at 93.332, while the total stand is reckoned at 4 51 172 nos.(ref. graph at page 113).

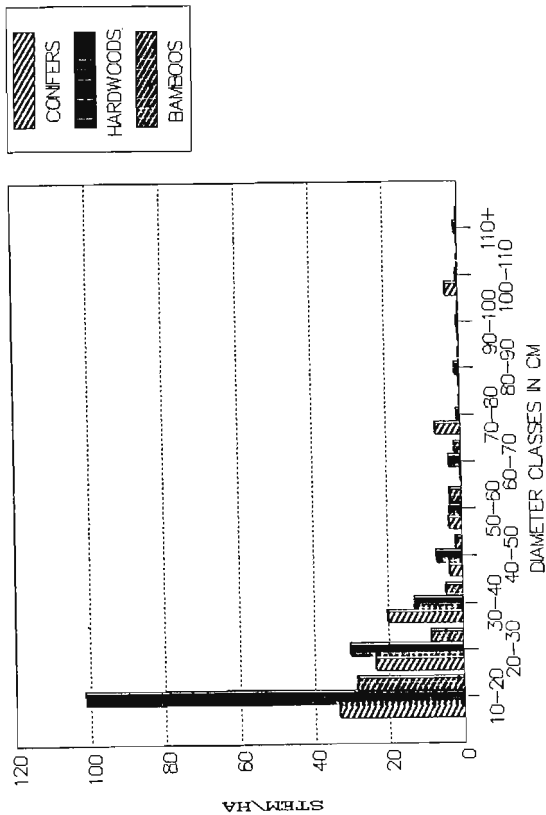
#### 6.10 STEMS PER HA AND TOTAL STEMS: STRATUM HARDWOODS UNCLASSED STATE FORESTS (USF)

The stem distribution and estimation of total stand in Hardwoods stratum of the USF is presented in Tables No.10.T(a) and 6.10T(b). Most of the broad- leaved species occurring in the stratum are confined to lower dia classes with pronounced absence of trees in the higher dia classes. Thus it is evident that selective fellings under permit system have largely eliminated mature and overmature trees. Although no particular species exhibited any dominance, species like *Quercus* (Oak) constitutes 6.875%, *Kydia calycina* 5.892%, *Amoora wallichii* 4.418%, and *Gmelina arborea* 4.256%, are common. All other species contribute sparingly. The inferior species contribute, by 53% of the stand and are clubbed in 'Rest of the species' category. The stand position is 160.772 per ha whereas a total of 11 657 880 stems have been estimated in the stratum (ref.graph at page 113).

#### 6.11 STEMS PER HA AND TOTAL STEMS: STRATUM BAMBOO UNCLASSED STATE FORESTS (USF)

As in the case of R.F., a sizeable broad- leaved tree species exist in USF in association of Bamboo. Per ha stem position and total stems have been projected in Table No. 6.11T(a) and 6.11T(b). Stems per ha in the stratum are 47.148 nos whereas the total no. of estimated stems are to the tune of 5 31 672. Amongst the main tree species *Terminalia myriocarpa* contributes maximum by 12.122%, followed by *Morus laevigata* 9.091%, *Dysoxylum binectariferum* 6.060% while other tree speices share substantially around 3% each. However, the inferior tree species grouped as 'Rest of the species' share 51.510% of the stand. The dominant species *Terminalia myriocarpa* is totally absent in 10-20 cm and 20-30 cm dia classes but is found in the middle order upto 60-70 cm dia class and again strangely absent in higher dia classes i.e. in mature

STEM PER HA IN UNCLASSED STATE FORESTS



and over mature classes. Similarly *Morus laevigata* and *Diosxylum binectariferum* are totally absent beyond 20-30 cm dia class. As regards other species obtained in Bamboo stratum, the middle sized trees and higher dia classes are not at all represented which certainly indicates that the Bamboo stratum with maximum bamboo vegetation is not conducive to the growth of broad- leaved species. Similar situation also prevails in R.F. where higher dia classes are poorly represented (ref.graph at page 113.)

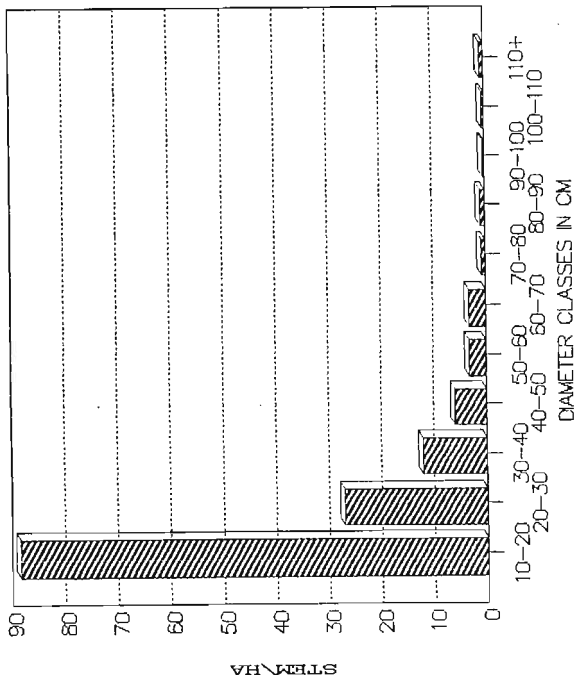
6.12 STEMS PER HA AND TOTAL STEMS: ALL STRATA COMBINED - UNCLASSIFIED STATE FORESTS(USF).

In the combined stratum, in all 142.634 stems per ha have been found whereas the total projected stems in USF reckon to 12 640 724 nos. of various species distributed in different dia classes as detailed at Table Nos.6.12T (a) and 6.12T(b). The tables amply reveal that the distribution of trees are mainly confined in lower dia classes amongst Pole size crop while the representation of trees in higher dia classes are either absent or negligible. No particular species has shown any significant contribution to the stand.(Also ref. graph at page 115). A comparative picture of the stand for combined strata in USF is presented below:-

A COMPARATIVE PICTURE OF THE STAND FOR COMBINED STRATA IN USF IS PRESENTED BELOW:

Stratum	Area(Km <sup>2</sup> )	Total Stems	Stems per ha.
Conifers	48.34	4 51 172	93.332
Hardwoods	725.04	11 657 880	160.772
Bamboo forests	112.78	5 31 672	47.148
All strata Combined.	886.16	12 640 724	142.634

STEM PER HA - ALL STRATA COMBINED (USE)



6.13 VOLUME PER HA AND TOTAL VOLUME: STRATUM CONIFERS  
UNCLASSED STATE FORESTS (USF).

The stock position of various species by dia classes per ha and total has been shown at Table Nos. 6.13T(a) and 6.13T(b). Major share of the volume is exclusively contributed by *Pinus roxburghii* (Chir) to the extent of 94.588%. The balance of 5.412% is shared by few broad-leaved species. Per ha volume of 78.147 m<sup>3</sup> has been estimated while a total of 3 77 761 m<sup>3</sup> has been worked out for the entire Coniferous stratum. It is worthwhile noting that all the dia classes are not adequately represented (ref.graph at page 117).

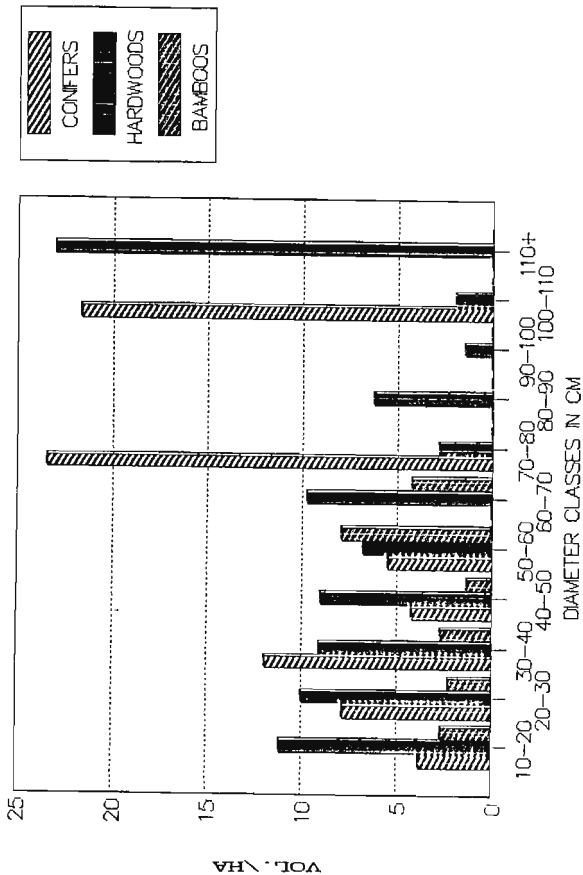
6.14 VOLUME PER HA AND TOTAL VOLUME:STRATUM HARDWOODS-  
UNCLASSED STATE FORESTS(USF)

Even in USF, due to heterogenic composition, the Hardwoods stratum is comparatively well stocked than Coniferous and Bamboo stratum of USF,contributing 90.903 m<sup>3</sup> per ha against 78.147 m<sup>3</sup> in Coniferous and 20.962 m<sup>3</sup> of Bamboo stratum. Amongst various species found in the stratum, *Terminalia myriocarpa* shares maximum of 11.905% followed by *Kydia calycina* 9.067 and *Amoora wallichii* 5.164%, while other important species contribute marginally. Table No.6.14T(a) presents the species wise position of volume per ha. Absence of stock in higher dia classes in majority of species would adversely affect the sustained productivity of the forests in the near future. While most of the dia classes have not contributed to the stock, the dia class 110+cm alone has contributed about 54.702% of the stock by species like *Amoora wallichii*, *Terminalia myriocarpa* and Rest of the species. Total estimated volume in Hardwoods stratum of USF is 65 90 971 m<sup>3</sup> as projected in Table No.6.14T(b) (ref.graph at page 117).

6.15 VOLUME PER HA AND TOTAL VOLUME.STRATUM BAMBOO FOREST  
UNCLASSED STATE FORESTS(USF)

Bamboo stratum has sparse distribution of tree species as most of the interspace is occupied by bamboo clumps. Stand per ha is very low at 20.962 trees as can be seen from the Table No.6.15T(a). Important tree species contributing to

VOLUME PER HA IN UNCLASSIFIED STATE FORESTS



the stock are: Terminalia myriocarpa 43.633%, Albizia procera 24.026% and Castanopsis indica by 5.219%. All other species contribute to the balance volume. Absence of stock in higher dia class is an indication of secondary vegetation of the stratum following shifting cultivation invaded by bamboo growth. Even the lower dia classes are not adequately represented. Total estimated timber stock is around 2 36 398 m<sup>3</sup> as detailed in Table No.6.15T(b) (ref.graph at page 117).

#### 6.16 VOLUME PER HA AND TOTAL VOLUME:ALL STRATA COMBINED(USF)

The stock position of combined stratum is indicated at Table No. 6.16T(a) and 6.16T(b). Per ha stock has been estimated at 81.307 m<sup>3</sup> where as the total stock is in the region of 72 05 130 m<sup>3</sup>. A comparative position of the stock in different strata of the USF is produced below:-

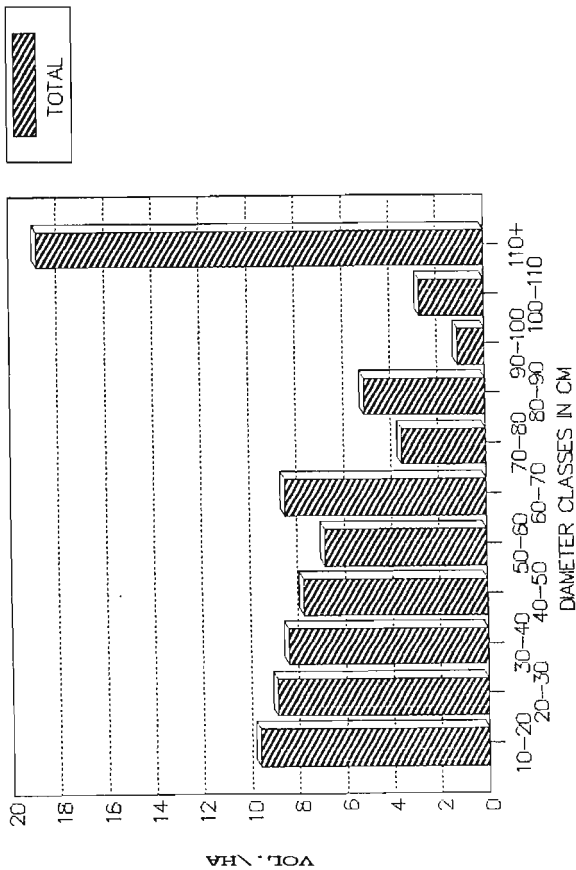
#### A COMPARATIVE TABLE OF STOCK PER HA AND TOTAL STOCK IN RESPECT OF ALL STRATA.

Stratum	Area km <sup>2</sup>	Total stock m <sup>3</sup>	Volume per ha. m <sup>3</sup> .
Conifers	48.34	3 77 761	78.147
Hardwoods	725.04	65 90 971	90.905
Bamboos	112.78	2 36 398	20.961
All combined	886.16	72 05 130	81.307

(Also ref. graph at page 119).

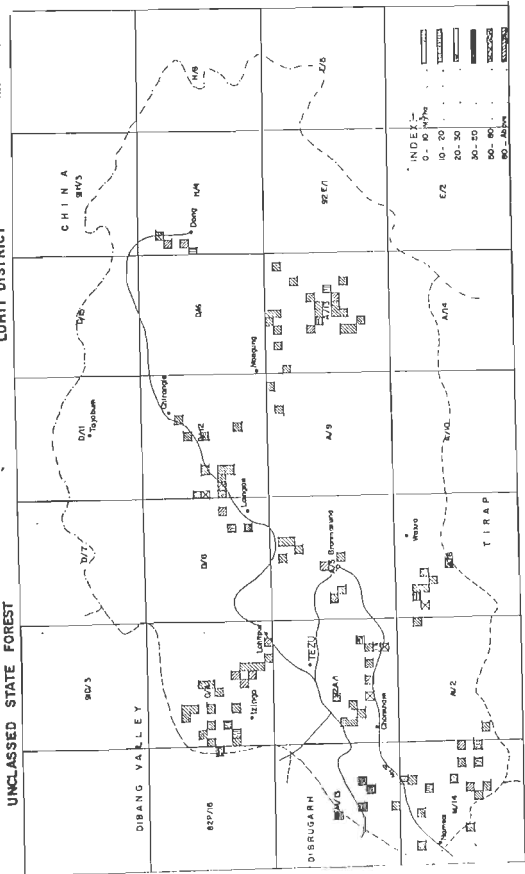
The Map no. 6.16(Y)M detailing vol/ha prepared for Unclassed State Forests appended as page no.120 shows no specific trend in distribution of volume. However, in higher range of 80 m<sup>3</sup> and above, about 25.45% volume contribution is apparent while in the lowest category of 0-10 m<sup>3</sup> the contribution is maximum by 41.82 m<sup>3</sup>. The other volume ranges are poorly represented.

VOLUME PER HA - ALL STRATA COMBINED (USF)



VOLUME MAP OF ARUNACHAL PRADESH  
 LOHIT DISTRICT

NO-9.16(17) M



6.17 TOTAL STAND:STRATUM CONIFERS(REERVED FORESTS +  
UNCLASSED STATE FORESTS

The total stand position of the entire Coniferous stratum covering an area of 77.14 km<sup>2</sup> is detailed at Table no.6.17T. In all 7 45 572 nos. of stems have been estimated for various tree species by dia classes. The contribution of main Coniferous species, Pinus roxburghii accounts for 74% of the total vegetation distributed adequately in all the dia classes. However, the broad-leaved species are virtually absent in the higher dia classes beyond 30 cm.

6.18 TOTAL STAND: STRATUM HARDWOODS: RESERVED FORESTS+  
UNCLASSED STATE FORESTS (R.F.+U.S.F.)

The distribution of total stand in Hardwoods stratum of R.F.+U.S.F. has been shown at Table No. 6.18T. The stratum represents an area of 1800.05 km<sup>2</sup> of area. A total no. of 37 524 951 stems have been estimated in the combined stratum. Barring few higher dia classes, most of the species are well distributed in lower dia classes.

6.19 TOTAL STAND: STRATUM BAMBOO FORESTS: RESERVED FORESTS+  
UNCLASSED STATE FORESTS (R.F.+U.S.F.)

Total distribution of stems have been indicated at Table no. 6.19T for both R.F.+U.S.F. which are spread over an area of 285.54 km<sup>2</sup> In all 18 97 468 nos. of stems have been estimated from the Bamboo forests. As the stratum is dominated by Bamboo vegetation, the broad-leaved trees are sparingly distributed.

6.20 TOTAL STAND: ALL STRATA COMBINED(R.F.+U.S.F.)

A comparative stand position for all the three strata is produced below:-

A COMPARATIVE STAND POSITION FOR ALL THE THREE STRATA IS PRODUCED BELOW.

Stratum	Area(km <sup>2</sup> ) RF+USF	Total stems RF+USF	Stem per ha
Conifers	77.14	7 45 572	96.652
Hardwoods	1800.05	37 524 951	208.466
Bamboos	285.54	18 97 468	66.451
All combined	2162.73	40 167 991	185.728

Table 6.20T presents distribution of total stand for R.F.+U.S.F. for the combined strata by species. In all 40 167 991 nos. of stems exist in the combined stratum and per ha stems obtained are 185.728 nos.

#### 6.21 TOTAL STOCK: STRATUM CONIFERS-RESERVED FORESTS+ UNCLASSIFIED STATE FORESTS (R.F.+U.S.F.)

The total distribution of volume in Coniferous stratum (R.F.+U.S.F.) has been shown in Table No. 6.21T. In all, the Coniferous stratum contributes 6 73 059 m<sup>3</sup> of growing stock in Lohit forests, out of which a major portion of 96% is shared by single and dominant Conifer; *Pinus roxburghii* (Chir pine) representing in almost all the dia classes. The broad-leaved species contribute negligible volume and are totally absent in higher dia classes.

#### 6.22 TOTAL STOCK: STRATUM HARDWOODS-RESERVED FORESTS+ UNCLASSIFIED STATE FORESTS

A detailed total stock position of Hardwoods stratum (R.F.+U.S.F.) has been presented at Table No. 6.22T. All the non-Coniferous species of the stratum contribute a maximum of 24 307 560 m<sup>3</sup> volume which is comparatively higher than the other two strata. From the table it is seen that the heteroge-

neous composition of the stratum exhibits a large no. of species than the other two. It is pertinent to observe that only a few species such as *Altingia excelsa*, *Duabanga grandiflora*, *Pterospermum acerifolium*, *Shorea assamica*, *Stereospermum personatum*, and *Terminalia myriocarpa* have contributed in all the dia classes, while majority of the species have mostly shared the volume in lower dia classes.

6.23 TOTAL STOCK: STRATUM BAMBOO-RESERVED FORESTS+ UNCLASSIFIED STATE FORESTS (R.F.+U.S.F.)

Table 6.23T presents the total volume in Bamboo stratum. In all 22 18 445 m<sup>3</sup> of volume has been estimated from the stratum. Since the entire stratum is dominated by Bamboo vegetation the contribution of Hardwood species is the lowest in the stratum compared to the other two. Furthermore, the distribution of volume in upper dia classes is also poor due to prolific spreading of Bamboo vegetation, creating unfavourable conditions for the growing of broad-leaved species.

6.24 TOTAL STOCK: STRATUM-ALL COMBINED(RF+USF)

The overall stock position of the combined strata is presented at Table No. 6.24T. The table reveals that the vegetated area of R.F.+U.S.F. bears in all 27 199 064 m<sup>3</sup> of growing stock generated by various tree species in different dia classes. Although there is adequate contribution by various species in lower dia classes, the stock in higher dia class is poorly represented.

A comparative position of the stock obtained in all the strata is presented below:

Stratum	Area in km <sup>2</sup> (RF+USF)	Total stock m <sup>3</sup> (RF+USF)	Stock per ha m <sup>3</sup>	%
Conifers	77.14	6 73 059	87.252	2.47
Hardwoods	1800.05	24 307 560	135.038	89.37
Bamboos	285.54	22 18 445	77.693	8.16
All combined	2162.73	27 199 064	125.763	100%

From the above it is evident that the Hardwoods stratum is better stocked contributing 135.038 m<sup>3</sup>/ha i.e. 89.37% of the combined stock while Coniferous stratum has contributed 87.252 m<sup>3</sup>/ha, reckoning to just 2.47% of the total stock whereas the Bamboo stratum has produced 77.693 m<sup>3</sup>/ha of volume being 8.16% of the total stock.

#### 6.25 STANDARD ERROR ESTIMATES FOR AREA AND GROWING STOCK

The standard error has been worked out for forest areas and volume per ha for each stratum and presented below:

Stratum	Area km <sup>2</sup>	SE%	Vol/ha	SE%
Reserved Forests				
Conifers	2 880	33.14	102.534	28.14
Hardwoods	1 07 501	3.91	164.804	3.71
Bamboos	17 276	13.09	114.729	7.75

#### Unclassed State Forests

Conifers	4 834	57.23	78.147	18.90
Hardwoods	72 504	11.30	90.905	17.52
Bamboos	11 278	36.80	20.961	12.35

From the above table it is apparent that the Coniferous stratum shows a high percentage of standard error for area and volume parameters at 33.14% and 28.14% respectively in Reserved Forests. Obviously the abnormally high error is due to a very small no. of samples i.e. just '9' plots obtained in the Coniferous stratum. Similarly, a high degree of variation exists in USF as well. With regard to Coniferous stratum wherein for area, S.E is estimated at 57.23%, for volume estimation the figure is 18.90% derived from a paltry '3' sample plots. However, in Hardwoods stratum of the R.F. the standard

error percentage is 3.91 for area and as for volume it is estimated at 3.71, which is well within the permissible limits of precision mainly because of large no. of samples in the stratum collected from 336 plots. In comparison to this the strata in USF are not satisfactory as the S.E. for area is 11.30% and for volume it is 17.52%, which is attributed again to a small no. of '45' samples in the Hardwoods stratum of USF. As regards Bamboo stratum the S.E% in R.F. is slightly high at 13.09 for area and 7.75 for volume presumably because of more samples of 54 nos. As against this in USF the S.E% in Bamboo stratum for area is extremely high at 36.80% and for volume it is 12.35 on account of just '7' samples in the stratum. Although as per the inventory design a sampling intensity of .03% for R.F. and 0.006% for USF was adopted, the standard error percentage obtained for area and volume parameters for various strata is fairly reasonable.

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CHAPTER - VII

INVENTORY RESULTS : BAMBOO AND CANE GROWING STOCK

7.0 AREA

A total of 715.14 km<sup>2</sup> of forest area in the District supports Bamboo vegetation. The details in respect of R.F and U.S.F are shown at paras 5.14 of Chapter V. Further, the distribution of Bamboo vegetation by density and quality is also projected at paras 5.14(X) and 5.14(Y) respectively. The estimates of growing stock of Bamboo have been dealt in detail in following paragraphs. The standard error estimation of Bamboo growing stock is 7.75% for R.F. and 12.35% for USF respectively which is quite reasonable considering the sampling intensity of 0.03% for R.F. and 0.006% for USF areas.

7.1 NUMBER OF CLUMPS PER HA BY QUALITY AND SIZE CLASSES

Main Bamboo species occurring is 'Kako' (Dendrocalamus hamiltonii) which contributes about 95% of the stock while Bajal (Pseudostachyum polymorphum), Bijuli (Bamboosa pallida), Jati (Bamboosa tulda), and Dulu (Teinostachyum dulloa) share the balance. Bamboo obtained in the survey area is mostly dense, invariably of 1st quality. Estimation of number of clumps per ha by clump size class and Bamboo quality obtained in the survey area is shown in the following table.

Table 7.1T

Legal status	Bamboo quality	Clump size class (No. of clumps/ha)			Remarks
		>1 Net dia.	1-2 Net dia.	Over 3 Net dia.	
R.F.	1	32.745	25.556	40.261	Only 1st quality Bamboo occurs and 2nd & 3rd quality are not found
U.S.F.	1	22.143	17.143	42.143	

From the above table it transpires that the distribution of Bamboos in lower sizes is more in the R.F. than in the U.S.F. Whereas in USF, in upper clump size class, occurrence of Bamboo is maximum than clump size class 1 and 2. As for Bamboo quality, the entire survey area bears 1st quality Bamboo (Culm height 6 m and above) exhibiting the luxuriance of growth.

## 7.2 MEAN NUMBER OF BAMBOO CULMS/CLUMP BY SOUNDNESS

On the basis of analysis of field data for various sample plots supporting Bamboo vegetation, the mean number of Bamboo culms/clump by soundness of culms have been worked out by quality. According to clump sizes the break up of Bamboo obtained in the survey area is detailed below:

Table 7.2T

Quality	Clump size class	Green sound culms	Green damaged culms	Dry sound culms	Dry damaged culms
1	2	3	4	5	6
1	1	3.08081 (7.54%)	1.62626	0.12121	0.63636
	2	7.67709 (18.77%)	3.17708	0.28125	1.73958
	3	30.12633 (73.69%)	11.41054	0.61053	6.28422
	%	(100%)			
Decayed culms	Total culms	Percentage.			
7	8	9			
0.33333	5.78797	7.98			
1.23958	14.11458	19.45			
4.23158	52.66320	72.57			

The distribution pattern of culms reveals that the numbers of culms gradually increase from the lower clump size 1 to higher clump size 3 indicating a normal distribution of culms according to soundness in varying degree. It is further observed that the smallest clump size has contributed 7.98% of culms, while the next higher clump size 2 has contributed 19.45% and the largest clump size 3 has yielded a maximum number by 72.57%. Similar trend is also seen with regard to green sound culms where it is 7.54%, 18.77% and 73.69% respectively. Again 'Green damaged' culms are on higher side in comparison to 'Dry damaged'.

### 7.3 MEAN NUMBER OF BAMBOO CULMS/HA BY SOUNDNESS AND CLUMP SIZE CLASSES

Bamboo culms per ha by their soundness and clump sizes have been worked out and produced in Table No. 7.3T for R.F. as well as USF.

Table 7.3T (Culms/ha R.F.)

Quality	Clump size class	Green sound culms	Green damaged culms	Dry sound culms	Dry damaged culms	Decayed culms	Total culms
1	2	3	4	5	6	7	8
1	1	100.880	53.253	3.969	20.838	10.915	189.855
	2	196.197	81.193	7.188	44.457	31.679	360.714
	3	1212.918	459.401	24.580	253.009	170.368	2120.276
Total		1509.995	593.847	35.737	318.304	212.952	2670.845
U.S.F.							
1	1	61.218	36.011	2.684	14.091	7.381	128.385
	2	131.609	54.465	4.821	29.822	21.250	241.967
	3	1269.614	480.874	25.730	264.836	178.331	2219.385
Total		1462.441	571.350	33.235	308.749	206.962	2589.737

From the above table it is pertinent to note that the total culms per ha in both R.F. and U.S.F. are more or less in the same region i.e. 2670.845 per ha and 2589.737 per ha respectively. The distribution trend indicates that the disturbance to Bamboo vegetation in USF is comparatively less. However, the occurrence of culms under clump sizes 1 and 2 with their varying degree of soundness is on higher side in R.F; while in case of USF the clump size 3 which is the largest amongst the clumps, the representation of culms distribution is on the higher side in all the soundness class by about 4.67%. Further more in both R.F. and USF the trend of distribution of culms in all soundness class is more or less on the same lines. The quality of Bamboo occurring in both the forests is invariably of 1st quality.

### 7.4 TOTAL NUMBER OF CULMS BY SOUNDNESS AND CLUMP SIZE CLASSES

The distribution of culms (000) in R.F. and U.S.F. by diameter classes of clumps and soundness of culms is shown in

TABLE 7.4T

R.F.No. (000)

Quality	Clump size class	Green sound culms	Green damaged culms	Dry sound culms	Dry damaged culms	Decayed culms	Total culms
1	2	3	4	5	6	7	8
1	1	4939.140	2607.212	194.324	1020.210	534.393	9295.279
	2	9605.742	3975.232	351.906	2176.600	1550.989	17660.469
	3	59384.375	22492.212	1203.464	12387.320	8341.200	103808.571
Total:		73929.257	29074.656	1749.694	15584.130	10426.582	130764.319
U.S.F (Bamboo Area - 225.54 km <sup>2</sup> )							
	1	1538.597	812.176	60.534	317.807	166.469	2895.583
	2	2968.294	1228.397	18.744	672.597	479.275	5367.307
	3	28634.872	10845.641	580.305	5973.109	4022.088	50056.015
Total:		33141.763	12886.214	659.583	6963.513	4667.832	58318.905
% RF+USF		56.62%	22.19%	1.29%	11.92%	7.98%	100%

In all 130 764 319 bamboo culms have been estimated in R.F. from 489.60 km<sup>2</sup> of area whereas in USF an estimated no. of 58318905 nos. would be available from 225.54 km<sup>2</sup>. Thus, from the entire District of Lohit a total quantity of 1 89 083 224 no. of culms of different soundness classes has been estimated. Out of this the utilizable quantity is 17 398 810 nos. from R.F. and U.S.F. Bamboo bearing areas reckoning to about 92.02%, while the decayed culms which have practically no utility amount to 7.98%. Further, the green sound bamboo contributes a maximum of 56.62% indicating the luxuriance of Bamboo forests in the District while green damaged shares 22.19%, dry sound by a marginal quantity of 1.29% and dry damaged contributing about 11.92% in both the strata.

#### 7.5 MEAN NUMBER OF BAMBOO CULMS/CLUMP BY SOUNDNESS, AGE AND CULM SIZE CLASSES

The distribution of culms per clump has been presented in Table no.7.5T by their soundness, age and culm size classes. The culms have been broadly categorised into five groups viz, Green Sound, Green Damaged, Dry Sound, Dry Damaged and Decayed. Further classification of culms was made according to their age i.e. current year's growth, one to two seasons' culms, and over two seasons. Again within the age groups they are classified according to size classes of <2<5cm dia at breast height, 5<8cm dbh and over 8 cm dbh.

From the table it is seen that in Green Sound category, current year's culms are in lesser proportion than one to two seasons' and mature culms. The stocking of mature culms is on higher side than current year's and one to two seasons' culms. In clump size 3 total culms are at 30.12633 being the highest in all the categories. In case of Green damaged clump, size 3 shows maximum of 11.41054 nos. However, the dry sound and Dry damaged culms do not show any particular trend. The decayed culms comprise 7.89% of the total bamboo culms/clump. In the over all distribution pattern, clump size class contributes maximum no. of culms.

#### 7.6 MEAN NUMBER OF BAMBOO CULMS/HA BY SOUNDNESS, AGE AND CULM SIZE CLASSES (RESERVED FORESTS)

The position of distribution of culms per ha by soundness, age and culm size classes in Reserved Forests has been detailed in Table No. 7.6T. The table reveals that the green sound bamboo culms contribute maximum by 56.53% followed by green damaged being 22.23% while dry sound contribute 1.33% and Dry damaged contribute 12.30% and the share of decayed bamboos, which are not utilizable, being 7.97%.

7.7 MEAN NUMBER OF BAMBOO CULMS/HA BY SOUNDNESS, AGE AND CULM SIZE CLASSES-UNCLASSED STATE FORESTS

Table No. 7.7T provides the distribution of culms per ha by soundness, age and culm size classes in respect of USF. As in the case of R.F, the Green Sound Bamboo in USF is also on higher side reckoning to 56.74% of the total culms. The green damaged culms contribute 22.06% while dry sound account for 1.28% and Dry Damaged yield 11.92%. The decayed Bamboo which has no relevance with utilizable growing stock is in the region of 7.99%. The pattern of occurrence of culms in R.F. as well as in USF have maintained an uniform level exhibiting luxuriance of growth due to least disturbance.

7.8 DISTRIBUTION OF TOTAL BAMBOO CULMS ('000') BY AGE SOUNDNESS AND SIZE CLASSES-RESERVED FORESTS

In all, 130 764 319 no. of culms spread in various age, soundness and culm sizes have been estimated from the R.F. areas as detailed in Table No. 7.8T. The unutilizable quantity of Bamboos contributes 7.97% which is quite insignificant.

7.9 DISTRIBUTION OF TOTAL BAMBOO CULMS(000) BY AGE, SOUNDNESS AND SIZE CLASSES-UNCLASSED STATE FORESTS(USF)

In the USF areas a total of 58 408 905 culms occur in different soundness, and age classes and culm sizes. The utilizable quantity of culms reckons to about 92% which is fairly a large availability.

The Bamboo potential in both R.F. and U.S.F. is quite high for enhancing the economy of the District.

7.10 GREEN STOCK OF BAMBOOS IN TONNES('000') BY QUALITY, AGE, SOUNDNESS AND CLUMP SIZE CLASSES-RESERVED FORESTS

During the inventory, Bamboo specimen were collected from the sample plots and their green weight for each quality and culm dia class was collected to assess the total green weight of Bamboo culms occurring in the area by using following factors for green equivalent weight of bamboos as per their category.

1. Green Sound	1.0
2. Green Damaged	0.5
3. Dry Sound	2.0
4. Dry Damaged	1.0
5. Decayed	0.0

Table 7.10T presents the break up of Green Bamboo stock in '000' tonnes by quality, soundness and size in R.F. areas.

Total stock of green bamboo in R.F. has been estimated to be around 2014519 tonnes of which Green Sound contributes maximum by 66.45%, green damaged gives 13.18%, dry sound accounts for 3.61% and dry damaged reckoning for 16.76% of the utilizable stock. In R.F. the clump size 3 shares a maximum of 83.88% of the stock while clump size 2 accounts for 11.21% and the lowest clump size 1 gives 4.91%.

#### 7.11 STOCK OF GREEN BAMBOOS IN TONNES (000) BY QUALITY, AGE, SOUNDNESS AND SIZE CLASSES-UNCLASSED RESERVED FORESTS

In USF, a quantity of 915388 tonnes of Green Bamboo has been estimated by adopting green equivalent weight factor as shown at 7.10. Further Bamboo stock position of USF has been detailed in Table 7.11T Green Bamboos in tonnes (000) by quality, age, soundness and size classes in Unclassed Reserved forests.

#### 7.12 CONSOLIDATED STOCK OF BAMBOO IN RESERVED FORESTS + UNCLASSED STATE FORESTS

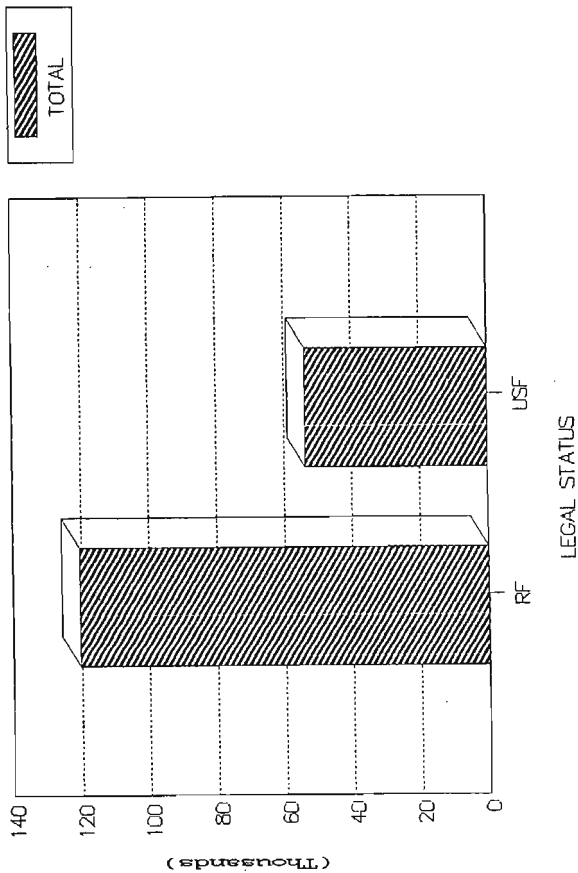
The total utilizable stock of Bamboo in Lohit District is projected in the following Table.

Table 7.12T

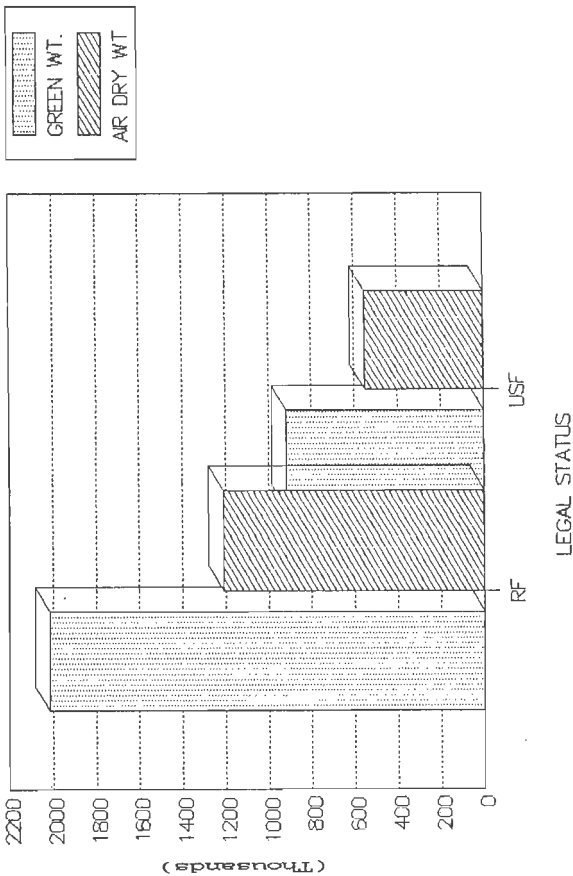
Legal status	Total vegetated area km <sup>2</sup>	Bamboo bearing area km <sup>2</sup>	Total utilizable culms (000)	Green Wt. (000 tonnes)	Air Dry Wt. (000 tonnes) (60% of green Weight)	%
RF	1276.57	489.60	120337.737	2014.519	1208.711	68.54
USF	886.16	225.54	53651.073	915.388	549.233	31.46
Total	2162.73	715.14	173988.810	2929.907	1757.944	100%

The dry bamboo stock (air dry weight) has been worked out by reducing the green weight of Bamboo to 60% as per the conversion studies conducted by the Central Zone of Forest Survey of India. While working out the reduction factor by total removal of moisture in order to obtain dry weight, a 10% atmospheric moisture content has been applied. Thus, air dry

TOTAL BAMBOO STOCK (CULMS) IN LOHIT DISTT. (RF+USF)



TOTAL BAMBOO STOCK (TONNES) IN LOHIT DISTT. (RF+USF)



Bamboo weight in R.F. is estimated at 12 08 711 tonnes reckoning to 68.76% of the total dry bamboo stock while in USF it is 5 49 233 tonnes i.e. 31.24%. The overall air dry stock of Bamboo in Lohit District is in the region of 17 57 994 tonnes. Results of inventory in respect of Bamboo indicate a high potential of 1st quality Bamboo resources in Lohit District in both R.F. and USF (ref. graph at page 133 & 134).

#### 7.13 DISTRIBUTION OF CANES PER HA BY CROP COMPOSITION AND LENGTH CLASSES-RESERVED FORESTS

Amongst important canes occurring in the District are: Raideng (*Calamus flagellum*), Leziabet (*Calamus floribundus*), Jati bet (*Calamus tenuis*), Jeng (*Calamus erectus*). Occurrence of canes is confined to Bamboo forests as well as Miscellaneous forests (Hardwood stratum). The cane data was collected in 3 broad length classes i.e. 0-10 m, 10 - 20 m, and above 20 m. All the canes falling in 0.1 ha i.e. sample plot were counted and per ha cane population was worked out in R.F. area. The distribution of canes in R.F. is as follows:

Table 7.13T No. of canes/ha In R.F.

Crop Composition	length classes in m			Total	%
	0-10	10-20	20+		
Bamboo forest	231.82	50.00	-	281.82	26.55
Hardwoods (Misc. forest)	730.71	43.15	5.67	779.53	73.45
Total	962.53	93.15	5.67	1061.35	100%
Percentage	90.69	8.78	0.53		

The table reveals that the bulk of the canes amounting to 73.45% occur in the Hardwoods stratum while the Bamboo stratum is poorly represented by 26.55%. The coniferous stratum does not bear any canes. As for length class distribution, maximum canes are in the lowest length class of 0-10 m by about 90.69%. Higher length classes 10-20 m and 20 m and above are poorly represented by 8.78% and 0.53% respectively.

#### 7.14 DISTRIBUTION OF CANES PER HA BY CROP COMPOSITION AND LENGTH CLASSES-UNCLASSIFIED RESERVED FORESTS

In the USF areas also same cane species as detailed at 7.13 above are found. Enumeration of canes were made in 0-10 m, 10-20 m, and 20 m and above class in both Bamboo forests and Hardwoods (Miscellaneous forests) as per the same methodology adopted in case of R.F. areas. The break up of canes in USF areas is detailed below:

Table 7.14T (No. of canes/ha in USF)

Crop Composition	length classes in m			Total	%
	0-10	10-20	20+		
Bamboo forest	740.00	-	-	740.00	31.91
Hardwoods (Misc. forest)	1521.25	57.50	-	1578.75	68.09
Total	2261.25	57.50	-	2318.75	100.00
Percentage	97.52	2.48		100.00	

The above table reveals that the Miscellaneous forests contain more quantity of canes (i.e. 68.09%) than Bamboo forests contributing 31.91%. As obtained in the case of R.F., the USF also contributes a maximum of 97.52% of canes in lower length class of 0-10 m. The next higher class i.e. 10-20 m is insignificant by a representation of bare 2.48%. Further, in the higher class i.e. 20 m and above canes are totally absent.

A comparative position of canes in R.F. as well as USF reveals that the USF is better stocked in respect of cane resources i.e. more than R.F. This is probably due to the reason that almost all the USF areas are remotely located comprising of mostly hilly areas, away from habitation with least biotic interference; while the R.F. areas contain mostly plains in the proximity of habitation and are incessantly subjected to exploitation of wood resources by local populace.

#### 7.15 GROWING STOCK OF CANES IN (000) BY CROP COMPOSITION AND LENGTH CLASSES IN RESERVED FORESTS

The stock position of canes existing in R.F. areas has been projected on the basis of enumerated population of canes from sample plots data under different length classes occurring in Bamboo forests and Hardwoods (Miscellaneous forests).

The estimated growing stock of canes in R.F. areas is presented below:

Table 7.15T No. of Canes ('000') in R.F.

Crop Composition	length classes in m			Total	%
	0-10	10-20	20+		
Bamboo forests	816	176	-	992	3.04
Hardwoods (Misc. forests)	29696	1754	230	31680	96.96
Total ..	30512	1930	230	32672	100.00
Percentage	93.39	5.91	0.70	100%	

From the above table it is evident that the Hardwoods stratum (Miscellaneous forest) mainly supports the canes, in R.F. contributing a maximum of 96.96%, whereas the Bamboo forests are poorly represented by a paltry 3.04%. Further the lowest length class of 0-10 m has the maximum stock of 93.39%, while the moderate size provides 5.91% and the higher class (above 20 m) is virtually insignificant with just 0.70% of the stock. The total cane potential of the R.F area is to the extent of 32 672 000 nos in various sizes in both the strata (ref. graph at page 139).

#### 7.16 GROWING STOCK OF CANES IN ('000') BY CROP COMPOSITION AND LENGTH CLASS IN UNCLASSIFIED STATE FORESTS

The estimated quantity of canes occurring in Un-classed State Forests has been computed for different length classes in each stratum and presented in the following table.

Table 7.16T no. of canes ('000') in Unclassified State Forests.

Crop Composition	length classes in m			Total	%
	0-10	10-20	20+		
Bamboo forests	1192	-	-	1192	5.53
Hardwoods (Misc. forests)	19606	741	-	20347	94.47
Total	20798	741	-	21539	100.00
Percentage	96.56	3.44	-	100.00	

The trend of distribution of canes in USF is more or less on the same lines of R.F. The Hardwoods (Miscellaneous forests) contain a maximum of 94.47% against a meagre 5.53% obtained in Bamboo forests. A total quantity of 2.539 000 nos. of canes have been estimated from USF areas of which a major portion of 96.36% is spread in 0-10 m length class while the moderate class (10-20 m) is negligible with 3.44%. Further the bigger sizes (10 m and above) are totally absent(ref. graph at page 140).

7.17 TOTAL GROWING STOCK OF CANES ('000) BY CROP COMPOSITION AND LENGTH CLASSES (R.F. +U.S.F.)

The total cane potential of the District has been assessed and detailed below:

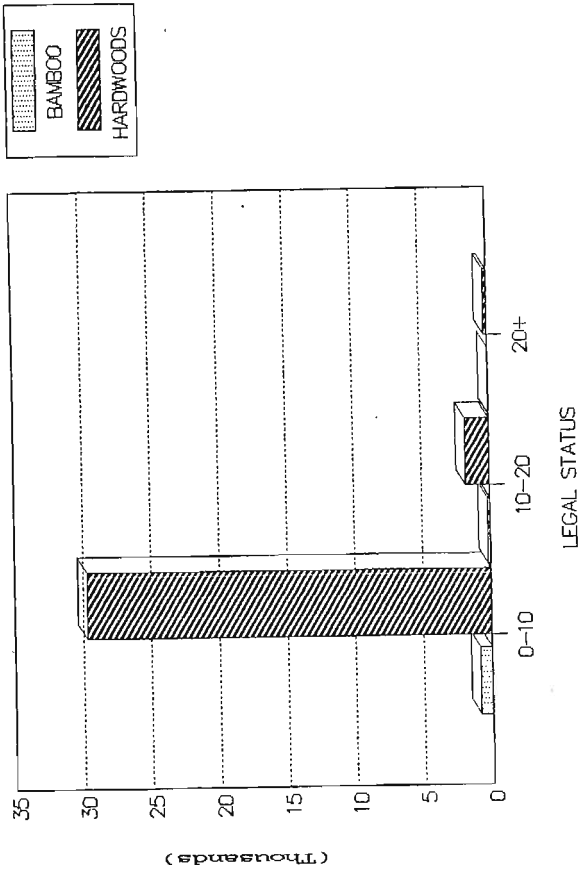
Table 7.17T Total growing stock of canes in R.F.+U.S.F.('000').

Crop Composition	length classes in m			Total	%
	0-10	10-20	20+		
Bamboo forest	2008	176	-	2184	4.03
Hardwoods (Misc.forests)	49302	2495	230	52027	95.97
Grand Total	51310	2671	230	54211	100.00
Percentage	94.65	4.93	0.42	100	

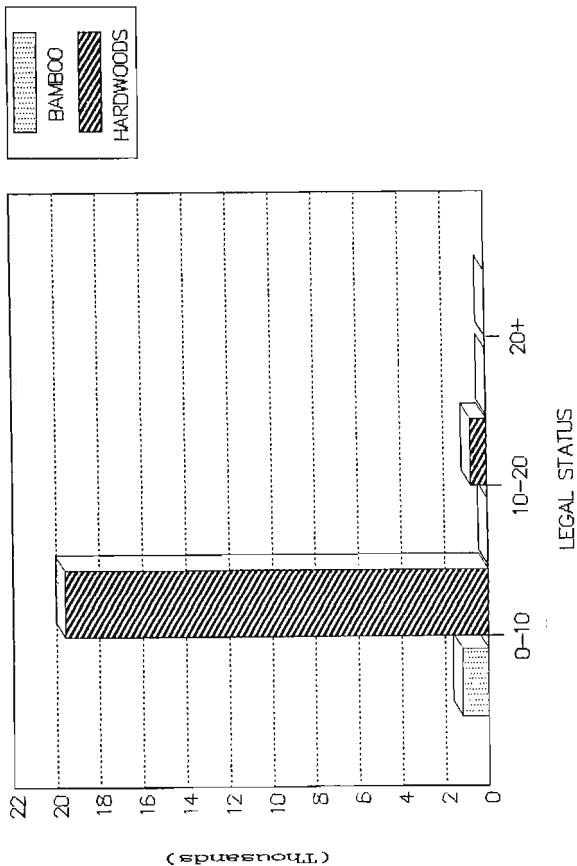
In all, the availability of canes in both R.F.as well as USF is to the tune of 54 211 000 nos. amongst various cane species occurring in the area. The Bamboo forests are poorly stocked by 4.03% while the Hardwoods (Miscellaneous) stratum contributes the bulk of the quantity by 95.97%. Again size-wise, 0-10 m range gives a maximum stock of 94.65%, followed by 4.93% in the next higher class of 10-20 m and the biggest class 20 m' and above is insignificant by a marginal representation of 0.42%. From the inventory results of cane potential it is revealed that the District has tremendous cane potential to support a large number of cottage level cane craft units. For sustained supply of canes, scientific and conservative management practices of canes will have to be ensured( ref. graph at page 141).

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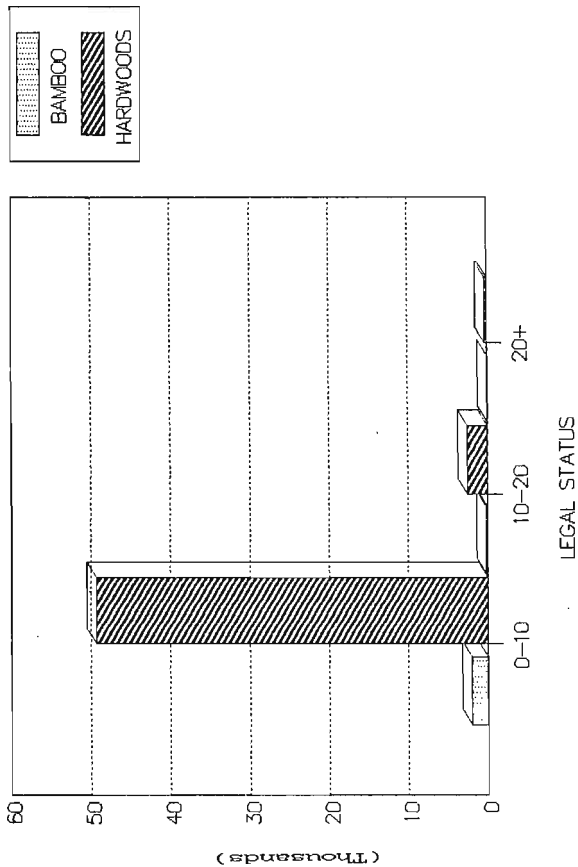
TOTAL CANE STOCK (NUMBERS) IN LOHIT DISTT. (RF)



TOTAL CANE STOCK (NUMBERS) IN LOHIT DISTT. (USE)



TOTAL CANE STOCK (NUMBERS) IN LOHIT DISTT. (RF+USF)



## CHAPTER - VIII

### WOOD CONSUMPTION STUDIES

#### 8.0 GENERAL

A wood consumption study was conducted in Lohit District of Arunachal Pradesh with a view to collect the data on annual consumption of wood for domestic purposes. This consumption survey was conducted along with forest inventory work in the year 1990-91. The purpose of this survey was to collect data regarding existing use of wood and bamboo for house construction, manufacture of furniture, as well as for agricultural implements and fuel to meet domestic need, besides to indicate future requirement of wood, bamboo, thatch grass in rural as also in urban areas.

The entire rural and urban population of Lohit District is living in areas surrounded by the forests. Tezu is the only town (Head quarter of Lohit district), which is also situated in the forest vicinity.

#### 8.1 OBJECTIVES OF THE STUDY

The wood consumption study was organised as a supplement to the forest inventory carried out in the district during the year 1990-91 with the expectation that the study would provide information about annual consumption of wood for domestic purposes in rural and urban area.

The main objectives of the survey were:-

- a. To assess the annual consumption of wood for construction of houses, manufacture of furniture, agriculture implements and their repairs and for fuel wood.
- b. To estimate the annual consumption of other substitutes for timber and fuel such as Bamboo, thatch grass and other miscellaneous waste products.
- c. To assess the future requirement of wood and other forest products.

## 8.2 BASIC INFORMATION ADOPTED FOR THE STUDY

Following basic information was collected from the Statistical Book of Lohit District published in the year 1988. The district population figure for 1991 year was supplied by the District Statistical Officer, Tezu.

i. Total number of inhabited villages in the District.	456
ii. Total number of towns in the District.	1
iii. Total population in the District.	1,09,632
iv. Total rural population	99,765
v. Total urban population	9,867
vi. Total number of rural households	12,378
vii. Total number of urban households	1,477
viii. Average size of rural households (Persons).	8.06
ix. Average size of urban households (Persons).	6.68
x. Number of forested industries	24
a. Saw mills	16
b. Cane industry (Cottage)	8

## 8.3 INCOME GROUPS

For the purpose of wood consumption study three income groups were identified in rural and urban area.

1. Low income group : Annual income per household is less than Rs.10,000/-.
2. Middle income group : Annual income per household is between Rs.10,000/- to Rs.20,000/-.
3. Upper income group : Annual income per household is Rs.20,000 and more.

#### 8.4 METHODOLOGY ADOPTED FOR STUDY

The following methodology was adopted during the study:-

##### 8.4.1 STRATIFICATION OF HABITATION

Two separate strata were identified viz; rural area and urban area. All the selected rural and urban habitation were within 5 km. distance from the forest.

##### 8.4.2. SELECTION OF VILLAGES AND TOWN FOR STUDY

A list of villages was obtained from the Deputy Commissioner's office, Tezu district Lohit and table of random numbers was used for selection of villages. 55 villages were selected from the total number of 456 villages of the district. Since Tezu was the only town, in the District, it was selected as a sample town. Normally 5 households were selected from each selected village for wood consumption study. The total households studied were 295 in rural area and 45 in urban areas. The list of villages, town, households (sampled) and family members therein is as under:

RURAL AREA

S.No.	Name of villages	No. of sample households	No. of family members.
1.	Jaipur	5	55
2.	New Janthav	5	44
3.	Bogan pathar	5	30
4.	Nanay shyam	5	46
5.	Pathar gaon	5	50
6.	Sonpura New Hathiduba	2	9
7.	Lohitpur	5	18
8.	Lalpani	3	10
9.	Changliyang	5	40
10.	Kharoti	2	17
11.	Yakung	5	32
12.	Dang	3	22
13.	Tinai	5	28
14.	Sarti	5	56
15.	Mangharg	3	32
16.	Shirang	4	36
17.	Kosam	4	30
18.	Sanglang	4	36
19.	Langnail	4	24
20.	Kheyang	2	21
21.	Tafraliyang	5	32
22.	Kampa	5	24
23.	Kasagaon	2	8
24.	Kanning	5	54
25.	Plagnung	5	15
26.	Tumna	5	33
27.	Chamgliyang	5	33
28.	Chidai	3	25
29.	Adunla	5	41
30.	Mannugaon	2	15
31.	Kholiyang	5	38
32.	Gamliyang	5	20
33.	Duliang	3	19
34.	Ritilang	5	56
35.	Banglet	5	39
36.	Challnag	3	27

37.	Tolai	2	26
38.	Hemangliyang	4	26
39.	Kheilang	2	7
40.	Tailiyang	1	13
41.	Mankaw	5	38
42.	Morpat	5	40
43.	Mahadeopur	18	100
44.	Murtycamp	4	32
45.	Tilai	5	35
46.	Kathan	5	27
47.	Kumphai	5	15
48.	Lailunga	1	9
49.	Mining nagar	10	70
50.	Kuibang	5	27
51.	Salero	5	67
52.	Manphakta	5	51
53.	Kathalgudi	5	24
54.	Kamlang nagar	9	62
55.	Namsai	50	313
	Total Rural:	295	2,107

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URBAN AREA

S.No.	Name of Town	No. of sample household	No. of family members.
1.	Tezu	45	222
	Total Urban	45	222
	Grand Total ..	340	2329

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8.5 FINDINGS OF THE STUDY

The results of the study are compiled as under:-

8.5.1 GENERAL INFORMATION(PER HOUSEHOLD)

S.No.	Particulars	Income Group			Irrespective of income
		Low	Middle	Upper	
(Rural area)					
1.	Average house plinth area in m <sup>2</sup> per household	76.62	106.57	144.47	97.19 (Wt. avg.)
2.	Number of family members per household (unit)	6.29	7.70	9.54	7.14 (Wt. avg.)
3.	Annual income of household(inRS.)	7421	14530	36100	15928 (Wt. avg.)
4.	Population by income groups (Number)	10856	48168	40741	99765 (Total)
5.	Estimated no. of households in different groups in proportion of population in these groups.	5077	4825	2476	12378 (Total)

Note: Estimated number of households have been calculated by projecting household figures for 1981 census published in 1988, for total population figures of 1991 Census. No. of household have not been calculated by dividing population figures of 1991 census given under '4' by No. of family members based on actual study as shown under '2', because it is felt that the sample is inadequate and projecting 1981 census household figures would be more correct.

URBAN AREA

S.No.	Particulars	Income Group			Irrespective of income
		Low	Middle	Upper	
(Urban area)					
1.	Average house plinth area in m <sup>2</sup> per household	42.06	50.17	83.31	59.25 (Wt. avg.)
2.	Number of family members per household (unit)	4.27	4.57	5.88	3.235 (Wt. avg.)
3.	Annual income of household(in Rs.)	7927	15300	36518	20375 (Wt. avg.)
4.	Population by income groups (Number)	1074	4764	4029	9867 (Total)
5.	Estimated no. of households in different groups in proportion of population in these groups.	492	459	526	1477 (Total)

Note: Same as given under information for rural area.

8.5.2 CONSUMPTION OF WOOD AND OTHER PRODUCE(PER HOUSEHOLD)

S.No.	Particulars	Income groups			Irrespective of income.
		Low	Middle	Upper	
----- Rural Area -----					
1.	Consumption of Misc. timber for Construction of houses (m <sup>3</sup> )	4.664	13.744	11.976	9.382
2.	Consumption of Misc. timber for manufacture of furniture (m <sup>3</sup> )	0.245	0.318	0.656	0.341
3.	Consumption of Misc. timber for preparation of agricultural implements (m <sup>3</sup> )	0.028	0.027	0.068	0.034
4.	Consumption of fuel in kg	6038.78	5671.63	6256.78	5687.74
5.	Consumption of thatch grass in kg	1978.00	2249.78	1824.58	2127.49
6.	Consumption of Bamboo in kg	5240.77	7334.13	7745.93	6238.08

Above statement projects that consumption of wood and other materials on the whole increases with the increase of annual income of the family. The trend in case of consumption of miscellaneous timber for construction of house is much higher in middle income group and lowest in low income group.

Per household consumption of miscellaneous timber for manufacture of furniture is higher in Upper income group and lowest in low income group. In case of agricultural implements low and middle income groups consumed 0.028 m<sup>3</sup> and 0.027 m<sup>3</sup> respectively but upper income group consumed 0.068 m<sup>3</sup> of miscellaneous timber. Fuel wood consumption is lowest in middle income group but low and upper income groups consumed almost equal quantity of fuel wood. Consumption of thatch grass is much higher by the middle income group and lowest in upper income group. The rate of consumption of Bamboo increases as per the income of the family members and upper income group consumed highest quantity of Bamboo and it was lowest in low income group. The high consumption of Bamboo in upper income group is mainly because of agriculture which this group has been practising. It may be seen that the consumption of fuel wood per household is much above average for the country as a whole probably because of severe winter and plentiful availability of fuel wood around the habitation.

S.No.	Particulars	Income groups			Irrespective of income.
		Low	Middle	Upper	
----- Urban Area					
1.	Consumption of Misc. timber for Construction of houses ( m <sup>3</sup> )	1.489	2.107	5.860	3.235
2.	Consumption of Misc. timber for manufacture of furniture ( m <sup>3</sup> )	0.481	0.632	0.876	0.668
3.	Consumption of Misc. timber for preparation of agricultural implements ( m <sup>3</sup> )	0.002	0.002	0.003	0.002

4. Consumption of fuel in kg	1676.00	2488.77	3500.00	2577.33
5. Consumption of thatch grass in kg	965.00	1635.714	859.375	1198.33
6. Consumption of Bamboo in kg	1796.667	3281.428	1468.750	2142.0

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The rate of utilisation and consumption of miscellaneous timber for the construction of house, manufacture of furniture, for repairs to agricultural implements and fuel wood is increasing alongwith increase of the income of the family. Consumption of thatch grass and bamboo is highest by middle income group and lowest in upper income group. This variation in consumption of wood and other forest material is due to change in pattern of construction of house and rise in income. Standard of living in urban locality is also one of the major factors. In case of urban area the consumption of timber for construction of houses and manufacture of furniture and for preparation/repair of agriculture implements is highest by the upper income group and lowest by the low income group.

#### 8.6 COMPARISON IN RATE OF CONSUMPTION IN RURAL AND URBAN AREA

The consumption of miscellaneous timber for the construction of house in rural areas is 9.382 m<sup>3</sup>/Household which is much higher than urban area mainly due to the use of bricks, cement, steel, bamboo and other material for the house construction in town. All the income groups in Urban area consumed higher quantity of miscellaneous timber for furniture manufacturing. This is due to change of environment, different living patterns and living standards. The consumption of miscellaneous timber for repairing and preparation of agricultural implements is higher in Rural area by all the three income groups. The urban population consumed 0.002 m<sup>3</sup> miscellaneous wood by each income group mainly because urban people are normally engaged in non-agricultural works. The consumption of fuel is more in rural areas and less in urban area due to the use of other alternatives of fuel i.e. kerosene, gas,

electricity, etc. The requirement of thatch grass and bamboo is higher in rural areas and low in urban area. Use of Bamboo and thatch grass is on the decrease in urban area due to use of alternatives like bricks, tin sheet, asbestos sheet, iron frame for doors and windows. The utilization of 'Jongpat' leaves is also noticed in rural areas for making house roof.

#### 8.7 ESTIMATE OF TOTAL ANNUAL CONSUMPTION OF WOOD AND OTHER PRODUCE PER PERSON FOR ENTIRE DISTRICT

Based on the wood consumption study results, the present rate of annual consumption of miscellaneous timber and substitutes per household (considering the total number of household), the total consumption in the district is estimated as per the table given below:

S.No.	Particulars	Total consumption		Total
		Rural	Urban	
1.	Consumption of Misc. timber for Construction of houses (m <sup>3</sup> )	1 16 130	4 778	1 20 908
2.	Consumption of Misc. timber for manufacture of furniture (m <sup>3</sup> )	4221	987	5208
3.	Consumption of Misc. timber for preparation of agricultural implements (m <sup>3</sup> )	421	3	424

4. Consumption of fuel in kg. or (^000'Mt)	70 402 846 (70.403 Mt)	38 06 716 74 209 562 (3.807 Mt)	74 209 562 (74.21 Mt)
5. Consumption of thatch grass in kg or (^000'Mt)	26 334 071 (26.334 Mt)	17 69 933 (1.77 Mt)	28 104 004 (28.104 Mt)
6. Consumption of Bamboo in kg. or (^000'Mt)	77 214 954 (77.215 Mt)	31 63 734 (3.164 Mt)	80 378 688 (80.379)

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The above statement indicates the total quantity of annual consumption of miscellaneous timber for construction of houses, manufacture of furniture, repair of agricultural implements, fuel wood, thatch grass and bamboo in the District. Per capita consumption of timber and other materials in the district is calculated in the following statement:

#### PER CAPITA CONSUMPTION

S.No.	Particulars	Rural area	Urban area	Total
1.	Consumption of Misc. timber for Construction of houses ( m <sup>3</sup> )	1.164	0.484	1.648
2.	Consumption of Misc. timber for manufacture of furniture (m <sup>3</sup> )	0.042	0.1	0.142

3. Consumption of Misc. timber for preparation of agricultural implements (m <sup>3</sup> )	0.004	0.0003	0.0043
4. Consumption of fuel in kg.	706	386	1092
5. Consumption of thatch grass in kg.	264	179	443
6. Consumption of Bamboo in kg.	774	321	1095

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Note: The above estimates are based on samples collected during the year 1991 and be used as indicative of general trend of consumption.

#### 8.8 FUTURE PROJECTION

In future, the consumption of timber and use of other substitutes will also change in rural and urban areas due to National Environment Policy and restrictions on felling of trees. The use of substitutes like iron, aluminium, plastic, fibre glass and synthetic materials for timber and the rate of consumption of fuel will also reduce due to alternative sources of energy vis-a-vis, biogas, kerosene, petroleum gas, solar energy and electricity. The rate of consumption of forest produce for various purposes is bound to change considerably in future with the rise in population as per availability of natural resources.

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## **PART II**

### **GROWING STOCK TABLES**

Table No. 6.1 T(a)

## Lohit Survey

Stratium - Conifers      Stem/ha.      Area - 28.80 km<sup>2</sup>      R.F.

Species description	Diameter classes in cm											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Albizia</i> species	1.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.111
<i>Pinus roxburghii</i>	23.333	15.956	13.333	6.667	8.889	5.556	8.889	1.111	1.111	1.111	1.111	0.000	85.556
<i>Quercus</i> species	1.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.111
Rest of species	11.111	3.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.444
All species total	36.666	18.889	13.333	6.667	8.889	5.556	8.889	1.111	1.111	1.111	1.111	0.000	102.222

Table No. 6.1 T(b)

## Lohit Survey

Stratium - Conifers      Stem(000)      Area - 28.80 km<sup>2</sup>      R.F.

Species description	Diameter classes in cm											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Albizia</i> species	3.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.200
<i>Pinus roxburghii</i>	67.200	41.800	38.400	19.200	25.600	16.000	25.600	3.200	3.200	3.200	3.200	0.000	246.400
<i>Quercus</i> species	3.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.200
Rest of species	32.000	9.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	41.600
All species total	105.600	51.400	38.400	19.200	25.600	16.000	25.600	3.200	3.200	3.200	3.200	0.000	294.400

Table No. 6.2 T(a)  
Lohit Survey  
Area - 1075-01 Kaz  
R. F.

Species description	Diseaser classes in no.											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110 +	
<i>Adina cordifolia</i>	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Adina oligocephala</i>	0.180	0.435	0.490	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.124
<i>Ailanthus grandis</i>	0.775	0.435	0.185	0.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.732
<i>Ribisia lucida</i>	0.550	0.497	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.242
<i>Ribisia speciosa</i>	0.742	0.435	0.248	0.062	0.062	0.031	0.031	0.000	0.000	0.000	0.000	1.535
<i>Ribisia scholaris</i>	0.714	0.185	0.062	0.062	0.062	0.031	0.031	0.000	0.000	0.000	0.000	1.148
<i>Ritonia scolalis</i>	2.801	0.525	0.485	0.325	0.062	0.062	0.093	0.031	0.031	0.031	0.031	3.416
<i>Ritonia scolalis</i>	0.186	0.186	0.093	0.093	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.869
<i>Anthocaphalus coadunbe</i>	0.659	0.248	0.093	0.093	0.031	0.031	0.000	0.031	0.062	0.031	0.062	1.458
<i>Artocarpus chaplense</i>	0.000	0.000	0.060	0.051	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Artocarpus leucocarpa</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Bambusa arvense</i>	1.149	0.435	0.124	0.031	0.100	0.093	0.100	0.000	0.000	0.000	0.000	5.032
<i>Calliandra arborea</i>	0.590	0.404	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.056
<i>Calliandra species</i>	0.590	0.217	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.807
<i>Cassia bispinosa</i>	0.404	0.404	0.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.056
<i>Cassia bengalensis</i>	0.404	0.248	0.248	0.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.056
<i>Cassia bengalensis</i>	0.031	0.031	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Cassia indica</i>	1.853	0.435	0.311	0.186	0.031	0.062	0.062	0.031	0.000	0.000	0.000	2.735
<i>Cassia indica</i>	0.280	0.200	0.093	0.071	0.062	0.031	0.000	0.000	0.000	0.000	0.000	0.808
<i>Cassia species</i>	0.404	0.311	0.217	0.031	0.000	0.062	0.062	0.031	0.000	0.000	0.000	2.149
<i>Chorizanthe Labularia</i>	0.062	0.031	0.093	0.000	0.031	0.062	0.000	0.000	0.031	0.000	0.000	0.341
<i>Cinnamomum</i>	0.404	0.124	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.590
<i>Cinnamomum</i>	0.248	0.124	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.341
<i>Cinnamomum</i>	0.248	0.217	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.497
<i>Cinnamomum</i>	0.000	0.031	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031
<i>Cinnamomum</i>	0.683	0.124	0.248	0.185	0.186	0.031	0.031	0.031	0.031	0.031	0.031	1.891
<i>Dalbergia indica</i>	0.124	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.124
<i>Dalbergia pentagyna</i>	0.000	0.031	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031
<i>Dalbergia pentagyna</i>	3.043	1.211	0.839	0.456	0.342	0.217	0.124	0.031	0.093	0.000	0.186	6.552
<i>Dipterocarpus species</i>	0.839	0.311	0.311	0.280	0.342	0.217	0.124	0.031	0.093	0.031	0.031	2.610
<i>Duabanga grandiflora</i>	8.447	5.168	1.056	0.373	0.342	0.342	0.217	0.124	0.031	0.000	0.000	13.199
<i>Dysoxylum diacarpiferum</i>	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	4.040
<i>Eugenia arborea</i>	0.683	0.466	0.093	0.093	0.062	0.000	0.000	0.000	0.000	0.000	0.000	1.535
<i>Eugenia arborea</i>	0.031	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031
<i>Kajane assamica</i>	2.360	1.056	0.497	0.311	0.062	0.062	0.124	0.031	0.000	0.000	0.000	4.472
<i>Agave calypina</i>	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.311
<i>Lagerflora</i>	0.683	0.124	0.031	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.807
<i>Mansonia diplo</i>	0.311	0.217	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.632
<i>Melia azadirachta</i>	0.311	0.000	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.373

Table No. 6.2 T(c) contd.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Meliossea simplicifolia</i>	0.438	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.497
<i>Meliossea speciosa</i>	0.607	0.246	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.179
<i>Mesocylon angustifolium</i>	0.031	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Mesocylon adula</i>	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Michelia</i> spp.	4.726	1.158	0.185	0.217	0.196	0.095	0.062	0.031	0.000	0.000	0.000	0.000	3.786
<i>Michelia speciosa</i>	1.706	0.932	0.590	0.342	0.342	0.124	0.031	0.031	0.000	0.000	0.000	0.000	1.179
<i>Nerium laurifolium</i>	0.663	0.217	0.062	0.093	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1.274
<i>Nerium indicum</i>	0.464	0.109	0.186	0.195	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	1.111
<i>Pterospermum lanceaeifolium</i>	0.290	0.093	0.093	0.031	0.031	0.186	0.031	0.031	0.031	0.031	0.031	0.031	1.396
<i>Pterospermum speciosum</i>	0.280	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.590
<i>Shorea malabarica</i>	1.180	0.404	0.195	0.062	0.062	0.062	0.000	0.000	0.000	0.000	0.000	0.000	2.111
<i>Shorea wallichii</i>	0.455	0.186	0.124	0.062	0.031	0.186	0.031	0.000	0.000	0.000	0.000	0.000	1.111
<i>Shorea assamica</i>	0.590	0.311	0.186	0.186	0.031	0.186	0.031	0.000	0.000	0.000	0.000	0.000	0.435
<i>Sterculia villosa</i>	0.683	0.217	0.062	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.900
<i>Sterculia apetala</i>	0.683	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.007
<i>Sterocarpus perssonii</i>	0.683	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.435
<i>Sterocarpus subvelans</i>	0.000	0.000	0.000	0.031	0.031	0.031	0.124	0.124	0.155	0.031	0.031	0.031	2.815
<i>Strygium cuneatum</i>	0.628	0.342	0.195	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.952
<i>Strygium speciosum</i>	0.124	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
<i>Talauma hodgsonii</i>	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.124
<i>Talauma philippensis</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.683
<i>Terminalia ballifera</i>	0.031	0.217	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.248
<i>Terminalia blumeana</i>	0.031	0.000	0.031	0.031	0.000	0.031	0.062	0.000	0.000	0.000	0.000	0.000	0.093
<i>Terminalia glauca</i>	0.031	0.000	0.031	0.031	0.000	0.031	0.062	0.000	0.000	0.000	0.000	0.000	0.124
<i>Terminalia mylocarpa</i>	4.814	1.894	1.062	0.186	0.250	0.124	0.031	0.000	0.062	0.093	0.062	0.062	2.267
<i>Tetrastyles nudiflora</i>	0.714	0.000	0.000	0.000	0.000	0.000	0.062	0.062	0.108	0.093	0.217	0.217	9.596
Rest of Species	87.591	22.464	9.517	4.193	1.894	0.932	6.621	0.590	0.466	0.093	0.683	1.614	108.654
All species total	143.757	45.340	21.890	11.144	6.146	3.506	2.259	1.562	1.737	0.606	2.450	2.450	240.591







Table No. 6.3T(a) contd.

Species description	Diameter classes in cm.												Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+			
<i>Melia azadirachta</i>	0.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.377
<i>Mesua ferrea</i>	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Michelia cheesapa</i>	0.000	0.000	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Michelia speciosa</i>	0.943	0.377	0.377	0.377	0.000	0.377	0.000	0.189	0.000	0.189	0.000	0.000	0.000	2.829
<i>Morus laevigata</i>	0.000	0.189	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.755
<i>Pterosparmus acrifolius</i>	0.377	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.000	0.000	0.755
<i>Pterosparmus lanceaefolius</i>	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Pterosparmus speciosus</i>	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Schinus molle</i>	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Shorea acida</i>	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Stenoparmus parsonatus</i>	0.566	0.000	0.000	0.566	0.000	0.189	0.000	0.189	0.000	0.000	0.000	0.000	0.000	2.076
<i>Syzygium cumini</i>	0.000	0.189	0.000	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Syzygium speciosum</i>	0.785	0.377	0.189	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.510
<i>Ternstroemia citrina</i>	0.189	0.189	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.567
<i>Ternstroemia myricarpa</i>	2.264	0.189	0.377	0.377	0.000	0.189	0.000	0.000	0.000	0.189	0.000	0.000	0.377	3.862
<i>Tetrasia nudiflora</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.000	0.000	0.189
Rest of species	51.887	6.226	2.830	0.785	1.321	0.566	0.566	0.566	0.000	0.189	0.000	0.377	0.000	44.717
All species total	50.377	9.434	5.472	3.774	2.453	1.698	1.509	0.566	0.377	1.132	2.264	2.264	79.057	



Table No. 6.5T(b) contd.

Species description	10-15	20-30	30-40	40-60	Diameter classes in cm					90-100	100-110	110+	Total
					50-60	60-70	70-80	80-90					
Mile azadirachta	6.519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.519
Musa ferrea	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Nichelle cheapa	0.000	0.000	0.000	0.000	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Nichelle species	16.298	6.519	6.519	6.519	0.000	6.519	0.000	3.260	0.000	3.260	0.000	0.000	48.894
Norus laevigata	6.519	3.260	0.000	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.039
Pterospereum eocarifolium	6.519	0.000	0.000	3.260	0.000	0.000	0.000	0.000	0.000	3.260	0.000	0.000	13.039
Pterospereum lanceaefolium	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Pterospereum species	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Sches wallichii	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Stenospermum	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Stenospermum perssonatum	9.779	0.000	0.000	9.779	0.000	3.260	3.260	3.260	0.000	0.000	0.000	0.000	35.857
Syzygium cumini	0.000	0.000	0.000	0.000	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.260
Syzygium species	13.038	6.519	3.260	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.077
Terminalia citrina	3.260	3.260	0.000	3.260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.780
Terminalia euglyclops	39.115	3.260	6.519	6.519	0.000	3.260	0.000	0.000	0.000	3.260	0.000	0.000	68.452
Tetrasia nudiflora	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rest of species	550.876	107.868	48.894	13.038	22.817	9.779	9.779	0.000	0.000	3.260	0.000	0.000	772.830
All species total	870.321	162.984	94.531	65.194	42.376	29.337	26.078	9.780	6.520	19.560	39.115	1365.796	

Table No. 6-4T(a).

Area 1276.87 ha2 R.F.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
Adina cordifolia	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052
Aegle marmelos	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052
Alseodaphne	0.919	0.365	0.209	0.382	0.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.351
Alseodaphne grandis	0.679	0.371	0.418	0.156	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.122
Ribesia procera	0.315	0.266	0.187	0.052	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.176
Ribesia speciosa	0.627	0.137	0.052	0.052	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
Ribesia wallichii	2.035	0.521	0.118	0.203	0.131	0.026	0.000	0.000	0.000	0.000	0.000	0.000	3.415
Reticularia	0.208	0.157	0.078	0.078	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.547
Reticularia chauliophora	0.522	0.209	0.295	0.078	0.078	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1.694
Procoprus leucocarpa	2.920	0.090	0.020	0.185	0.105	0.078	0.105	0.078	0.000	0.062	0.078	0.000	4.338
Bobax calba	0.955	0.566	0.105	0.626	0.000	0.078	0.000	0.000	0.000	0.000	0.000	0.000	2.652
Callitriche arborea	0.457	0.340	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.793
Callitriche speciosa	0.548	0.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.728
Castanopsis indica	0.940	0.313	0.235	0.209	0.052	0.078	0.078	0.000	0.000	0.000	0.000	0.000	1.409
Castanopsis hysterix	0.026	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052
Castanopsis indica	1.364	0.366	0.262	0.137	0.077	0.052	0.000	0.000	0.000	0.000	0.000	0.000	2.213
Castanopsis speciosa	0.689	0.262	0.262	0.193	0.078	0.078	0.000	0.000	0.000	0.000	0.000	0.000	1.678
Chorisia tabularis	0.417	0.287	0.183	0.026	0.000	0.052	0.052	0.000	0.000	0.000	0.000	0.000	1.069
Cinnamomum cecidodaphne	0.052	0.026	0.078	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.148
Cinnamomum zeylan	0.351	0.100	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.501
Cinnamomum zeylan	0.209	0.183	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.492
Dalbergia sissoo	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
Dalbergia speciosa	0.078	0.103	0.209	0.131	0.107	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.626
Dalbergia speciosa	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dipterocarpaceae	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dipterocarpaceae	2.859	1.020	0.706	0.418	0.268	0.193	0.105	0.052	0.000	0.000	0.000	0.000	5.169
Dubautia grandiflora	0.757	0.297	0.235	0.235	0.193	0.193	0.193	0.000	0.000	0.000	0.000	0.000	3.169
Dryopteris fragrans	0.392	0.437	0.105	0.078	0.078	0.026	0.026	0.000	0.000	0.000	0.000	0.000	1.332
Eleusine indica	0.078	0.392	0.078	0.078	0.052	0.000	0.026	0.000	0.000	0.000	0.000	0.000	1.201
Eleusine indica	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
Kydia calycina	2.050	0.915	0.418	0.513	0.026	0.103	0.105	0.026	0.000	0.000	0.000	0.000	4.026

Table No. 6. 47(c) contd.

Species description	Diameter classes in cm.											
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+ Total	
<i>Legrostomesia pectiflora</i>	0.00	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
<i>Legrostomesia</i> species	0.076	0.000	0.000	0.052	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.850
<i>Pennisia diplo</i>	0.262	0.103	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.365
<i>Helioses azadirach</i>	0.313	0.000	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.418
<i>Helioses species</i>	0.256	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.242
<i>Mesochloa angustifolia</i>	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026
<i>Musa</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Mitchella chapeca</i>	2.039	0.145	0.157	0.183	0.157	0.078	0.000	0.000	0.000	0.000	0.000	0.032
<i>Mitchella species</i>	1.265	0.131	0.131	0.130	0.130	0.000	0.026	0.000	0.000	0.000	0.000	0.189
<i>Panicum laevigata</i>	0.526	0.631	0.631	0.729	0.288	0.156	0.000	0.000	0.000	0.000	0.000	1.019
<i>Panicum species</i>	0.626	0.209	0.062	0.150	0.201	0.000	0.052	0.052	0.026	0.026	0.026	1.043
<i>Parosperum angifolium</i>	0.526	0.351	0.301	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.530
<i>Parosperum cernicans</i>	0.592	0.171	0.078	0.078	0.000	0.026	0.000	0.000	0.000	0.000	0.000	1.043
<i>Parosperum lanceifolium</i>	0.261	0.078	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Dactyloctenium</i>	0.000	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.105
<i>Saurina nepalensis</i>	1.019	0.340	0.131	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.881
<i>Sidaea wallichii</i>	0.392	0.157	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.366
<i>Sidaea species</i>	0.522	0.262	0.167	0.157	0.026	0.000	0.000	0.000	0.000	0.000	0.000	1.002
<i>Sidaea asiatica</i>	0.375	0.183	0.052	0.026	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.786
<i>Stenocarpus species</i>	0.852	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.153
<i>Stenocarpus parsonnetiae</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Stenocarpus sarraceni</i>	0.445	0.289	0.131	0.078	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.766
<i>Stenocarpus species</i>	0.104	0.156	0.026	0.026	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.452
<i>Tillaea radzoni</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Tillaea phallicarpa</i>	0.026	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.208
<i>Ternstroemia ballrica</i>	0.026	0.000	0.000	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.157
<i>Ternstroemia ciliata</i>	4.360	1.022	0.288	0.026	0.000	0.026	0.000	0.000	0.000	0.000	0.000	5.695
<i>Ternstroemia rugicarpa</i>	0.602	0.000	0.000	0.157	0.314	0.261	0.052	0.052	0.131	0.104	0.274	1.985
<i>Trinajas nudiflora</i>	78.159	8.229	3.533	1.074	0.650	0.000	0.000	0.000	0.000	0.000	0.000	90.116
<i>Rll species total</i>	129.701	35.889	19.177	10.045	5.707	3.305	2.289	1.432	1.328	0.857	2.359	215.605

Table No. 6-47(b).  
Lohit District

Species description	Total Stan (000)										R. F.		
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+	
<i>Adina cordifolia</i>	6.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.577
<i>Allanthus grameis</i>	130.125	46.740	86.677	16.695	26.708	3.339	6.677	6.677	3.339	0.000	0.000	0.000	300.374
<i>Aibisia lucida</i>	69.873	33.285	26.708	6.677	3.339	0.000	3.339	6.677	0.000	0.000	0.000	0.000	143.321
<i>Ribesia praecox</i>	56.524	46.740	26.708	3.339	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	226.866
<i>Alistonia scholaris</i>	80.046	20.031	6.677	6.677	6.677	3.339	0.000	0.000	0.000	0.000	0.000	0.000	126.748
<i>Aitonia excolis</i>	200.154	83.385	29.368	16.695	6.677	6.677	10.016	3.339	3.339	3.339	16.695	0.000	380.280
<i>Acorus wallichii</i>	278.420	66.534	33.285	26.708	16.695	3.339	0.000	0.000	0.000	0.000	6.677	0.000	436.403
<i>Actinidia chinensis</i>	123.725	46.740	26.708	16.695	6.677	3.339	0.000	0.000	0.000	0.000	0.000	0.000	189.952
<i>Actocarpus chapalaha</i>	66.534	26.708	29.368	10.016	10.016	3.339	0.000	0.000	6.677	3.339	0.000	0.000	161.678
<i>Actocarpus leucoccha</i>	0.000	0.000	0.000	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Blachium javanica</i>	300.232	100.166	66.534	23.370	13.354	10.016	13.354	10.016	0.000	6.677	10.016	0.000	553.883
<i>Callicarpa arborea</i>	123.725	46.740	13.377	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	203.495
<i>Calliandra speciosa</i>	69.873	33.285	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	193.120
<i>Canius bengalensis</i>	6.677	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.355
<i>Casuarina glomerata</i>	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Casuarina glomerata</i>	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Cassipouira indica</i>	176.706	46.740	33.385	20.031	9.858	6.677	6.677	3.339	6.677	0.000	0.000	0.000	316.678
<i>Castanopsis speciosa</i>	50.047	30.047	10.016	3.339	6.677	3.339	0.000	3.339	3.339	0.000	0.000	0.000	86.684
<i>Cedrela toona</i>	13.732	33.285	33.285	23.370	10.016	10.016	0.000	3.339	13.354	6.699	10.016	0.000	256.912
<i>Cinnamomum javanicum</i>	6.677	10.016	10.016	0.000	3.339	6.677	0.000	3.339	0.000	0.000	0.000	0.000	36.678
<i>Cinnamomum coccidodaphne</i>	49.920	13.354	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	136.566
<i>Cinnamomum tenule</i>	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Cinnamomum wightii</i>	20.008	23.370	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	43.378
<i>Dalbergia sissoo</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dillenia indica</i>	73.448	13.354	26.708	16.695	20.031	3.339	3.339	3.339	0.000	0.000	0.000	0.000	163.339
<i>Dillenia pentagyna</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Dipterocarpus macrocarpus</i>	13.354	0.000	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.371
<i>Dioscorea bulbifera</i>	356.660	36.645	30.047	30.047	36.645	23.370	23.370	13.354	10.016	3.339	10.016	0.000	710.893
<i>Dioscorea grandiflora</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dysoxylum binectariferum</i>	970.016	133.050	43.332	3.339	3.339	3.339	10.016	0.000	0.000	0.000	0.000	0.000	1200.371
<i>Endospermum chinense</i>	63.354	53.432	13.354	10.016	10.016	3.339	3.339	0.000	3.339	0.000	0.000	0.000	170.189
<i>Excoecaria chinensis</i>	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Kylea calycina</i>	266.767	116.770	33.417	33.304	3.339	13.196	13.354	3.339	0.000	0.000	0.000	0.000	513.339

Table No. 6.4 T(b) contd.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Lagerstroemia parviflora</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Lagerstroemia speciosa</i>	73.385	13.370	13.334	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	100.184
<i>Melia azadirachta</i>	39.904	0.000	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.581
<i>Meliossa simplicifolia</i>	46.740	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	53.417
<i>Meliossa speciosa</i>	86.952	26.008	13.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	126.267
<i>Mesocylon echinatus</i>	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.677
<i>Mesua ferrea</i>	260.328	56.795	20.031	23.370	20.031	10.016	6.677	3.339	0.000	3.339	0.000	3.339	407.223
<i>Michelia champaca</i>	46.740	16.693	16.693	46.740	16.693	16.693	16.693	16.693	16.693	16.693	16.693	16.693	202.956
<i>Michelia indica</i>	79.947	26.690	6.677	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	166.566
<i>Mitras roborughii</i>	113.552	60.094	20.031	19.993	0.000	3.339	3.339	3.339	3.339	3.339	3.339	3.339	133.228
<i>Pterocarpus caracasensis</i>	67.200	44.800	38.400	19.200	25.600	16.000	25.600	3.200	3.200	3.200	0.000	0.000	246.400
<i>Pterocarpus indicus</i>	33.507	10.016	10.016	10.016	10.016	10.016	10.016	10.016	10.016	10.016	10.016	10.016	140.277
<i>Pterocarpus speciosa</i>	33.507	13.354	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	66.654
<i>Quercus speciosa</i>	130.085	43.401	16.693	6.677	6.677	6.677	6.677	6.677	6.677	6.677	6.677	6.677	166.661
<i>Saurinia repaulensis</i>	33.401	0.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	13.401
<i>Shorea acuminata</i>	66.692	33.395	20.031	20.031	3.339	16.693	3.339	3.339	3.339	3.339	3.339	3.339	100.079
<i>Shorea assamica</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Sterculia villosa</i>	46.740	0.000	6.677	3.339	6.677	6.677	6.677	6.677	6.677	6.677	6.677	6.677	230.222
<i>Sterculia speciosa</i>	73.385	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	186.680
<i>Sterrospanum parsonnetus</i>	8.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.000
<i>Sterrospanum tuberosus</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Styragium cuneata</i>	36.795	36.724	16.693	10.016	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	100.079
<i>Styragium speciosa</i>	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	100.079
<i>Tellium hodgsonii</i>	53.116	19.873	3.260	3.260	3.260	3.260	3.260	3.260	3.260	3.260	3.260	3.260	123.418
<i>Tellium speciosa</i>	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	13.370	79.378
<i>Terminalia bellirica</i>	3.339	23.370	0.000	20.031	6.677	3.339	6.677	0.000	0.000	0.000	0.000	0.000	33.339
<i>Terminalia chebula</i>	3.339	0.000	3.339	3.339	0.000	3.339	6.677	0.000	0.000	0.000	0.000	0.000	73.449
<i>Terminalia citrina</i>	873.869	80.000	36.724	20.031	3.339	3.339	3.339	3.339	3.339	3.339	3.339	3.339	100.079
<i>Terminalia elliptica</i>	76.786	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	76.786
<i>Terminalia nudiflora</i>	9977.529	2534.271	1050.456	463.741	225.468	109.935	76.850	63.432	53.339	10.016	79.967	146.43.703	1100.061
Rest of species	16430.029	5091.694	2486.605	1282.937	729.014	422.600	292.057	183.254	196.683	109.560	302.860	27527.257	27527.257

Table No.6.5T(a)

Lohit District  
Stand Tables

Stratus - Conifers    Vol/ha    Area 28.80 ha2    R.F.

Species description	Diameter classes in cm										Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+
Albizia species	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.132
Pinus roxburghii	2.973	4.095	7.890	6.652	15.008	14.327	30.374	5.234	6.179	7.352	0.000	100.004
Quercus species	0.171	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Rest of species	1.222	1.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.228
All species total	4.498	5.061	7.890	6.652	15.008	14.327	30.374	5.234	6.179	7.352	0.000	102.535

Table No.6.5T(b)

Lohit District  
Stand Tables

Stratus - Conifers    Vol(000)3    Area - 28.80 ha2    R.F.

Species description	Diameter classes in cm										Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+
Albizia species	0.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.380
Pinus roxburghii	8.363	11.678	22.607	19.158	43.223	41.261	87.476	13.073	17.797	21.174	0.000	288.010
Quercus species	0.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.493
Rest of species	3.619	2.896	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.415
All species total	12.955	14.574	22.607	19.188	43.223	41.261	87.476	13.073	17.797	21.174	0.000	295.298



Table No. 6.6(Tc) contd.

Species description	Diameter classes in cm.											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	
<i>Cedrela toona</i>	0.128	0.121	0.236	0.289	0.176	0.294	0.000	0.157	0.750	0.227	1.399	5.777
<i>Chakrasia tabularia</i>	0.061	0.149	0.247	0.046	0.000	0.242	0.335	0.195	0.000	0.000	0.467	1.744
<i>Cinnamomum cecidodaphna</i>	0.009	0.013	0.066	0.000	0.051	0.166	0.000	0.195	0.000	0.295	0.000	0.795
<i>Cinnamomum tenuis</i>	0.060	0.043	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.138
<i>Cinnamomum wightii</i>	0.002	0.011	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038
<i>Dalbergia sissoo</i>	0.029	0.062	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.117
<i>Dalbergia species</i>	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
<i>Dillenia indica</i>	0.035	0.037	0.216	0.197	0.388	0.125	0.133	0.199	0.000	0.327	0.368	2.025
<i>Dillenia pentagyna</i>	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
<i>Dipterocarpus macrocarpus</i>	0.012	0.000	0.039	0.052	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.178
<i>Dipterocarpus species</i>	0.271	0.593	0.853	0.847	0.983	0.903	0.694	0.197	0.823	0.000	3.439	9.604
<i>Dubautia grandiflora</i>	0.086	0.117	0.216	0.351	0.718	0.640	0.512	0.154	0.988	0.246	0.718	4.316
<i>Gynerium binectariferum</i>	0.917	0.815	0.629	0.595	0.060	0.091	0.306	0.000	0.000	0.000	0.000	3.214
<i>Endospermum chinense</i>	0.060	0.177	0.085	0.100	0.161	0.083	0.122	0.000	0.165	0.000	0.000	0.956
<i>Gaellina emborea</i>	0.122	0.170	0.064	0.102	0.095	0.000	0.094	0.000	0.000	0.000	0.000	0.847
<i>Kayaia azarica</i>	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
<i>Kydia calyptina</i>	0.332	0.440	0.472	0.475	0.059	0.167	0.490	0.174	0.000	0.000	0.000	2.608
<i>Legrostomia parviflora</i>	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
<i>Legrostomia species</i>	0.100	0.042	0.045	0.395	0.685	0.000	0.000	2.378	0.000	0.000	0.000	3.615
<i>Momonia diplex</i>	0.037	0.058	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.165
<i>Melie azadirachta</i>	0.028	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062

Table No. 6-67C(Contd.)

Species description	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
<i>Nitomea simplicifolia</i>	0.035	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.095
<i>Milonea species</i>	0.060	0.070	0.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.201
<i>Nemecijon angustifolium</i>	0.001	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019
<i>riencolium adule</i>	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
<i>Musa farrae</i>	0.260	0.200	0.124	0.323	0.492	0.444	0.363	0.276	0.000	0.679	1.412	4.597
<i>Michelia champaca</i>	0.046	0.054	0.102	0.168	0.212	0.000	0.100	0.146	0.193	0.000	0.550	1.952
<i>Michelia species</i>	0.185	0.278	0.343	0.352	0.567	0.334	0.215	0.125	0.169	0.000	0.955	3.644
<i>Neris laevigata</i>	0.026	0.061	0.037	0.099	0.000	0.000	0.000	0.000	0.000	0.000	0.284	0.626
<i>Pterosperrum acrifolium</i>	0.096	0.250	0.179	0.251	0.000	0.129	0.000	0.000	0.237	0.300	4.005	5.446
<i>Pterosperrum cuneacens</i>	0.059	0.073	0.165	0.144	0.233	0.722	0.172	0.186	0.285	0.300	1.954	4.273
<i>Pterosperrum lanceaeifolium</i>	0.030	0.037	0.086	0.158	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.303
<i>Pterosperrum species</i>	0.029	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.077
<i>Oerocys species</i>	0.124	0.112	0.088	0.089	0.115	0.166	0.000	0.132	0.345	0.232	0.534	1.916
<i>Saurina nepalensis</i>	0.038	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.062
<i>Schima wallichii</i>	0.046	0.061	0.089	0.067	0.051	0.000	0.109	0.000	0.000	0.000	0.000	0.422
<i>Stora assanica</i>	0.039	0.147	0.190	0.242	0.081	0.676	0.169	0.000	0.599	0.762	1.970	4.927
<i>Sterculia villosa</i>	0.071	0.072	0.032	0.043	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.311
<i>Sterculia species</i>	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.043
<i>Sterosperrum personatum</i>	0.049	0.104	0.438	0.432	0.361	0.105	0.680	0.841	1.294	0.295	1.543	6.164
<i>Sterosperrum suameiense</i>	0.000	0.000	0.000	0.037	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.100
<i>Strygum cuneis</i>	0.051	0.103	0.093	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.328
<i>Strygum species</i>	0.053	0.028	0.000	0.000	0.051	0.000	0.000	0.146	0.000	0.210	0.000	0.488
<i>Talaia hodgsonii</i>	0.013	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046
<i>Talaia phallicarpa</i>	0.000	0.000	0.025	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.352	0.404
<i>Ternstroemia ballifera</i>	0.006	0.068	0.000	0.238	0.106	0.091	0.207	0.000	0.556	0.000	0.000	1.290
<i>Ternstroemia chebula</i>	0.002	0.000	0.019	0.048	0.000	0.096	0.000	0.000	0.000	0.000	0.000	0.165
<i>Ternstroemia citrina</i>	0.070	0.150	0.257	0.236	0.551	0.346	0.120	0.000	0.345	0.698	0.735	3.507
<i>Ternstroemia myricarpa</i>	0.508	0.505	0.639	0.671	0.640	0.678	0.206	0.311	0.924	0.664	2.669	8.415
<i>Ternstroemia nudiflora</i>	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.065
Rest of species	9.135	6.017	5.565	4.381	3.233	2.419	2.134	2.683	2.644	0.660	11.029	49.869
All species total	15.236	14.094	15.661	14.383	12.922	10.924	9.448	10.806	11.355	7.102	42.884	164.804

Table No. 6.67(c)  
Lohit District  
Area - 1075.01 km<sup>2</sup>

Species description	Stratus - Hardwoods										Total			
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+		
<i>Raina cordifolia</i>	0.567	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.567
<i>Raina oligocephala</i>	0.870	1.937	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.807
<i>Raianthus grandis</i>	11.492	23.174	61.337	33.015	75.719	12.023	38.693	46.219	27.747	0.000	0.000	0.000	0.000	64.557
<i>Ribesia lucida</i>	8.470	14.148	28.671	10.347	11.770	0.000	19.649	0.000	0.000	0.000	0.000	0.000	0.000	93.055
<i>Albizia procera</i>	11.931	25.477	50.839	28.423	9.933	0.000	0.000	31.939	0.000	0.000	0.000	0.000	0.000	158.142
<i>Albizia speciosa</i>	6.275	23.739	27.934	33.408	23.551	14.866	19.009	0.000	0.000	0.000	0.000	0.000	0.000	148.782
<i>Ristonia scholaris</i>	7.642	5.161	4.161	7.377	11.394	9.173	0.000	0.000	0.000	0.000	0.000	0.000	0.000	63.165
<i>Ribingia excelsa</i>	12.677	45.107	30.704	36.975	20.608	29.695	51.555	19.341	24.142	27.573	218.007	0.000	0.000	524.844
<i>Amodia wallichii</i>	30.002	26.882	42.697	36.407	35.670	9.135	0.000	0.000	0.000	0.000	21.872	70.368	0.000	272.753
<i>Artocarpus chaplasho</i>	2.017	5.642	5.763	11.392	4.792	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.606
<i>Artocarpus lakoocha</i>	0.000	0.000	0.000	3.661	4.954	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.615
<i>Bischofia javanica</i>	40.298	39.016	52.041	31.786	23.856	29.126	52.527	48.932	0.000	50.575	121.600	0.000	0.000	489.737
<i>Boehia catta</i>	13.891	13.405	7.324	4.168	0.000	29.345	0.000	0.000	0.000	0.000	0.000	0.000	0.000	68.133
<i>Callicarpa arborea</i>	6.729	11.955	4.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.923
<i>Callicarpa speciosa</i>	6.103	6.747	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.850
<i>Cannaria bengalensis</i>	0.904	1.753	4.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.765
<i>Cannaria resiniferum</i>	3.907	18.148	31.063	45.250	11.781	40.400	39.171	53.205	0.000	0.000	0.000	0.000	0.000	360.706
<i>Castanopsis hystrix</i>	0.400	1.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.480
<i>Castanopsis indica</i>	15.640	13.368	21.066	20.342	6.085	18.386	22.955	16.947	41.311	0.000	0.000	0.000	0.000	176.140
<i>Castanopsis speciosa</i>	2.626	8.855	5.939	3.412	12.434	7.470	0.000	16.028	0.000	0.000	0.000	0.000	0.000	56.664
<i>Cetrela toona</i>	13.781	13.036	25.391	31.027	18.927	31.578	0.000	16.664	80.677	24.387	150.428	0.000	0.000	405.986
<i>Chlorasia tubularis</i>	6.537	16.071	26.888	4.928	0.000	26.062	36.044	20.977	0.000	0.000	50.237	0.000	0.000	187.444
<i>Chrasmanona cecidolepina</i>	0.926	1.367	7.115	0.000	5.158	17.838	0.000	21.002	0.000	0.000	31.696	0.000	0.000	85.442



Table No. 6.6T(上) cont'd.

	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
<i>Mesua ferrea</i>	27,954	21,477	13,342	34,685	53,406	47,720	41,166	29,563	0.00	73,040	181,830	494,183
<i>Michelia chamepa</i>	4,928	3,690	11,007	18,079	22,832	0.00	10,730	15,728	20,125	0.00	59,101	166,827
<i>Michelia speciosa</i>	19,872	29,921	36,923	37,894	63,150	35,870	23,110	13,471	18,147	0.00	102,666	331,024
<i>Norus laevigata</i>	8,160	6,568	4,004	10,611	0.00	7,464	0.00	0.00	0.00	0.00	30,531	67,338
<i>Pterospermum acarifolium</i>	10,288	26,909	19,192	26,991	0.00	13,821	0.00	0.00	28,178	32,360	430,526	585,803
<i>Pterospermum cuneiforme</i>	6,294	7,861	17,762	15,019	25,070	77,611	18,454	19,974	28,177	32,360	210,040	439,362
<i>Pterospermum lanceaefolium</i>	3,229	4,016	9,237	16,943	7,799	0.00	0.00	0.00	0.00	0.00	0.00	41,224
<i>Pterospermum species</i>	3,066	5,196	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,262
<i>Quercus species</i>	13,336	12,067	9,413	7,367	12,351	17,796	0.00	14,204	37,129	24,923	57,405	206,001
<i>Saurinia nepalensis</i>	4,977	6,530	9,950	7,179	5,461	0.00	11,722	0.00	0.00	0.00	0.00	5,540
<i>Schima wallichii</i>	4,175	15,822	20,452	36,767	8,786	72,709	18,218	0.00	64,146	81,865	211,792	535,002
<i>Shorea assamica</i>	7,582	7,794	3,472	4,579	10,025	0.00	0.00	0.00	0.00	0.00	0.00	33,452
<i>Sterculia villosa</i>	4,569	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,569
<i>Stereospermum parsonatum</i>	5,321	11,231	47,098	46,462	40,946	11,333	73,112	90,435	139,183	31,701	165,892	642,614
<i>Stereospermum suaveolens</i>	0.00	0.00	0.00	3,965	6,718	0.00	0.00	0.00	0.00	0.00	0.00	10,703
<i>Syzgium cumini</i>	5,445	11,030	8,903	9,885	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35,271
<i>Syzgium species</i>	5,751	2,970	0.00	0.00	5,461	0.00	0.00	15,725	0.00	22,951	0.00	52,458
<i>Talassia hodgsonii</i>	1,355	3,593	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,907
<i>Terminalia phallicarpa</i>	0.00	0.00	2,726	2,889	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,907
<i>Terminalia bellirica</i>	0.638	9,436	0.00	28,851	11,393	9,734	22,219	0.00	93,749	0.00	0.00	136,720
<i>Terminalia chebula</i>	0.265	0.00	2,001	8,141	0.00	10,334	0.00	0.00	0.00	0.00	0.00	17,741
<i>Terminalia citrina</i>	7,566	16,083	27,615	25,216	59,249	37,224	12,913	0.00	37,167	74,969	79,034	376,966
<i>Terminalia epliocarpa</i>	54,591	54,313	68,709	72,127	68,770	72,861	22,132	33,029	93,186	71,413	286,942	904,663
<i>Terminalia nudiflora</i>	6,968	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,968
<i>Rest of species</i>	981,968	646,833	599,230	467,743	347,581	260,000	229,407	288,336	284,284	70,974	118,059	536,659
<b>All species total</b>	<b>1637,875</b>	<b>1515,136</b>	<b>1685,679</b>	<b>1942,944</b>	<b>1389,179</b>	<b>1174,343</b>	<b>1615,640</b>	<b>1161,621</b>	<b>1220,681</b>	<b>763,442</b>	<b>4610,079</b>	<b>17716,589</b>

Table No. 6.7T(e)

Lohit District

R. F.

Stratus - Bamboo Forest

Vol./ha

Area- 172.76 ha2

Species description

Stock tables

Diameter classes in cm.

	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
<i>Ailanthus grandis</i>	0.005	0.000	0.199	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.204
<i>Albizia lucida</i>	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.108
<i>Albizia procera</i>	0.022	0.000	0.000	0.309	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.332
<i>Alistonia scholaris</i>	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022
<i>Aitonia excelsa</i>	0.001	0.099	0.295	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.395
<i>Bacora walllichii</i>	0.266	0.252	0.173	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.691
<i>Anthocephalus cadamba</i>	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038
<i>Pterocarpus cheplasha</i>	0.033	0.000	0.138	0.000	0.000	0.000	0.000	1.027	0.000	0.000	0.000	1.198
<i>Bischofia javanica</i>	0.071	0.000	0.169	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.239
<i>Bombax ceiba</i>	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016
<i>Callicarpa species</i>	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033
<i>Conarus resiniferus</i>	0.000	0.130	0.000	0.328	0.504	0.000	1.154	0.000	1.963	0.000	0.000	4.099
<i>Castanopsis indica</i>	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
<i>Cedrela toona</i>	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023
<i>Dalmanella tabularis</i>	0.033	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.137
<i>Cinnamomum tamala</i>	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042
<i>Dipterocarpus species</i>	0.010	0.000	0.000	0.348	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.358
<i>Dubautia grandiflora</i>	0.033	0.047	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.221
<i>Dysoxylum binectariferus</i>	0.372	0.135	0.267	0.205	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.778
<i>Endospermum chinense</i>	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020
<i>Kydia calycina</i>	0.091	0.055	0.000	0.472	0.000	1.263	0.000	0.000	0.000	1.619	0.000	3.800

Table No. 6.7T(e) contd.

Species description	Diameter classes in cm											110+ Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Melia azadirachta</i>	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
<i>Mesua ferrea</i>	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020
<i>Michelia champaca</i>	0.000	0.000	0.000	0.000	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.349
<i>Michelia species</i>	0.099	0.099	0.291	0.366	0.000	0.997	0.000	0.803	0.000	1.381	0.000	0.000	4.026
<i>Morus laevigata</i>	0.046	0.039	0.000	0.213	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.298
<i>Pterospereus acrifolius</i>	0.024	0.000	0.000	0.322	0.000	0.000	0.000	0.000	0.000	1.825	0.000	0.000	2.172
<i>Pterospereus lanceaefolius</i>	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033
<i>Pterospereus species</i>	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033
<i>Schinus wallichii</i>	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017
<i>Shorea assamica</i>	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
<i>Stereospermeus perssonatus</i>	0.056	0.000	0.000	0.925	0.000	0.663	0.825	1.144	0.000	0.000	0.000	0.000	6.115
<i>Stryglus cuani</i>	0.077	0.108	0.085	0.182	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.309
<i>Stryglus species</i>	0.015	0.078	0.000	0.000	0.341	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.452
<i>Terminalia citrina</i>	0.217	0.035	0.211	0.396	0.000	0.553	0.000	0.000	0.000	1.327	0.000	0.000	0.434
<i>Terminalia myricarpa</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Tetrasales nudiflora</i>	3.263	1.719	1.696	0.813	2.261	1.444	2.085	0.000	1.122	0.248	0.000	0.000	15.296
Rest of species	5.216	2.898	3.644	4.880	4.367	4.910	6.502	2.973	3.106	8.753	67.481	114.729	

Table No. 6.7 T(b)

Stratium - Bamboo Forest Vol. (000)MS Lohit District Area 172.76 km2 R.F.

Species description	Diameter classes in cm.											Total		
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+			
<i>Alnus grandis</i>	0.086	0.000	3.437	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.523
<i>Albizia lucida</i>	1.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.869
<i>Albizia procera</i>	0.367	0.000	0.000	5.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.734
<i>Alistonia scholaris</i>	0.378	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.378
<i>Altingia excelsa</i>	0.022	1.707	1.403	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.132
<i>Anacardium occidentale</i>	4.602	4.345	2.996	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.943
<i>Anthocarpus cadamba</i>	0.655	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.655
<i>Artocarpus chaplasha</i>	0.572	0.000	2.388	0.000	0.000	0.000	0.000	0.000	17.736	0.000	0.000	0.000	0.000	20.696
<i>Bischofia javanica</i>	1.220	0.000	2.912	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.132
<i>Bombax ceiba</i>	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.273
<i>Calliandra speciosa</i>	0.564	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.564
<i>Canarium resiniferum</i>	0.000	2.243	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.243
<i>Castanopsis indica</i>	0.911	0.000	0.000	0.000	10.436	0.000	0.000	0.000	19.934	0.000	34.265	0.000	0.000	70.813
<i>Cedrela toona</i>	0.391	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.391
<i>Dalmanella tabularis</i>	0.379	1.768	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.752
<i>Dioscorea tenuis</i>	0.727	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.367
<i>Dipterocarpus speciosus</i>	0.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.727
<i>Duabanga grandiflora</i>	0.565	0.812	2.442	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.196
<i>Dysoxylum binectariferum</i>	6.430	2.324	4.965	3.505	0.000	0.000	0.000	0.000	11.960	0.000	0.000	0.000	0.000	429.066
<i>Endospermum chinense</i>	0.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.224
<i>Kydia calycina</i>	1.570	0.953	0.000	8.147	0.000	21.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.7
														60.464

Table No. 6. 77(b) contd.

Species description	Diameter classes												Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total	
<i>Melia azadirachta</i>	0.362	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.362
<i>Mesua ferrea</i>	0.343	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.343
<i>Michelia champaca</i>	0.000	0.000	0.000	0.000	6.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.029
<i>Michelia species</i>	1.707	1.711	5.022	6.325	0.000	17.057	0.000	13.868	0.000	23.862	0.000	0.000	69.352
<i>Morus laevigata</i>	0.792	0.672	0.000	3.688	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.152
<i>Pterospermum acurifolium</i>	0.413	0.000	0.000	5.568	0.000	0.000	0.000	0.000	0.000	31.536	0.000	0.000	37.517
<i>Pterospermum lanceifolium</i>	0.578	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.578
<i>Pterospermum species</i>	0.578	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.578
<i>Schinus wallichii</i>	0.287	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.287
<i>Shorea assamica</i>	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.043
<i>Stenocarpus parsonnetiae</i>	0.960	0.000	0.000	15.983	0.000	11.460	14.420	19.787	0.000	0.000	0.000	140.189	202.769
<i>Subyugium cumini</i>	0.660	0.600	0.000	0.000	5.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.332
<i>Syzygium species</i>	1.351	1.860	1.461	3.153	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.805
<i>Tarinalia citrina</i>	0.259	1.395	0.000	0.000	5.893	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.507
<i>Tarinalia nylotarpa</i>	3.787	0.610	3.637	6.840	0.000	9.550	0.000	0.000	0.000	22.931	129.227	0.000	176.352
<i>Tetrameles nudiflora</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rest of species	86.376	29.691	29.292	14.053	39.055	24.939	36.016	0.000	19.485	0.000	264.259	0.000	515.066
All species total	90.110	60.071	62.995	84.300	75.445	84.823	112.320	51.361	93.650	151.215	1165.797	0.000	1982.047

Table No. 6.BT(a)

Lehit District

R.F.

Voi/no.

All streets combined

Area - 1075.01 haZ

Species description	Diameter classes in cm.											Total			
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+				
<i>Adina cordifolia</i>	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
<i>Adina oligocephala</i>	0.007	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022
<i>Rilanthus grandis</i>	0.091	0.162	0.507	0.259	0.593	0.094	0.303	0.362	0.217	0.000	0.000	0.000	0.000	0.662	3.270
<i>Albizia lucida</i>	0.081	0.111	0.223	0.081	0.092	0.000	0.154	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.744
<i>Albizia procera</i>	0.095	0.260	0.376	0.252	0.164	0.110	0.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.169
<i>Alstonia scholaris</i>	0.060	0.040	0.033	0.058	0.069	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.497
<i>Alingia excelsa</i>	0.099	0.367	0.338	0.290	0.161	0.254	0.404	0.152	0.189	0.216	1.708	1.708	0.000	0.000	4.198
<i>Peperomia willdii</i>	0.271	0.245	0.358	0.285	0.279	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230
<i>Albizia leonardum</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Artocarpus lakoocha</i>	0.056	0.063	0.102	0.095	0.154	0.067	0.000	0.266	0.352	0.234	2.208	2.208	0.000	0.000	3.644
<i>Bischofia javanica</i>	0.000	0.000	0.000	0.029	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068
<i>Bischofia javanica</i>	0.328	0.306	0.430	0.249	0.187	0.228	0.411	0.385	0.000	0.396	1.993	1.993	0.000	0.000	3.868
<i>Bischofia javanica</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Callitriche arborea</i>	0.053	0.093	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.180
<i>Callitriche speciosa</i>	0.052	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.105
<i>Callitriche bangalensis</i>	0.007	0.014	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.053
<i>Callitriche bangalensis</i>	0.031	0.160	0.243	0.399	0.160	0.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.816
<i>Castanopsis indica</i>	0.013	0.105	0.165	0.159	0.129	0.144	0.180	0.133	0.324	0.000	0.000	0.000	0.000	0.000	1.469
<i>Castanopsis speciosa</i>	0.022	0.067	0.047	0.027	0.097	0.059	0.000	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.445
<i>Cedrela toona</i>	0.111	0.102	0.199	0.243	0.148	0.247	0.900	0.132	0.631	0.300	1.378	1.378	0.000	0.000	3.205
<i>Cedrela toona</i>	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.070
<i>Cinnamomum coccidodaphna</i>	0.007	0.011	0.016	0.000	0.043	0.140	0.000	0.165	0.000	0.248	0.000	0.000	0.000	0.000	0.670
<i>Cinnamomum toala</i>	0.046	0.036	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.122
<i>Cinnamomum uightii</i>	0.002	0.069	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.032
<i>Cinnamomum uightii</i>	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011
<i>Dalbergia sissoo</i>	0.000	0.027	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068
<i>Dalbergia indica</i>	0.029	0.031	0.152	0.166	0.337	0.108	0.112	0.167	0.000	0.275	0.310	0.310	0.000	0.000	0.911
<i>Dillenia pentagyna</i>	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005
<i>Diploccarpus macrocarpus</i>	0.510	0.000	0.033	0.044	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.656
<i>Diploccarpus macrocarpus</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.136
<i>Dysoxylum grandiflora</i>	0.077	0.109	0.201	0.298	0.605	0.539	0.760	0.130	0.495	0.207	3.988	3.988	0.000	0.000	6.136
<i>Dysoxylum grandiflora</i>	0.823	0.709	0.569	0.360	0.600	0.077	0.288	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.842
<i>Endospermum chinensis</i>	0.053	0.149	0.089	0.138	0.138	0.070	0.103	0.000	0.139	0.000	0.000	0.000	0.000	0.000	0.808
<i>Endospermum chinensis</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Kayaia assamica</i>	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
<i>Kydia calycina</i>	0.292	0.378	0.397	0.464	0.049	0.512	0.113	0.146	0.000	0.219	0.000	0.000	0.000	0.000	2.670

b

Table No. 6. BT(a) contd.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Lagerstroemia parviflora</i>	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
<i>Lagerstroemia speciosa</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Mansonia diptera</i>	0.032	0.049	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.139
<i>Melia azadirachta</i>	0.030	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.092
<i>Meliosma species</i>	0.001	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.169
<i>Meliosma species (foliis)</i>	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.016
<i>Mussaenda aculeata</i>	0.222	0.168	0.105	0.272	0.418	0.374	0.322	0.232	0.062	0.002	0.163	0.000	0.066
<i>Nicholia chepanga</i>	0.039	0.248	0.166	0.342	0.496	0.496	0.418	0.214	0.000	0.000	0.000	0.000	1.348
<i>Nicholia glabra</i>	0.070	0.087	0.031	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.804
<i>Noruz laevigata</i>	0.067	0.091	0.177	0.150	0.359	0.323	0.686	0.118	0.139	0.166	0.000	0.000	2.285
<i>Pinus roxburghii</i>	0.004	0.211	0.160	0.252	0.194	0.608	0.146	0.150	0.223	0.203	1.643	0.000	3.858
<i>Platanus indica</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Phoroparus species</i>	0.030	0.031	0.022	0.133	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.327
<i>Phoroparus species</i>	0.029	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070
<i>Phoroparus species</i>	0.108	0.095	0.074	0.068	0.097	0.339	0.000	0.000	0.000	0.000	0.000	0.000	0.770
<i>Quercus speciosa</i>	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044
<i>Saurina leucostemata</i>	0.041	0.001	0.076	0.056	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.369
<i>Shorea amara</i>	0.033	0.124	0.160	0.266	0.063	0.000	0.092	0.000	0.000	0.000	0.000	0.000	0.650
<i>Starculia villosa</i>	0.059	0.061	0.027	0.036	0.079	0.000	0.143	0.000	0.000	0.000	0.641	1.659	4.152
<i>Starculia species</i>	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.052
<i>Starculia species</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Starculia species</i>	0.000	0.000	0.000	0.000	0.000	0.179	0.686	0.863	1.090	0.248	2.398	0.000	6.780
<i>Starculia species</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Starculia species</i>	0.043	0.086	0.070	0.077	0.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.684
<i>Syzygium cusini</i>	0.065	0.038	0.111	0.025	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.318
<i>Syzygium species</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Tillandsia pedunculata</i>	0.000	0.000	0.021	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039
<i>Ternstroemia bellirica</i>	0.005	0.074	0.000	0.000	0.089	0.076	0.174	0.000	0.000	0.000	0.000	0.000	0.340
<i>Ternstroemia bellirica</i>	0.002	0.000	0.016	0.040	0.000	0.081	0.174	0.000	0.468	0.000	0.000	0.000	1.086
<i>Ternstroemia ciliata</i>	0.041	0.437	0.267	0.619	0.539	0.642	0.173	0.262	0.778	0.759	3.260	0.000	5.011
<i>Ternstroemia ciliata</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Tournefortia nudiflora</i>	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.224
<i>Uncaria species</i>	8.162	5.322	4.916	3.774	3.029	2.232	2.079	2.259	2.379	0.956	11.367	46.065	106.617
<b>Rest of species</b>	13.637	12.378	13.874	12.900	11.806	10.188	9.522	7.620	10.120	7.328	43.244	186.617	

Table No. 6-8T(b)  
Lohit District

R.F.

Area: 1075.01 ha.2

Stratus - All strata combined

Total volume (000M3)

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Adina cordifolia</i>	0.576	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.576
<i>Adina oligocarpa</i>	0.870	1.937	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.807
<i>Albizia lucida</i>	10.339	14.148	28.671	10.917	11.770	12.000	19.649	6.000	27.007	0.000	0.000	0.000	94.507
<i>Albizia procera</i>	12.318	25.477	50.859	33.770	9.933	0.000	19.649	6.000	0.000	0.000	0.000	0.000	163.876
<i>Albizia speciosa</i>	5.635	23.729	27.934	33.409	22.951	14.866	19.009	0.000	0.000	0.000	0.000	0.000	148.162
<i>Albizia excelsa</i>	12.695	46.814	43.107	36.976	20.208	9.393	5.000	0.000	18.167	0.000	0.000	0.000	63.465
<i>Amorea wallichii</i>	34.604	31.227	45.623	36.407	35.670	9.135	0.000	0.000	21.572	20.388	0.000	0.000	280.596
<i>Anthocephalus cadamba</i>	2.672	5.642	5.763	11.392	4.792	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.261
<i>Antiaris toxicaria</i>	7.000	12.000	12.000	12.000	19.607	8.607	0.000	0.000	44.948	29.933	281.500	0.000	465.081
<i>Bescheria javanica</i>	0.000	0.000	54.953	31.786	23.854	29.126	52.527	48.932	0.000	50.076	121.000	0.000	493.615
<i>Bombax calba</i>	14.164	13.405	7.324	4.168	0.000	0.000	0.000	0.000	0.000	0.000	204.950	0.000	272.462
<i>Calliandra arborea</i>	6.725	11.995	4.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.414
<i>Calliandra</i>	0.904	1.753	4.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.765
<i>Ceanothus bengalensis</i>	3.907	20.391	31.063	50.921	20.481	40.400	59.105	53.205	34.265	0.000	137.280	0.000	451.819
<i>Ceanothus rugifolius</i>	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.400
<i>Castanopsis indica</i>	5.801	18.955	4.999	31.472	15.921	15.966	22.955	16.947	41.311	0.000	0.000	0.000	187.487
<i>Castanopsis speciosa</i>	14.172	13.036	28.361	31.027	18.974	31.578	0.000	18.864	60.970	47.728	150.000	0.000	426.278
<i>Cedrela toona</i>	7.116	17.895	28.568	4.928	0.000	26.062	36.044	20.977	0.000	0.000	30.237	0.000	189.811
<i>Chukrasia laetularis</i>	0.726	1.600	7.115	0.000	3.498	17.038	0.000	21.002	0.000	31.696	0.000	0.000	85.422
<i>Cinnamomum caudodaphne</i>	0.197	1.195	2.730	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.535
<i>Cinnamomum</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Delbergia siaso</i>	3.151	6.673	2.726	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.596
<i>Delbergia speciosa</i>	0.000	1.366	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.366
<i>Dalbergia</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dillenia pentagyna</i>	0.000	0.623	2.000	0.000	4.000	13.005	14.333	21.941	0.000	35.163	39.528	0.000	217.694
<i>Dipterocarpus macrocarpus</i>	1.249	0.000	4.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.489
<i>Dipterocarpus speciosa</i>	29.261	63.788	91.686	97.079	105.728	97.101	74.622	21.179	88.184	0.000	369.660	0.000	1030.509
<i>Dysoxylum grandiflorum</i>	3.021	75.613	42.944	72.213	68.812	97.010	16.555	63.194	26.487	0.000	595.260	0.000	941.044
<i>Erythrina bibracteata</i>	108.027	89.571	72.541	42.944	72.213	68.812	97.010	16.555	63.194	0.000	0.000	0.000	362.728
<i>Endospermum chinensis</i>	6.827	19.077	9.101	10.804	17.599	8.876	13.112	0.000	17.332	0.000	0.000	0.000	69.550
<i>Swainea arborea</i>	13.105	18.257	6.877	10.989	10.216	0.000	16.156	0.000	0.000	0.000	0.000	0.000	69.550
<i>Syzygium assamica</i>	0.294	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.294
<i>Khaya castagnei</i>	97.206	48.231	50.706	57.238	6.232	39.803	52.661	18.689	0.000	27.977	0.000	0.000	340.863

Table No. 6. ET(b) contd.

Species description	D. greater classes in cm.												Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	
<i>Leucostoma serviflora</i>	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.817
<i>Lycopericon species</i>	10.000	6.219	7.455	0.000	70.000	0.000	0.000	0.000	287.606	0.000	0.000	0.000	389.614
<i>Mansonia diplo</i>	3.331	0.000	3.685	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.964
<i>Nelie azadirachta</i>	2.777	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.667
<i>Neliea simplicifolia</i>	0.000	1.840	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.651
<i>Messolion angustifolium</i>	0.743	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.743
<i>Messolion edula</i>	28.297	21.477	13.342	34.685	53.406	47.770	41.156	29.853	0.000	73.040	181.830	0.000	494.526
<i>Messolion foveata</i>	21.679	18.079	28.108	0.000	10.770	15.725	20.725	0.000	59.101	0.000	172.103	0.000	470.576
<i>Neliea species</i>	8.952	7.240	4.004	14.299	6.000	37.464	0.000	10.000	20.062	102.560	0.000	0.000	270.376
<i>Neliea laevigata</i>	8.963	11.678	22.607	19.158	43.223	41.261	87.476	18.073	17.797	21.174	0.000	0.000	268.010
<i>Pinus roxburghii</i>	0.201	26.909	19.192	32.859	0.000	13.921	0.000	0.000	28.476	63.856	430.520	0.000	623.020
<i>Platanus lanceifolia</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Platanus lanceifolia</i>	5.607	4.016	9.237	18.943	27.799	7.000	18.000	0.000	28.077	32.300	210.040	0.000	459.362
<i>Platanus species</i>	13.629	5.196	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.840
<i>Sesuvium species</i>	12.067	9.413	7.367	12.351	17.796	0.000	14.204	0.000	37.139	24.923	57.405	0.000	206.434
<i>Schima wallichii</i>	8.264	6.830	9.456	2.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.540
<i>Shorea assamica</i>	4.218	16.822	20.452	36.767	8.785	72.709	18.218	0.000	64.446	81.965	211.790	0.000	435.046
<i>Stemmadia villosa</i>	7.592	7.794	4.379	10.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	53.452
<i>Stemmadia villosa</i>	6.289	11.000	47.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	106.289
<i>Stemmadium sarravattiana</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.369
<i>Syzygium cumini</i>	5.445	11.038	8.903	9.885	5.718	22.000	8.000	11.000	13.085	31.701	306.080	0.000	665.383
<i>Talauma indica</i>	1.052	4.830	1.461	3.183	5.461	0.000	0.000	0.000	0.000	0.000	0.000	0.000	40.603
<i>Talauma indica</i>	0.000	0.276	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.907
<i>Talauma phillycorpa</i>	0.000	9.436	0.000	25.851	11.393	9.774	22.219	0.000	59.749	0.000	3.000	0.000	138.730
<i>Ternstroemia bellirica</i>	7.265	0.000	2.001	5.141	0.000	10.334	0.000	0.000	0.000	0.000	0.000	0.000	17.741
<i>Ternstroemia chabula</i>	5.425	28.215	27.515	65.174	37.242	12.913	0.000	0.000	37.067	74.989	79.034	0.000	384.463
<i>Ternstroemia eurycarpa</i>	56.348	54.925	27.515	28.215	65.174	37.242	12.913	0.000	9.000	21.268	416.000	0.000	1081.218
<i>Ternstroemia nudiflora</i>	6.358	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.358
Rest of species	1041.680	679.422	627.522	481.796	386.636	284.939	263.423	268.396	303.639	201.974	1449.800	0.000	5680.480
All species total	1740.339	1579.780	1771.239	1646.395	1507.840	1300.420	1215.430	1228.050	1292.090	935.831	5775.800	0.000	15993.934

Table No.6.9T(a)

Lohit district  
Area - 18.34 km<sup>2</sup> U.S.F.

Species description	Stem/ha - Conifers											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	
<i>Albizia lucida</i>	5.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.333
<i>Pinus roxburghii</i>	6.667	20.000	20.000	3.333	3.333	0.000	6.667	0.000	0.000	3.333	0.000	63.333
Rest of species	23.333	3.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.667
All species total	35.333	23.333	20.000	3.333	3.333	0.000	6.667	0.000	0.000	3.333	0.000	93.333

Table No.6.9T(b)

Lohit district  
Area - 18.34 km<sup>2</sup> U.S.F.

Species description	Diameter classes in cm.											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	
<i>Albizia lucida</i>	16.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.113
<i>Pinus roxburghii</i>	32.227	96.680	96.680	16.113	16.113	0.000	32.227	0.000	0.000	16.113	0.000	306.103
Rest of species	112.793	16.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	128.906
All species total	161.133	112.793	96.680	16.113	16.113	0.000	32.227	0.000	0.000	16.113	0.000	451.172

Stratun - Hardwoods  
 Table No. 5.10 T(a)  
 Lehit district

Area - 725.04 ha2

Stem/ha.

Societal description

U.S.F

Societal description	Diameter classes in cm.										Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110-
<i>Rafia oligocephala</i>	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.263	0.000	0.000	0.526
<i>Ailanthus grandis</i>	0.263	0.000	0.000	0.000	0.526	0.000	0.263	0.000	0.000	0.000	0.000	1.052
<i>Pibizia lucida</i>	0.263	1.095	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.316
<i>Pibizia mollis</i>	0.000	0.000	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.263
<i>Ribizite procera</i>	1.316	0.000	0.000	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	1.842
<i>Ribizite speciosa</i>	0.789	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.789
<i>Ristonia scholaris</i>	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.264
<i>Ritanga excelso</i>	2.368	0.526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.895
<i>Amore wallichii</i>	5.000	0.526	0.789	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	7.104
<i>Artocarpus chepalashe</i>	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Artocarpus lakooche</i>	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Bischofia javanica</i>	1.316	0.263	0.526	0.263	0.000	0.526	0.000	0.000	0.000	0.000	0.000	2.844
<i>Bombax ceiba</i>	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Callicarpa speciosa</i>	0.526	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.789
<i>Camarium resiniferum</i>	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Castanopsis indica</i>	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Castanopsis species</i>	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Cedrela toona</i>	1.842	0.263	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.368
<i>Chukrasia tabularis</i>	0.526	0.526	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	1.315
<i>Cinnamomum tenuis</i>	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Dillenia indica</i>	1.842	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.368
<i>Dipterocarpus species</i>	0.263	0.000	0.000	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	1.052
<i>Douglasia grandiflora</i>	0.000	0.000	0.526	0.263	0.000	0.263	0.000	0.000	0.000	0.000	0.000	1.052

Table No. 6.10(a) contd.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Dysoxylum binectariferum</i>	1.053	0.789	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.842
<i>Gmelina arborea</i>	4.211	0.789	1.316	0.000	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	6.842
<i>Kydia calycina</i>	2.632	3.421	2.105	0.263	0.000	0.789	0.000	0.000	0.000	0.263	0.000	0.000	9.473
<i>Mesua ferrea</i>	0.789	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.789
<i>Michelia chamepa</i>	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Michelia species</i>	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Norus leavigata</i>	0.526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Pinus roxburghii</i>	0.526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Pterocarpus acorifolius</i>	1.053	1.053	0.000	0.263	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	2.632
<i>Quercus species</i>	5.526	3.947	0.526	1.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.052
<i>Schima wallichii</i>	2.368	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.631
<i>Shorea assamica</i>	0.526	0.000	0.000	0.263	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	1.052
<i>Sterculia villosa</i>	2.368	0.263	0.263	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.420
<i>U Stereospermum perssonatum</i>	0.000	0.263	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.526
<i>Stereospermum ausavolens</i>	0.000	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Syzygium cusini</i>	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Syzygium species</i>	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Terminalia chebula</i>	0.000	0.000	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Terminalia citrina</i>	0.000	0.263	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
<i>Terminalia euglicarpa</i>	0.263	0.000	0.263	0.263	0.526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.578
Rest of species	61.316	14.474	5.263	1.842	0.789	0.263	0.789	0.526	0.000	0.000	0.000	0.000	85.525
All species total	101.312	30.260	12.892	6.840	3.156	3.156	0.789	1.052	0.263	0.263	0.263	0.263	160.772

Table No.6.10T(b)

Species description	Stratum - Hardwoods											U.S.F.	
	Lohit district Area - 725.04 km <sup>2</sup>												
	Diameter classes in cm.												
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total	
<i>Adina oligoneuria</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Ailanthus grandis</i>	19.080	0.000	0.000	38.160	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	76.320
<i>Albizia lucida</i>	19.080	76.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	95.400
<i>Albizia mollis</i>	0.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Albizia procera</i>	95.400	0.000	0.000	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	133.560
<i>Albizia speciosa</i>	57.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.240
<i>Alstonia scholaris</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Altingia excelsa</i>	171.720	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	209.880
<i>Azadirachta indica</i>	362.520	38.160	57.240	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	19.080	515.160
<i>Artocarpus lacucha</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Artocarpus chaplasha</i>	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Bischofia javanica</i>	95.400	19.080	38.160	19.080	0.000	38.160	0.000	0.000	0.000	0.000	0.000	0.000	209.880
<i>Bombax ceiba</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Callicarpa species</i>	38.160	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.240
<i>Cassia resinifera</i>	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Cestropis indica</i>	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Cestropis species</i>	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Cedrela toona</i>	133.560	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	171.720
<i>Chudraia tabularis</i>	38.160	38.160	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	95.400
<i>Cinnamomum tamala</i>	0.000	0.000	0.000	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Dillenia indica</i>	133.560	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	171.720
<i>Dipterocarpus species</i>	19.080	0.000	0.000	19.080	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	76.320
<i>Duabanga grandiflora</i>	0.000	0.000	38.160	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	76.320

Table No. 6.10T(b) contd.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Diospyllum binectariferum</i>	76.320	57.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	133.560
<i>Geolalia arborea</i>	305.280	57.240	95.400	0.000	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	480.080
<i>Kudzu calycina</i>	190.800	248.040	152.640	19.080	0.000	57.240	0.000	0.000	0.000	19.080	0.000	0.000	686.080
<i>Mesua ferrea</i>	57.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.240
<i>Nichelle chesapa</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Nichelle species</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Norus laevigata</i>	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Pinus roxburghii</i>	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Pterocarpum acarifolium</i>	76.320	76.320	0.000	19.080	0.000	0.000	0.080	19.080	0.000	0.000	0.000	0.000	190.800
<i>Quercus species</i>	400.680	286.200	38.160	76.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	801.360
<i>Schima wallichii</i>	171.720	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	190.800
<i>Shorea assamica</i>	38.160	0.000	0.000	19.080	0.000	0.000	0.080	19.080	0.000	0.000	0.000	0.000	76.320
<i>Sterculia villosa</i>	171.720	19.080	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	248.040
<i>Stereospermum persimilium</i>	0.000	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38.160
<i>Stereospermum suaveolens</i>	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Syzgium cumini</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Syzgium species</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Ternstroemia chebula</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Ternstroemia citrina</i>	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Ternstroemia myricarpa</i>	19.080	0.000	19.080	19.080	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	114.480
Rest of species	4445.640	1049.400	381.600	133.560	57.240	19.080	57.240	38.160	0.000	0.000	0.000	0.000	6201.000
All species total	7945.800	2194.200	934.920	496.080	228.960	228.960	57.240	76.320	19.080	19.080	57.240	11657.880	

Table No. 6.111(C)

Lohit district

Stratum - Bamboo Forest

Stems/ha.

Area - 112.78 km<sup>2</sup>

U.S.F

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Albizia lucida</i>	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Albizia procera</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Amooze wallichii</i>	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Bischofia javanica</i>	0.000	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Callicarpa speciosa</i>	0.000	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Cestonopsis indica</i>	0.000	0.000	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Dillenia indica</i>	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.429
<i>Diospyllum binucleiferum</i>	2.857	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.857
<i>Morus laevigata</i>	2.857	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.286
<i>Terminalia myriocarpa</i>	0.000	0.000	1.429	1.429	1.429	1.429	0.000	0.000	0.000	0.000	0.000	0.000	5.716
Rest of species	18.571	4.286	1.429	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.286
All species total	28.512	8.573	4.287	1.429	2.856	1.429	0.000	0.000	0.000	0.000	0.000	0.000	47.148

Table No. 6.117(b)

Lohit district

Area - 112.78 ha2 U. S. F.

Stratus - Bamboo forest Stem(000)

Species description	Diameter classes in cm.											110- Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-		
<i>Albizia lucida</i>	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Albizia procera</i>	0.000	0.000	0.000	0.000	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Knorria vellichihi</i>	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Bischofia javanica</i>	0.000	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Calliocrpa species</i>	0.000	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Cestonopsis indica</i>	0.000	0.000	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Dillenia indica</i>	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.111
<i>Dysoxylum binectariferum</i>	32.223	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32.223
<i>Morus laevigata</i>	32.223	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	48.334
<i>Terminalia myriocarpa</i>	0.000	0.000	16.111	16.111	16.111	16.111	16.111	0.000	0.000	0.000	0.000	0.000	64.444
Rest of species	209.449	48.334	16.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	273.894
All species total	322.228	96.667	48.333	16.111	32.223	16.111	0.000	0.000	0.000	0.000	0.000	0.000	531.672



Table No. 5.127(b)

Area - 886.16 km2

U.S.F.

Stock Labels

Diameter classes in cm.

Total stems (000)

Stratum - All Strata combined

Species description

10-20

20-30

30-40

40-50

50-60

60-70

70-80

80-90

90-100

100-110

110+

Total

Species description	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
<i>Rainea oligocephala</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	38.160
<i>Rainea lucida</i>	51.204	76.320	0.000	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	175.720
<i>Albizia mollis</i>	0.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	19.080
<i>Albizia procera</i>	95.400	0.000	0.000	19.080	35.191	0.000	0.000	0.000	0.000	0.000	0.000	149.671
<i>Albizia speciosa</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Albizia excelsa</i>	171.720	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	210.000
<i>Ancoria willrichii</i>	378.631	38.160	57.240	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	531.291
<i>Antrocarpus splendens</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Antrocarpus latifolius</i>	95.400	38.160	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	171.720
<i>Blacharis venusta</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Boehmeria</i>	35.191	38.160	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	110.631
<i>Calliandra speciosa</i>	38.160	16.111	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	73.351
<i>Cassipouira resinifera</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Castanopsis speciosa</i>	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Chadrasia tabularis</i>	137.560	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	175.720
<i>Dillwynia tosaia</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dillwynia tosaia</i>	14.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.000
<i>Dioscorea</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Dioscorea grandiflora</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dioscorea binectarifera</i>	108.543	57.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	165.783
<i>Kedia calyptra</i>	197.800	216.040	157.400	19.080	19.080	19.080	19.080	0.000	0.000	0.000	0.000	638.360
<i>Kedia calyptra</i>	57.240	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.240
<i>Michelia chrysocarpa</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Michelia speciosa</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Pinus roxburghii</i>	70.387	96.680	56.680	16.111	16.111	0.000	0.000	0.000	0.000	0.000	0.000	246.258
<i>Pterospermum acerifolium</i>	76.320	76.320	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	191.640
<i>Quercus speciosa</i>	400.690	286.200	38.160	76.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000	801.360
<i>Schinus mollichi</i>	1.720	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.800
<i>Stemmadia villosa</i>	171.720	19.080	19.080	19.080	19.080	0.000	0.000	0.000	0.000	0.000	0.000	248.660
<i>Stemmadium pursonianum</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Stemmadium suaveolens</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Stemmadium speciosa</i>	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Terminalia chhabula</i>	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Terminalia citrina</i>	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Terminalia myricarpa</i>	478.000	113.000	35.191	35.191	57.240	16.111	0.000	0.000	0.000	0.000	0.000	663.800
<b>All species total</b>	<b>7625.161</b>	<b>2403.860</b>	<b>1079.933</b>	<b>589.304</b>	<b>27.240</b>	<b>277.290</b>	<b>97.240</b>	<b>76.320</b>	<b>19.080</b>	<b>35.193</b>	<b>57.240</b>	<b>12840.824</b>

Table No. 6.137(a)

Lehit District  
Vol/ha m<sup>3</sup> Area - 46.34 ka<sup>2</sup> U.S.F.

Species description	Stratum - Conifers										Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+
Albizia lucida	0.396	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.396
Pinus roxburghii	0.742	6.641	11.907	4.162	5.453	0.000	23.413	0.000	0.000	0.000	21.600	23.419
Rest of species	2.655	1.178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.833
All species total	3.793	7.819	11.907	4.162	5.453	0.000	23.413	0.000	0.000	0.000	21.600	28.147

Table No. 6.137 (b)

Lehit District  
Stratum - Conifers Vol(000) m<sup>3</sup> Area - 46.34 ka<sup>2</sup> U.S.F.

Species description	Stratum - Conifers										Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110+
Albizia lucida	1.915	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.915
Pinus roxburghii	3.587	32.101	57.559	20.117	26.359	0.000	113.179	0.000	0.000	0.000	104.416	357.316
Rest of species	12.833	5.595	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.528
All species total	18.335	37.796	57.559	20.117	26.359	0.000	113.179	0.000	0.000	0.000	104.416	377.761

Table No. 6.14 T(e)

Lohit district

U.S.F.

Area - 725.04 ha2

Stratum - Hardwoods

Vol./ha m3

Species description	Diameter classes in cm.										110-119	Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110			
<i>Quercus oligocarpa</i>	0.000	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.398	0.000	0.000	1.470
<i>R. lenthus grandis</i>	0.070	0.000	0.000	1.037	0.000	1.148	0.000	0.000	0.000	0.000	0.300	0.000	2.275
<i>Albizia lucida</i>	0.024	0.542	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.566
<i>Albizia mollis</i>	0.000	0.000	0.000	0.000	0.000	1.046	0.000	0.000	0.000	0.000	0.000	0.000	1.046
<i>Albizia procera</i>	0.135	0.000	0.000	0.508	0.928	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.571
<i>Albizia speciosa</i>	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.134
<i>Alstonia scholaris</i>	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024
<i>Azadirachta excelsa</i>	0.164	0.441	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.605
<i>Asclepias walllichii</i>	0.022	0.523	0.583	0.350	0.511	0.000	0.000	0.000	0.000	0.000	0.000	2.305	4.693
<i>Artocarpus chaplasha</i>	0.019	0.075	0.000	0.000	0.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.622
<i>Artocarpus lakoocha</i>	0.153	0.075	0.523	0.348	0.000	1.223	0.000	0.000	0.000	0.000	0.000	0.000	0.604
<i>Bischofia javanica</i>	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.028
<i>Bomax calbe</i>	0.069	0.000	0.168	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196
<i>Callicarpa spaciata</i>	0.015	0.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.196
<i>Cearum resiniferum</i>	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Castanopsis indica</i>	0.000	0.000	0.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Castanopsis speciosa</i>	0.174	0.068	0.000	0.332	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.189
<i>Cedrela toona</i>	0.019	0.196	0.000	0.000	0.637	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.852
<i>Chlorasia tabularis</i>	0.000	0.000	0.000	0.251	0.000	0.857	0.000	0.000	0.000	0.000	0.000	0.000	1.108
<i>Cinnamomum tonale</i>	0.075	0.044	0.197	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.327
<i>Dillenia indica</i>	0.035	0.000	0.000	0.585	0.694	1.117	0.000	0.000	0.000	0.000	0.000	0.000	2.461
<i>Dipterocarpus species</i>													



Table No. 6.14 (1b)  
Lohit district  
Area - 725.04 km 2

U. S. F.

Species description	Stratum - Hardwoods										U. S. F.	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		
	Diameter classes in cm.											
<i>Adina oligocephala</i>	0.000	5.203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	106.1
<i>Alnus glandis</i>	5.053	0.000	0.000	76.648	0.000	82.265	0.000	0.000	0.000	0.000	0.000	106.542
<i>Albizia lucida</i>	1.744	39.261	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	114.946
<i>Albizia mollis</i>	0.000	0.000	0.000	0.000	0.000	75.817	0.000	0.000	0.000	0.000	0.000	111.005
<i>Albizia procera</i>	9.766	0.000	0.000	36.841	67.265	0.000	0.000	0.000	0.000	0.000	0.000	176.017
<i>Albizia speciosa</i>	9.711	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	112.672
<i>Alstonia scholaris</i>	1.766	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	84.731
<i>Astringia excelisa</i>	11.922	31.947	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.796
<i>Fraxus wallichii</i>	45.056	23.434	42.253	25.408	37.061	0.000	0.000	0.000	0.000	0.000	0.000	12.0435
<i>Artocarpus chaplasha</i>	1.631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	167.110
<i>Artocarpus lakoocha</i>	1.364	5.446	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	346.322
<i>Bischofia javanica</i>	11.111	5.467	37.889	25.241	0.000	45.952	0.000	0.000	0.000	0.000	0.000	1.621
<i>Bombax ceiba</i>	2.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.055
<i>Callicarpa species</i>	5.005	0.000	12.163	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	172.662
<i>Cassipourea resinifera</i>	1.054	13.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.074
<i>Castanopsis indica</i>	0.000	0.000	12.736	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.1051
<i>Cestropis species</i>	0.000	0.000	13.736	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.1835
<i>Cedrela toona</i>	12.580	4.907	0.000	24.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.7266
<i>Chlorasia tabularis</i>	1.378	14.199	0.000	0.000	46.180	0.000	0.000	0.000	0.000	0.000	0.000	11.5441
<i>Cinnamomum tamala</i>	0.000	0.000	0.000	18.232	0.000	62.135	0.000	0.000	0.000	0.000	0.000	61.757
<i>Dillenia indica</i>	5.492	3.203	14.310	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	PKC.3657
<i>Dipterocarpus spp.</i>	2.541	0.000	0.000	42.444	50.323	63.178	0.000	0.000	0.000	0.000	0.000	221.6005
<i>Dysoxylum grandiflorum</i>	0.000	0.000	25.148	25.991	0.000	57.338	0.000	0.000	0.000	0.000	0.000	178.4486
												1061.4000

Table No. 6.14 Tcb) contd.

Species description	Diameter classes in cm.											Total	
	8-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Dysoxylum binucleiferum</i>	8.516	18.325	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.871
<i>Baelina arborea</i>	48.462	21.003	67.542	0.000	36.613	40.170	0.000	0.000	0.000	0.000	0.000	0.000	213.690
<i>Kiptie calycina</i>	31.824	101.763	130.681	30.853	0.000	164.962	0.000	0.000	0.000	0.000	1.7.870	0.000	597.675
<i>Mesua ferrea</i>	10.111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.111
<i>Michelia chaptalia</i>	0.000	7.316	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.316
<i>Michelia species</i>	0.000	6.743	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.743
<i>Morus laevigata</i>	3.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.217
<i>Pinus roxburghii</i>	5.874	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.874
<i>Platanus species</i>	7.262	35.072	0.000	32.592	0.000	0.000	0.000	117.126	0.000	0.000	0.000	0.000	192.052
<i>Quercus species</i>	44.663	84.558	18.460	82.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	229.842
<i>Schinus molle</i>	17.162	5.686	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.868
<i>Schinus molle</i>	4.588	0.000	0.000	32.056	0.000	0.000	0.000	149.773	0.000	0.000	0.000	0.000	186.357
<i>Shorea asanica</i>	16.876	5.203	9.215	16.510	27.368	0.000	0.000	0.000	0.000	0.000	0.000	0.000	75.152
<i>Staurulia villosa</i>	0.000	7.717	18.877	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.594
<i>Strobilanthus personatus</i>	0.000	0.000	0.000	0.000	53.613	0.000	0.000	0.000	0.000	0.000	0.000	0.000	53.613
<i>Strobilanthus subviciatus</i>	2.424	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.424
<i>Syngonium cucullari</i>	2.665	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.665
<i>Ternstroemia chebulata</i>	0.000	0.000	0.000	20.379	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.379
<i>Ternstroemia oliveria</i>	0.000	5.883	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.883
<i>Ternstroemia myricoides</i>	3.239	0.000	15.262	16.510	67.922	0.000	0.000	0.000	0.000	0.000	0.000	0.000	100.913
<i>Rest of species</i>	469.885	277.978	236.576	146.436	103.215	42.660	199.310	184.330	0.000	0.000	0.000	0.000	2480.472
<i>All species total</i>	806.006	723.193	656.172	652.088	489.680	705.477	199.310	451.229	101.310	137.870	1668.876	6890.971	

Table No. 6.15T(a)

Lehit district

U.S.F.

Area - 112.70 km<sup>2</sup>Stratum - Bamboo forest Vol./ha m<sup>3</sup>

Species description	Diameter classes in cm.											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	
<i>Albizia lucida</i>	0.170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.170
<i>Albizia procera</i>	0.000	0.000	0.000	0.000	5.036	0.000	0.000	0.000	0.000	0.000	0.000	5.036
<i>Amora wallichii</i>	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.064
<i>Bischofia javanica</i>	0.000	0.629	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.629
<i>Calliandra speciosa</i>	0.000	0.267	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.267
<i>Cestropis indica</i>	0.000	0.000	1.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.094
<i>Dillenia indica</i>	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
<i>Diospyros birtcheriana</i>	0.303	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.303
<i>Morus laurifolia</i>	0.346	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.772
<i>Terminalia myriocarpa</i>	0.000	0.000	0.796	1.308	2.957	4.186	0.000	0.000	0.000	0.000	0.000	9.147
Rest of species	1.729	0.961	0.796	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.476
All species total	2.616	2.273	2.686	1.308	7.993	4.186	0.000	0.000	0.000	0.000	0.000	20.952

Table No. 6.15 T (b)

Lohit district  
 Stratum - Bamboo forest UDL:0000x3 Area - 112.76 ha2 U.S.F.

Species description	Diameter classes in cm.											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Ficus lucida</i>	1.915	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.915
<i>Ribesia procera</i>	0.000	0.000	0.000	0.000	56.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	56.800
<i>Fraxina wallichii</i>	0.726	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.726
<i>Bischofia javanica</i>	0.000	7.090	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.090
<i>Callicarpa speciosa</i>	0.000	3.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.016
<i>Castanopsis indica</i>	0.000	0.000	12.341	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.341
<i>Dillenia indica</i>	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.042
<i>Dysoxylum binectariferum</i>	3.416	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.416
<i>Morus laevigata</i>	3.897	4.802	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.699
<i>Terminalia myriocarpa</i>	0.000	0.000	8.976	14.749	32.219	47.205	0.000	0.000	0.000	0.000	0.000	0.000	103.149
Rest of species	19.497	10.731	8.976	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.204
All species total	29.495	25.638	30.293	14.749	89.018	47.205	0.000	0.000	0.000	0.000	0.000	0.000	236.398





Table No. 6.17T  
Lohit survey

Area - 77.14 ha2

Stratum - Conifers

Total Stems (000) e3

RF+USF

Species Description	Diameter classes											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Abies lucida</i>	16.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.113
<i>Abies species</i>	3.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.200
<i>Pinus roxburghii</i>	99.427	141.480	135.080	35.313	41.713	16.000	57.827	3.200	3.200	19.313	0.000	0.000	502.023
<i>Quercus species</i>	3.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.200
Rest of species	144.790	25.713	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	170.506
All species total	266.730	167.190	135.080	35.313	41.713	16.000	57.827	3.200	3.200	19.313	0.000	0.000	745.572

Table No. 6.18T  
Lehit District

Area - 1800.05 ha.2

RF-4USE

Total Stems (000)

Stratum - Marshlands

Species Description	Diameter classes										Total		
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110		110-	
<i>Adina cordifolia</i>	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.677
<i>Aegle oligocarpa</i>	6.677	25.757	0.000	0.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	51.514
<i>Aegle spinosa</i>	19.080	16.708	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	35.788
<i>Aegle grandis</i>	19.080	16.708	33.417	54.853	26.708	22.419	6.677	6.677	0.000	0.000	0.000	0.000	270.114
<i>Albizia mollis</i>	0.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	19.080
<i>Albizia procera</i>	179.654	60.740	53.417	35.773	22.419	0.000	0.000	0.000	0.000	0.000	0.000	0.000	353.906
<i>Albizia speciosa</i>	93.964	46.740	20.031	6.677	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	200.798
<i>Altingia excelsa</i>	358.955	118.258	6.677	6.677	6.677	10.016	0.000	3.339	3.339	3.339	3.339	16.708	512.606
<i>Amorpha wallitchii</i>	596.218	94.515	102.319	45.788	32.773	3.339	0.000	0.000	0.000	3.339	26.757	26.757	912.417
<i>Antrodiaetium</i>	20.031	20.031	10.016	10.016	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	62.432
<i>Artocarpus chaplasha</i>	19.080	19.080	0.000	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	45.826
<i>Artocarpus lacucha</i>	385.653	119.236	101.592	42.450	13.354	48.176	13.354	10.016	0.000	6.677	10.016	0.000	750.774
<i>Bombax ceiba</i>	142.606	46.740	13.354	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	216.055
<i>Callisarcophora</i>	10.016	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.354
<i>Canarium bengalensis</i>	6.677	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.354
<i>Canarium resiniferum</i>	62.481	55.604	30.047	23.370	3.339	10.016	6.677	6.677	0.000	0.000	0.000	0.000	201.750
<i>Castanopsis hystrix</i>	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.678
<i>Castanopsis indica</i>	16.708	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.047
<i>Castanopsis speciosa</i>	36.047	36.047	20.031	20.031	20.031	5.719	6.677	3.339	6.677	3.339	0.000	0.000	112.822
<i>Cebelia toona</i>	243.732	52.465	33.385	42.450	10.016	10.016	0.000	0.000	3.339	3.339	10.016	0.000	422.112
<i>Chorassa tabularis</i>	81.561	71.545	23.370	3.339	19.080	6.677	6.677	3.339	3.339	0.000	0.000	0.000	218.927
<i>Cissalobaria</i>	6.677	3.339	0.000	0.000	3.339	6.677	0.000	3.339	0.000	0.000	0.000	0.000	16.708
<i>Cinnamomum laosale</i>	43.401	13.354	6.677	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	0.000	100.576
<i>Cinnamomum wightii</i>	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.017
<i>Clusia sissou</i>	26.708	23.370	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	53.417
<i>Dillenia indica</i>	207.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	207.000
<i>Dillenia pentagyna</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Dioscorea</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dioscorea</i>	13.354	0.000	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.371
<i>Dioscorea</i>	150.041	90.841	59.159	55.904	42.450	13.354	3.339	10.016	10.016	0.000	0.000	0.000	280.753
<i>Dioscorea grandiflora</i>	30.141	33.339	71.545	48.127	36.742	42.450	13.354	3.339	10.016	3.339	0.000	0.000	356.735
<i>Dysoxylum</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Dysoxylum</i>	984.403	397.471	113.510	40.062	3.339	3.339	10.016	0.000	0.000	0.000	0.000	0.000	1582.440
<i>Elettaria ferum</i>	60.794	63.432	13.354	10.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	158.293
<i>Galium chinense</i>	51.514	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	51.514
<i>Galium spongia</i>	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Kydia calycina</i>	441.829	361.550	206.057	52.465	3.339	63.917	13.354	3.339	0.000	0.000	0.000	0.000	1161.630
<i>Leprotaria</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Leprotaria</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339

Table 6. 181 (cont'd)

Species Description	Diameter classes										110-115	115-120	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110			
<i>Acrotrema</i> spp.	73.44	13.264	3.725	6.677	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.734
<i>Antonia</i> diplo	33.305	13.761	3.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.101
<i>Asa</i> <i>Asa</i>	37.385	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.322
<i>Asa</i> <i>Asa</i>	81.672	26.766	11.354	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.284
<i>Asa</i> <i>Asa</i>	3.225	0.000	7.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.271
<i>Asa</i> <i>Asa</i>	61.572	6.765	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.671
<i>Asa</i> <i>Asa</i>	34.572	6.765	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.671
<i>Asa</i> <i>Asa</i>	46.740	35.773	16.693	13.254	13.254	3.725	3.725	3.725	3.725	0.000	0.000	0.000	47.122
<i>Asa</i> <i>Asa</i>	183.620	119.235	62.632	32.724	32.724	3.725	3.725	3.725	3.725	0.000	0.000	0.000	14.234
<i>Asa</i> <i>Asa</i>	111.408	23.570	6.677	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.234
<i>Asa</i> <i>Asa</i>	38.160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	51.112
<i>Asa</i> <i>Asa</i>	182.153	126.414	26.531	26.773	6.600	3.224	0.000	19.682	3.224	3.224	0.000	0.000	13.214
<i>Asa</i> <i>Asa</i>	50.078	30.031	14.693	10.016	10.016	30.031	3.725	3.725	3.224	3.224	0.000	0.000	15.016
<i>Asa</i> <i>Asa</i>	30.047	10.016	10.016	10.016	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.421
<i>Asa</i> <i>Asa</i>	37.345	379.601	54.593	62.267	6.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	100.122
<i>Asa</i> <i>Asa</i>	43.401	50.000	11.243	6.677	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	43.401
<i>Asa</i> <i>Asa</i>	101.992	23.265	21.031	39.111	3.224	16.693	3.224	19.680	3.224	0.000	0.000	0.000	26.140
<i>Asa</i> <i>Asa</i>	245.168	42.450	23.767	22.414	26.767	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.140
<i>Asa</i> <i>Asa</i>	46.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.740
<i>Asa</i> <i>Asa</i>	73.448	52.465	75.625	30.047	16.693	3.224	13.254	13.254	16.693	3.224	0.000	0.000	106.537
<i>Asa</i> <i>Asa</i>	0.000	0.000	0.000	3.224	22.414	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.414
<i>Asa</i> <i>Asa</i>	75.625	36.724	16.693	10.016	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	75.625
<i>Asa</i> <i>Asa</i>	51.256	13.254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	75.625
<i>Asa</i> <i>Asa</i>	0.000	0.000	3.224	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.017
<i>Asa</i> <i>Asa</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.414
<i>Asa</i> <i>Asa</i>	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32.414
<i>Asa</i> <i>Asa</i>	3.224	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32.414
<i>Asa</i> <i>Asa</i>	53.254	203.051	132.450	62.512	78.222	30.047	13.254	3.224	0.000	6.677	16.693	0.000	17.676
<i>Asa</i> <i>Asa</i>	76.786	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.414
<i>Asa</i> <i>Asa</i>	129.025	346.303	138.162	584.265	263.946	119.235	30.047	6.677	16.693	10.016	0.000	0.000	76.786
<i>Asa</i> <i>Asa</i>	22799.908	7088.470	2268.594	1634.623	657.946	119.235	237.613	104.592	50.078	10.016	0.000	0.000	20052.573
<i>Asa</i> <i>Asa</i>													37324.961
<i>Asa</i> <i>Asa</i>													320.590

Key: 1=1 species total; 2=2799.908; 3=7088.470; 4=2268.594; 5=1634.623; 6=657.946; 7=119.235; 8=30.047; 9=6.677; 10=16.693; 11=10.016; 12=0.000; 13=0.000; 14=0.000; 15=0.000; 16=0.000; 17=0.000; 18=0.000; 19=0.000; 20=0.000; 21=0.000; 22=0.000; 23=0.000; 24=0.000; 25=0.000; 26=0.000; 27=0.000; 28=0.000; 29=0.000; 30=0.000; 31=0.000; 32=0.000; 33=0.000; 34=0.000; 35=0.000; 36=0.000; 37=0.000; 38=0.000; 39=0.000; 40=0.000; 41=0.000; 42=0.000; 43=0.000; 44=0.000; 45=0.000; 46=0.000; 47=0.000; 48=0.000; 49=0.000; 50=0.000; 51=0.000; 52=0.000; 53=0.000; 54=0.000; 55=0.000; 56=0.000; 57=0.000; 58=0.000; 59=0.000; 60=0.000; 61=0.000; 62=0.000; 63=0.000; 64=0.000; 65=0.000; 66=0.000; 67=0.000; 68=0.000; 69=0.000; 70=0.000; 71=0.000; 72=0.000; 73=0.000; 74=0.000; 75=0.000; 76=0.000; 77=0.000; 78=0.000; 79=0.000; 80=0.000; 81=0.000; 82=0.000; 83=0.000; 84=0.000; 85=0.000; 86=0.000; 87=0.000; 88=0.000; 89=0.000; 90=0.000; 91=0.000; 92=0.000; 93=0.000; 94=0.000; 95=0.000; 96=0.000; 97=0.000; 98=0.000; 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Table No. 6.197  
Luhit District

Area 285.54 km<sup>2</sup>

REVIUS

Total Stems (000)13

Diameter classes

Species Description	Diameter classes											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Ailanthus grandis</i>	3,260	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6,520
<i>Albizia leucis</i>	25,180	0.000	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	28,440
<i>Albizia scholaris</i>	3,260	0.000	0.000	0.000	0.000	16,111	0.000	0.000	0.000	0.000	0.000	0.000	19,371
<i>Alinga excelsa</i>	6,519	3,260	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12,039
<i>Alseodaphne cadamba</i>	42,168	9,779	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	55,227
<i>Antiosyphus cadamba</i>	6,519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6,519
<i>Bischofia javanica</i>	9,779	16,111	3,260	0.000	0.000	0.000	0.000	3,260	0.000	0.000	0.000	0.000	29,150
<i>Beech caiba</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Calliandra species</i>	6,519	16,111	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22,630
<i>Casuarina mindanensis</i>	9,779	0.000	16,111	0.000	6,519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32,409
<i>Geophila toona</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Churrisia labularis</i>	9,779	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13,039
<i>Cinnamomum lamala</i>	6,519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6,519
<i>Dipterocarpus spp.</i>	3,260	0.000	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6,520
<i>Dubautia grandiflora</i>	6,519	3,260	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16,298
<i>Dysoxylum</i>	94,156	6,519	9,779	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	113,714
<i>Biracterium</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Kudzu polytricha</i>	13,038	3,260	0.000	6,519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22,826
<i>Melie azadirachta</i>	6,519	0.000	0.000	0.000	0.000	6,519	0.000	0.000	0.000	0.000	0.000	0.000	13,038
<i>Mesua ferrea</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Michelia speciosa</i>	16,298	6,519	6,519	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32,626
<i>Morus laevigata</i>	38,742	19,371	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61,373
<i>Pterospermum acerifolium</i>	6,519	0.000	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13,039
<i>Lanceaefolium</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Pterispermum spp.</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Schinus molle</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Shorea assamensis</i>	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,260
<i>Spermatium</i>	9,779	0.000	0.000	9,779	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19,558
<i>Syzgium cumini</i>	0.000	0.000	0.000	0.000	0.000	3,260	0.000	3,260	0.000	0.000	0.000	0.000	6,519
<i>Syzgium species</i>	13,038	6,519	3,260	0.000	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26,077
<i>Ternstroemia citrata</i>	39,115	3,260	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42,375
<i>Ternstroemia nudiflora</i>	39,115	3,260	22,630	16,111	19,371	0.000	0.000	0.000	0.000	0.000	0.000	0.000	132,696
<i>Tetrasia nudiflora</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Tetrasia nudiflora</i>	760,325	195,902	65,005	13,038	22,617	9,779	9,779	9,779	3,260	0.000	0.000	0.000	1,046,414
<i>All species total</i>	1192,349	299,651	142,864	81,308	58,487	61,359	28,078	9,780	3,260	19,360	0.000	0.000	1997,468

Table No. 6-20T  
 Conit District

Species Description	Total Stems (000)±S										RF+USF	
	Diameter classes											
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
<i>Aine cordifolia</i>	6.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.677
<i>Aitonia filigens</i>	149.205	26.740	56.677	54.803	26.709	22.419	6.677	6.677	3.339	3.339	3.339	576.234
<i>Albizia lucida</i>	121.177	105.705	26.709	6.677	3.334	19.080	0.000	0.000	0.000	0.000	0.000	270.645
<i>Albizia mollis</i>	18.000	0.000	0.000	0.000	0.000	19.080	0.000	0.000	0.000	0.000	0.000	19.080
<i>Albizia procera</i>	97.124	40.240	26.706	20.031	2.677	3.339	3.339	0.000	0.000	0.000	0.000	203.540
<i>Alstonia conchalis</i>	49.126	20.031	6.677	6.677	6.677	3.339	0.000	0.000	0.000	0.000	0.000	145.866
<i>Alzira walcata</i>	371.874	121.545	29.968	16.683	6.677	6.677	10.016	3.339	3.339	3.339	18.653	590.160
<i>Andros waltchii</i>	638.406	104.594	110.078	43.788	33.732	3.339	0.000	0.000	0.000	0.000	25.757	967.574
<i>Antrodiaholia</i>	85.659	20.080	29.968	10.016	0.000	3.339	0.000	6.677	6.677	6.677	6.677	189.322
<i>Artocarpus lakoocha</i>	19.080	0.000	0.000	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	44.826
<i>Bischofia javanica</i>	395.632	135.347	194.852	42.452	13.354	18.176	12.354	10.016	3.000	6.677	10.016	779.874
<i>Bombax calda borosa</i>	143.963	43.440	12.677	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	222.370
<i>Calliandra speciosa</i>	108.111	39.481	19.080	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	166.572
<i>Cenarrhus bengalensis</i>	6.677	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.354
<i>Cenarrhus resiniferum</i>	62.481	55.064	30.047	26.630	6.698	10.016	9.027	6.677	3.260	0.000	3.339	218.950
<i>Cestonopsis digitrix</i>	176.706	30.240	68.576	20.031	4.958	6.677	6.677	3.339	6.677	0.000	0.000	345.526
<i>Cestonopsis speciosa</i>	30.047	30.047	29.096	3.339	6.677	3.339	0.000	3.339	0.000	0.000	0.000	105.864
<i>Cedrela toona</i>	246.992	52.465	33.368	12.450	10.016	10.016	0.000	3.339	12.354	6.659	10.016	426.822
<i>Chukrasia tabularis</i>	91.340	74.805	23.370	3.339	19.080	6.677	6.677	3.339	0.000	0.000	3.339	231.956
<i>Cinnamodaphne</i>	6.677	3.339	10.016	0.000	3.339	6.677	0.000	3.339	0.000	0.000	0.000	36.726
<i>Cinnamomum latiale</i>	49.520	12.254	6.677	19.080	0.000	19.080	0.000	0.000	0.000	0.000	0.000	106.111
<i>Cinnamomum nighlii</i>	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.016
<i>Dalbergia siana</i>	20.008	23.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	53.377
<i>Dillenia indica</i>	233.119	32.334	45.788	16.693	20.031	3.339	3.339	3.339	0.000	3.339	3.339	581.760
<i>Dillenia pentagyna</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Dipterocarpus</i>	13.354	0.000	3.339	3.339	3.339	0.000	0.000	0.000	0.000	0.000	0.000	37.721
<i>Macarocarpus spp.</i>	349.217	130.203	90.141	72.418	95.804	42.450	13.354	3.339	10.016	3.339	20.031	787.224
<i>Duabanga grandiflora</i>	96.660	66.645	74.805	45.127	36.724	42.450	23.133	3.339	10.016	3.339	19.677	595.875
<i>Dysoxylum</i>	1078.399	404.290	123.289	43.322	3.339	3.339	10.016	0.000	0.000	0.000	0.000	1666.194
<i>Endospermum</i>	378.728	107.318	105.416	10.016	25.757	19.080	3.339	0.000	0.000	0.000	0.000	649.884
<i>Keiske azamica</i>	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339
<i>Kydia calycina</i>	487.567	364.810	206.057	58.984	3.339	70.436	13.354	3.339	0.000	22.340	0.000	1200.226
<i>Leguminosae puviflora</i>	0.000	3.339	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.339

Table 6.20T (cont'd)

Species Description	Diameter classes											Total
	10-20	20-30	30-40	40-50	60-70	70-80	80-90	90-100	100-110	110+		
<i>Lagarosiphonia</i> spp.	73,418	13,374	3,339	6,677	0,000	0,000	3,339	0,000	0,000	0,000	0,000	106,834
<i>Parsonia diploca</i>	39,394	20,000	16,677	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	70,109
<i>Parsonia</i> sp.	52,417	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	52,417
<i>Halimniona stipitata</i>	16,740	6,677	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	126,164
<i>Halimniona</i> species	86,802	26,708	12,354	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	126,164
<i>Neosiphonia</i>	3,339	0,000	3,339	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	6,678
<i>angustifolia</i>	6,677	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	6,678
<i>Merismia</i> spp.	317,568	56,755	20,031	23,370	10,016	3,339	3,339	3,339	3,339	3,339	3,339	464,465
<i>Merismia</i> <i>farrae</i>	46,740	35,773	16,693	16,693	8,347	3,339	3,339	3,339	3,339	3,339	3,339	149,207
<i>Michelia</i> <i>chenopoda</i>	120,340	12,741	6,677	13,374	19,073	6,677	6,599	3,339	0,000	6,677	0,000	522,016
<i>Michelia</i> species	120,340	12,741	6,677	13,374	19,073	6,677	6,599	3,339	0,000	6,677	0,000	522,016
<i>Pinus roxburghii</i>	137,587	141,480	135,060	35,313	41,713	16,000	57,827	3,200	3,200	19,313	0,000	535,373
<i>Pterosporium</i>	189,672	136,414	20,031	39,033	0,000	3,339	0,000	19,080	3,339	13,354	0,000	430,861
<i>Pterosporium</i> <i>incarifolium</i>	189,672	136,414	20,031	39,033	0,000	3,339	0,000	19,080	3,339	13,354	0,000	430,861
<i>Pterosporium</i>	50,078	20,031	16,693	10,016	10,016	20,031	3,339	3,339	3,339	10,016	0,000	190,237
<i>Pterosporium</i> <i>lanceifolium</i>	33,307	10,016	10,016	3,339	0,000	0,000	0,000	0,000	0,000	0,000	0,000	66,694
<i>Pterosporium</i> spp.	33,307	33,201	4,663	62,997	6,677	6,677	6,677	3,339	6,677	3,339	6,677	1031,582
<i>Quercus</i> <i>hepaluensis</i>	43,401	0,000	3,339	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	290,878
<i>Schinus molliculus</i>	221,720	39,111	16,693	6,677	3,339	0,000	3,339	19,080	6,677	6,677	10,016	263,200
<i>Shorea</i> <i>assamica</i>	104,852	33,385	20,031	22,411	22,727	0,000	0,000	0,000	0,000	0,000	0,000	361,551
<i>Stauricula villosa</i>	46,740	4,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	46,740
<i>Stauricula</i> species	46,740	4,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	46,740
<i>Stauricula</i>	83,227	52,465	75,835	59,826	16,693	6,599	16,614	16,614	16,693	3,339	16,535	344,440
<i>Stauricula</i> <i>paramonina</i>	83,227	52,465	75,835	59,826	16,693	6,599	16,614	16,614	16,693	3,339	16,535	344,440
<i>Stauricula</i> <i>subvestiensis</i>	75,835	36,724	16,693	22,419	0,000	0,000	0,000	0,000	0,000	0,000	0,000	151,758
<i>Stauricula</i> <i>sumatrensis</i>	75,835	36,724	16,693	22,419	0,000	0,000	0,000	0,000	0,000	0,000	0,000	151,758
<i>Syringium</i> species	82,196	19,873	3,260	3,339	0,000	0,000	3,339	0,000	0,000	0,000	0,000	116,706
<i>Talassia</i> <i>hodgsonii</i>	13,354	13,354	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	26,708
<i>Talassia</i> <i>phallicarpa</i>	9,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	9,000
<i>Talassia</i> <i>phallicarpa</i>	9,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	9,000
<i>Ternstroemia</i> <i>chebula</i>	3,339	20,031	20,031	6,677	3,339	6,677	0,000	0,000	0,000	0,000	0,000	73,448
<i>Ternstroemia</i> <i>chebula</i>	3,339	20,031	20,031	6,677	3,339	6,677	0,000	0,000	0,000	0,000	0,000	73,448
<i>Ternstroemia</i> <i>citring</i>	73,359	69,080	36,724	33,307	13,354	3,339	0,000	6,677	0,000	6,677	0,000	272,574
<i>Ternstroemia</i> <i>citring</i>	73,359	69,080	36,724	33,307	13,354	3,339	0,000	6,677	0,000	6,677	0,000	272,574
<i>Ternstroemia</i> <i>muricata</i>	575,669	206,911	155,220	105,142	94,333	49,418	6,677	16,693	13,276	48,969	0,000	1,278,585
<i>Ternstroemia</i> <i>muricata</i>	575,669	206,911	155,220	105,142	94,333	49,418	6,677	16,693	13,276	48,969	0,000	1,278,585
<i>Ternstroemia</i> <i>rudiflora</i>	76,786	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	76,786
<i>Ternstroemia</i> <i>rudiflora</i>	76,786	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	76,786
Rest of spp.	14745,411	3648,118	1448,167	897,301	283,708	129,015	137,524	239,574	215,763	144,762	99,047	21291,503
All species total	24259,190	7495,314	5566,338	1811,241	990,198	683,788	337,524	239,574	215,763	144,762	360,100	40167,991

Table No. 6.21T

Stratum - Conifers	Total volume (000) m <sup>3</sup>											RF+USF
	Lehit District											
Species Description	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	Total
	Diameter classes											
Ribesia lucida	1.915	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.915
Albizia species	0.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.380
Pinus roxburghii	12.150	43.779	80.166	39.275	68.582	41.261	200.655	15.073	17.797	125.590	0.000	645.328
Quercus species	0.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.493
Rest of species	16.352	6.591	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.943
All species total	31.290	52.370	80.166	39.275	69.582	41.261	200.655	15.073	17.797	125.590	0.000	673.069

Table No. 6.22T  
Lohit District

Species Description	Area - 1800.05 km2											Total	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+		
<i>Aegle cordifolia</i>	0.570	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.567
<i>Aegle marmelos</i>	0.870	3.174	0.000	0.000	0.000	0.000	0.000	0.000	101.340	0.000	0.000	0.000	105.514
<i>Albizia grandis</i>	16.545	23.174	51.337	109.643	76.714	58.289	38.693	46.219	27.747	0.000	0.000	0.000	84.557
<i>Albizia lucida</i>	10.214	53.405	28.671	10.347	11.770	0.000	19.648	0.000	0.000	0.000	0.000	0.000	174.060
<i>Albizia mollis</i>	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.000
<i>Albizia procera</i>	17.866	27.934	33.108	33.581	14.866	19.009	0.000	3.839	0.000	0.000	0.000	0.000	158.014
<i>Alistia Scholerii</i>	9.408	5.161	4.151	7.177	11.354	9.173	0.000	0.000	18.567	0.000	0.000	0.000	63.121
<i>Atingia wacelba</i>	24.898	27.054	38.704	36.975	20.698	28.895	51.585	19.341	24.142	27.575	218.007	0.000	598.771
<i>Amorpha waltlichii</i>	75.009	50.245	48.705	61.945	47.732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	336.952
<i>Artocarpus chaplasha</i>	1.194	7.954	17.000	12.669	14.647	8.607	0.000	16.205	44.448	29.533	291.504	0.000	446.016
<i>Artocarpus leucocarpus</i>	51.405	44.452	89.930	97.027	23.868	28.078	52.527	48.252	0.000	0.000	121.600	0.000	650.717
<i>Baobab</i>	15.750	13.825	4.739	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	34.292
<i>Calliandra speciosa</i>	11.108	6.747	12.163	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.018
<i>Cenarrhenia bengalensis</i>	0.904	1.753	3.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.665
<i>Cenarrhenia resiniferum</i>	4.961	31.127	31.065	40.250	11.791	40.400	30.000	50.000	0.000	0.000	13.000	0.000	181.480
<i>Cestrum indicum</i>	1.240	1.988	3.824	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.052
<i>Cestropis indica</i>	15.440	13.988	34.824	6.038	18.586	20.985	16.549	41.311	0.000	0.000	0.000	0.000	189.678
<i>Cestropis speciosa</i>	2.626	6.645	19.677	3.412	12.434	0.000	16.028	0.000	0.000	0.000	0.000	0.000	70.402
<i>Cordia toona</i>	26.261	37.945	25.361	55.088	18.927	31.878	0.000	16.864	80.577	24.387	150.429	0.000	447.534
<i>Chorisia tabularis</i>	7.915	30.170	28.588	4.928	46.180	26.062	38.044	20.377	0.000	0.000	50.227	0.000	249.217
<i>Crocodorhne</i>	0.926	1.467	7.115	0.000	0.000	17.838	0.000	21.002	0.000	31.696	0.000	0.000	83.422
<i>Cinnamomum lomaie</i>	5.293	4.670	4.813	18.232	0.000	62.135	0.000	0.000	0.000	0.000	0.000	0.000	85.172
<i>Cinnamomum wightii</i>	0.197	1.145	2.720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.067
<i>Citrus sisea</i>	3.001	6.472	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.473
<i>Dillenia indica</i>	9.253	7.711	37.856	21.215	14.684	13.745	14.333	21.341	0.000	35.163	29.528	0.000	240.659
<i>Dillenia pentagyna</i>	0.000	0.623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.623
<i>Dipterocarpus</i>	1.249	0.600	4.240	5.879	8.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.169
<i>Dipterocarpus spp.</i>	31.626	65.368	91.606	130.503	156.043	180.279	74.622	21.179	88.484	0.000	369.669	0.000	1210.679
<i>Duranta grandiflora</i>	9.249	32.848	48.319	63.708	77.213	126.150	55.040	16.555	28.487	0.000	77.186	0.000	575.689
<i>Dysoxylum</i>	107.113	106.893	57.601	12.468	6.433	9.782	12.911	0.000	17.232	0.000	0.000	0.000	372.371
<i>Eriobotrya foenicula</i>	61.267	34.710	74.419	10.959	46.729	40.170	10.156	0.000	0.000	0.000	0.000	0.000	283.240
<i>Eyelia arborea</i>	0.294	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.294
<i>Kydia asadenia</i>	67.520	144.061	181.397	81.646	6.292	182.948	52.661	18.689	0.000	0.000	0.000	0.000	878.074
<i>Lagerströmia</i>	0.000	0.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.817

Table 6.227 (contd)

Species Description	Diameter classes											Total
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110+	
<i>Myrica carolinensis</i> spp.	10.725	4.478	1.621	12.335	70.474	0.000	0.000	258.676	0.000	0.000	0.000	368.614
<i>Nyssa obovata</i>	4.035	6.219	3.451	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.705
<i>Nyssa obovata</i>	2.969	0.000	3.655	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.624
<i>Mallosa simplicifolia</i>	2.799	2.088	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.887
<i>Mallosa</i> species	6.437	7.593	7.851	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.631
<i>Menyanthes</i> spp.	0.098	0.000	1.940	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.038
<i>Mesquyllum edule</i>	0.743	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.743
<i>Mesquyllum edule</i>	39.065	21.477	13.342	34.685	53.406	47.720	41.166	29.563	0.000	73.040	151.630	504.294
<i>Mesquyllum edule</i>	19.678	11.095	34.927	19.084	22.832	0.000	10.750	15.423	0.000	0.000	59.101	174.143
<i>Nichelia</i> species	13.678	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.678	13.678
<i>Pinus laevigata</i>	11.377	6.568	4.004	10.611	0.000	37.464	0.000	0.000	0.000	0.000	150.556	300.527
<i>Pinus roxburghii</i>	5.874	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.874
<i>Pteroparium</i>	17.550	61.981	19.192	59.583	0.000	13.621	0.000	117.126	25.476	32.300	430.526	777.955
<i>Pteroparium</i>	6.294	7.861	17.762	15.815	26.070	77.611	16.454	19.974	28.477	32.300	210.040	456.362
<i>Pteroparium</i>	3.229	5.016	9.237	16.943	7.798	0.000	0.000	0.000	0.000	0.000	0.000	41.224
<i>Pteroparium</i>	58.019	98.625	27.879	6.508	12.305	17.796	0.000	14.204	37.139	0.000	57.000	161.262
<i>Quercus</i> species	4.044	0.000	1.496	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	43.540
<i>Quercus</i> species	22.198	12.216	9.550	7.179	5.461	0.000	11.742	0.000	0.000	0.000	0.000	66.287
<i>Salix mollis</i>	6.458	15.942	20.482	66.863	8.746	72.709	18.218	149.773	64.446	81.865	211.792	721.459
<i>Sterculia villosa</i>	4.569	0.000	0.000	20.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	104.544
<i>Sterculia</i> species	5.321	18.948	68.975	46.462	40.946	11.333	73.112	90.435	139.083	31.701	165.892	669.208
<i>Sterculia</i> species	0.000	0.000	0.000	3.985	60.531	0.000	0.000	0.000	0.000	0.000	0.000	64.516
<i>Syzygium cumini</i>	7.869	11.038	8.903	9.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.696
<i>Syzygium</i> species	8.416	2.970	0.000	0.000	5.461	0.000	0.000	15.725	0.000	22.531	0.000	55.123
<i>Taoum hooftoria</i>	1.355	3.552	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.907
<i>Taoum hooftoria</i>	0.638	9.436	0.000	25.897	10.399	0.000	22.010	0.000	0.000	0.000	37.837	43.452
<i>Terminalia bitoria</i>	0.265	0.000	2.001	25.520	0.000	10.334	0.000	0.000	0.000	0.000	0.000	138.120
<i>Terminalia chebula</i>	7.566	21.656	27.618	25.216	59.249	37.224	12.913	0.000	37.067	74.989	79.034	352.539
<i>Terminalia citrina</i>	6.950	9.315	84.281	89.637	136.692	72.851	22.132	33.429	98.376	71.413	968.326	1689.300
<i>Terminalia nudiflora</i>	1451.840	904.613	934.806	614.749	450.796	302.660	438.749	472.726	284.254	70.950	2000.676	6789.958
<i>Terminalia nudiflora</i>	2443.881	2236.329	2341.851	2198.032	1879.820	1214.980	1612.650	1331.931	901.312	6278.655	24307.560	
All species total												



Table No. 7.5.T  
 LEHIT DISTRICT  
 MEAN NUMBER OF BROOD CULMS/CLUMP BY SOUNDNESS, AGE, AND CULM SIZE CLASSWISE

Quality	Size class	Green Sound Culms						Total		
		Current year	1 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm		8+ cm	
1	1	0.68697	0.51515	0.20202	0.11131	0.46697	0.36264	0.47475	3.09081	
	2	1.84585	0.87292	0.76042	0.60417	1.12500	1.87292	1.36683	7.07000	
	3	0.35632	0.61053	0.99694	3.07695	0.46842	4.81503	10.40474	36.12633	
Green Damaged Culms										
Quality	Size class	Dry to top seasons						Total		
		Current year	2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm		8+ cm	
1	1	0.07071	0.12424	0.18182	0.01010	0.34343	0.30304	0.21212	1.62626	
	2	0.26042	0.34375	0.51042	0.17708	0.34375	0.83333	0.70825	3.17708	
	3	0.64211	0.61053	1.01053	0.68474	1.00000	3.16842	4.28421	11.41084	
Dry damaged culms										
Quality	Size class	Dry sound						Total	Decayed culms	Grand total
		2 < 5 cm	5 < 8 cm	8+ cm	Total	2 < 5 cm	5 < 8 cm			
1	1	0.06061	0.04064	0.0202	0.12121	0.18182	0.24242	0.65636	0.33333	5.79797
	2	0.11458	0.09375	0.07292	0.28125	0.34375	0.6075	1.73958	1.23958	14.11458
	3	0.01053	0.2	0.4	0.61053	0.44211	2.04211	3.8	6.26422	52.6632

Table No. 7.6 T  
Lohit District

MEAN NUMBER OF BRIBBID CULMS/HR. BY SOUNDNESS, AGE, AND CULM SIZE CLASSWISE

RF

Quality	Size class	Green Sound Culms						Total	
		One to two seasons			Over two seasons				
		2 < 5 cm	5< 8 cm	8+ cm	2 < 5 cm	5< 8 cm	8+cm		
1	1	22.622	16.868	6.615	4.3	22.822	11.907	15.546	100.86
	2	42.061	14.642	19.435	15.44	26.751	40.196	35.672	196.197
	3	254.704	24.581	116.240	160.197	38.980	193.677	422.529	1212.918

Quality	Size class	Green Damaged Culms						Total	
		One to two seasons			Over two seasons				
		2 < 5 cm	5< 8 cm	8+ cm	2 < 5 cm	5< 8 cm	8+cm		
1	1	2.316	13.692	5.954	0.331	11.246	12.569	6.946	53.235
	2	6.655	8.785	13.044	4.525	8.785	21.297	18.102	81.193
	3	25.652	24.691	40.685	27.971	40.261	127.564	172.467	459.401

Quality	Size class	Dry sound						Total	Decayed culms	Grand total	
		One to two seasons			Over two seasons						
		2 < 5 cm	5< 8 cm	8+cm	2 < 5 cm	5< 8 cm	8+cm				
1	1	1.985	1.325	0.661	3.969	6.946	5.994	7.938	20.858	10.915	189.655
	2	2.928	2.596	1.864	7.188	6.785	18.102	17.670	44.457	31.679	360.714
	3	0.424	6.052	16.104	24.580	17.800	82.217	152.992	253.009	170.368	2130.276

Table No. 7.7 T  
 Lehi district  
 MEAN NUMBER OF BIRBOD CULMS/HA BY SOUNDNESS, AGE, AND CULM SIZE CLASSWISE USE

Quality Size class	Green, Sound Culms										
	One to two seasons					Over two seasons					
	2 < 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	Total	
1	Current year	15,433	11,407	4,473	2,500	15,433	8,062	10,512	68,218		
		26,214	9,822	13,036	10,357	19,286	26,565	23,929	131,609		
		266,610	25,730	123,767	167,695	40,812	202,730	442,260	1269,614		
2	Current year	1,566	9,394	4,026	0,224	7,605	8,499	4,697	36,011		
		4,464	5,893	8,750	3,036	5,893	14,286	12,142	54,465		
		27,060	25,730	42,687	29,278	42,143	133,527	180,549	480,874		
3	Current year										
Dry sound	Green, Deseq'd Culms										
	One to two seasons					Over two seasons					
	2 < 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	Total	
1	Current year	1,342	0,895	0,447	2,684	4,697	4,026	5,368	14,091	7,381	128,385
		1,964	1,607	1,250	4,821	5,893	12,143	11,786	29,822	21,250	241,967
		8,429	16,857	25,730	18,632	86,061	160,143	264,836	178,331	2219,395	
2	Current year										
3	Current year										
Dry deseq'd culms	Dry deseq'd culms										
	One to two seasons					Over two seasons					
	2 < 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	2 > 5 cm	5-8 cm	8+ cm	Total	
1	Current year										
2	Current year										
3	Current year										

Table No. 7-BT  
 Lomit District  
 DISTRIBUTION OF BARBED CULMS (000) BY SOUNDNESS, RISE AND CULM SIZE CLASSWISE RF

Quality	Size class	Green Sound Culms				Over two seasons				Total
		2 < 5 cm	5-8 cm	8- cm	2 < 5 cm	5-8 cm	8+cm	Total		
	Current year	2 < 5 cm	5-8 cm	8- cm	2 < 5 cm	5-8 cm	8+cm			
1	1	1117.379	825.886	323.877	210.516	1117.379	562.966	761.117	4939.14	
2	2	2059.248	716.850	961.454	755.951	1407.624	1968.072	1746.433	6605.742	
3	3	12470.306	1203.464	5799.035	7843.221	1908.929	9482.413	20697.066	59384.375	
Green Damaged Culms										
	Current year	2 < 5 cm	5-8 cm	8+ cm	2 < 5 cm	5-8 cm	8+cm			
1	1	113.362	680.140	281.495	16.192	950.585	615.370	340.070	2607.212	
2	2	325.843	430.107	638.649	221.867	430.107	1042.681	886.278	3575.232	
3	3	1265.713	1203.464	1991.935	1269.457	1971.178	6245.522	8444.943	22492.212	
Dry sound										
	Current year	2 < 5 cm	5-8 cm	8+cm	2 < 5 cm	5-8 cm	8+cm			
1	1	97.170	64.769	32.385	194.324	340.070	291.495	388.647	1020.210	
2	2	143.365	117.302	91.239	381.906	430.107	886.278	860.215	2176.600	
3	3	20.757	394.236	788.471	1203.464	871.478	4025.363	7490.479	12397.320	
Dry damaged culms										
	Current year	2 < 5 cm	5-8 cm	8+cm	2 < 5 cm	5-8 cm	8+cm			
1	1	97.170	64.769	32.385	194.324	340.070	291.495	388.647	1020.210	
2	2	143.365	117.302	91.239	381.906	430.107	886.278	860.215	2176.600	
3	3	20.757	394.236	788.471	1203.464	871.478	4025.363	7490.479	12397.320	
									Total	Grand total
									1020.210	534.393
									2176.600	1590.989
									12397.320	8341.200
									103808.271	

Table No. 7.9T  
Lohit district

DISTRIBUTION OF TOTRL NUMBER OF CULMS (000) BY SOUNDNESS, AGE AND CULM SIZE CLASSINIZE USF

Quality Class	Size Class	Dry to two seasons					Green Sound Cules					Total	
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm			
1	1	348.076	257.275	100.891	65.578	348.076	161.607	237.096	1536.597				
	2	636.349	221.516	294.011	233.598	434.574	608.159	535.688	2966.294				
	3	6015.124	580.305	2791.446	3781.965	920.477	4572.376	998.179	26034.672				
		Current Year											
Quality Class	Size Class	One to two seasons					Green Damaged Cules					Total	
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm			
1	1	35.314	211.871	90.803	5.044	171.513	191.695	105.936	612.176				
	2	100.690	132.909	197.350	68.467	132.909	322.201	273.871	1228.397				
	3	610.321	580.305	560.502	660.346	950.493	3011.562	4072.112	10845.641				
		Current Year											
Quality Class	Size Class	Dry damaged culms					Total	Decayed culms	Grand total				
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm				8+ cm			
1	1	30.270	20.176	10.088	60.534	105.956	90.803	121.068	317.807	166.469	2895.883		
	2	44.502	36.248	28.194	108.741	132.909	273.871	265.817	672.597	479.275	8457.307		
	3	10.009	190.099	380.197	580.305	120.225	1941.012	3611.674	5973.109	4022.088	50056.015		

Table No. 7-107  
Lahit District

DISTRIBUTION OF TOTAL GREEN BAMBOO STOCK (000) TONNES BY DUALITY, SOUNDNESS AND SIZE PF

Quality Size class	Green Sound Culms									
	Current year	One to two seasons			Over two seasons			Total		
		2 < 5 cm	5< 8 cm	8+ cm	2 < 5 cm	5< 8 cm	8+cm			
1	6,704	4,985	5,182	5,894	6,704	9,320	21,311	60,078		
2	12,356	4,301	15,223	21,167	6,446	31,489	48,902	141,684		
3	74,622	7,221	92,628	219,810	11,454	151,719	579,236	1,136,687		
-----										
Quality Size class	Green Damaged Culms									
	Current year	One to two seasons			Over two seasons			Total		
		2 < 5 cm	5< 8 cm	8+ cm	2 < 5 cm	5< 8 cm	8+cm			
1	0.34	2.04	2.322	0.227	1.652	4.923	4.761	16,275		
2	0.978	1.29	5.105	3.102	1.296	6.341	12.408	32,818		
3	3.797	3.61	15.935	19.172	5.914	45.964	118.229	216,621		
-----										
Quality Size class	Dry sound culms									
	Current year	One to two seasons			Over two seasons			Total		
		2 < 5 cm	5< 8 cm	8+ cm	2 < 5 cm	5< 8 cm	8+cm			
1	1,166	2,073	1,814	5,053	2,04	4,664	10,602	17,586	98,992	
2	1,720	3,754	5,109	10,583	2,581	14,180	24,086	40,847	225,832	
3	0,249	12,616	44,154	57,019	5,229	64,406	209,733	279,368	1,689,695	

Table No. 7.111  
Lalit district

DISTRIBUTION OF GREEN BAMBOO STOCK (000) TONNES BY QUALITY, SOUNDNESS AND SIZE

USF

Quality class	Size class	Green Sound Culm						Total		
		Due to two seasons			Over two seasons					
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm			
Current year										
1	1	2.088	1.544	1.614	1.856	2.088	2.906	6.630	16.715	
2	2	3.819	1.526	4.704	6.541	2.610	5.751	15.111	43.844	
3	3	36.079	3.482	44.662	105.895	5.825	73.158	279.305	546.105	
Green Damaged Culm										
Quality class	Size class	Due to two seasons						Total		
		2 < 5 cm			5 < 8 cm					
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm			
Current year										
1	1	0.106	0.636	0.726	0.071	0.515	1.534	1.483	5.071	
2	2	0.302	0.399	1.579	0.959	0.369	2.576	3.834	10.45	
3	3	1.831	1.741	7.684	9.245	2.851	34.092	57.010	104.454	
Dry sound										
Quality class	Size class	Dry damaged class						Total		
		2 < 5 cm			5 < 8 cm					
		2 < 5 cm	5 < 8 cm	8+ cm	2 < 5 cm	5 < 8 cm	8+ cm			
Current year										
1	1	0.563	0.646	0.565	1.574	0.636	1.453	3.390	5.479	30.839
2	2	0.832	1.160	1.579	3.271	0.797	4.392	7.443	12.622	69.787
3	3	0.120	6.003	21.291	27.494	2.521	31.056	101.132	134.709	814.762

ANNEXURE I

GLOSSARY OF SCIENTIFIC NAMES OF COMMON TREES, BAMBOOS AND CANES  
OCCURRING IN THE FORESTS OF LOHIT DISTRICT

Botanical Name	Local Name	Family
COMMON TREES		
<i>Adina cordifolia</i>	Haldu	Rubiaceae
<i>Adina oligocephala</i>	Halud-sopa	-do-
<i>Ailanthus grandis</i>	Borpat	Simaroubaceae
<i>Albizia lucida</i>	Moj, Michha gach	Mimosaceae
<i>Albizia procera</i>	Korai	-do-
<i>Albizia species</i>		-do-
<i>Alstonia scholaris</i>	Chhaiten, Satiana	Apocynaceae
<i>Altingia excelsa</i>	Jutuli	Hamamelidaceae
<i>Amoora wallichii</i>	Amari	Meliaceae
<i>Anthocephalus cadamba</i>	Kadam, Roghu	Rubiaceae
<i>Artocarpus chaplasha</i>	Sam	Moraceae
<i>Artocarpus lakoocha</i>	Dewa-sali	Moraceae
<i>Bischofia javanica</i>	Urium	Euphorbiaceae
<i>Bombax ceiba</i>	Simul, Himolu	Malvaceae
<i>Callicarpa arborea</i>	Bon mala	Verbenaceae
<i>Callicarpa species</i>		-do-
<i>Canarium bengalense</i>	Dhuna	Burseraceae
<i>Canarium resiniferum</i>	Gokul, Dhup, Dhuna	-do-
<i>Castanopsis hystrix</i>	Hingori	Fagaceae
<i>Castanopsis indica</i>	Hingori	-do-
<i>Castanopsis species</i>	Hingori	-do-

<i>Cedrela toona</i>	Jatipoma	Meliaceae
<i>Chukrasia tabularia</i>	Regi-pama	-do-
<i>Cinnamomum cecidodaphne</i>	Gonsoroi	Lauraceae
<i>Cinnamomum tamala</i>	Tajpat	-do-
<i>Cinnamomum wightii</i>		-do-
<i>Dalbergia sissoo</i>	Shisham	Fabaceae
<i>Dalbergia species</i>		-do-
<i>Dillenia indica</i>	Ou-tenga	Dilleniaceae
<i>Dillenia pentagyna</i>	Banjiou	-do-
<i>Dipterocarpus macrocarpus</i>	Hollong	Dipterocarpaceae
<i>Dipterocarpus species</i>	"	-do-
<i>Duabanga grandiflora</i>	Khukan	Lythraceae
<i>Dysoxylum binectariferum</i>	Banderdima	Meliaceae
<i>Endospermum chinense</i>	Phulgamari	Euphorbiaceae
<i>Gmelina arborea</i>	Gomari	Verbenaceae
<i>Kayea assamica</i>	Sia-nahar	Clusiaceae
<i>Kydia calycina</i>	Pichholala	Malvaceae
<i>Lagerstroemia parviflora</i>	Ajaar, Jarul	Lythraceae
<i>Lagerstroemia speciosa</i>	Jarul, Ajaar	-do-
<i>Mansonia dipke</i>	Mansonia	
<i>Melia azadirachta</i>	Ghora-nimo	Meliaceae
<i>Meliosma simplicifolia</i>	Gurbanasing	Sabiaceae
<i>Meliosma species</i>	-	-do-
<i>Memecylon angustifolium</i>	Mathu	Melastomaceae
<i>Memecylon edule</i>	Lali-dima-bophang	Melastomataceae
<i>Mesua ferrea</i>	Nahar	Clusiaceae

<i>Michelia champaca</i>	Titasopa	Magnoliaceae
<i>Michelia species</i>		-do-
<i>Morus laevigata</i>	Bola	Moraceae
<i>Pinus roxburghii</i>	Chir,Chil	Coniferae
<i>Pterospermum acerifolium</i>	Hatipolia	Sterculiaceae
<i>Pterospermum canescens</i>	Hatipolia	-do-
<i>Pterospermum lanceaefolium</i>	Ban-baguri	Sterculiaceae
<i>Pterospermum species</i>		-do-
<i>Quercus species</i>	Oak	Cupuliferae
<i>Saurinia napaulensis</i>	Gogun	Theaceae
<i>Schima wallichii</i>	Noga-bhe	-do-
<i>Shorea assamica</i>	Mekai	Dipterocarpaceae
<i>Sterculia villosa</i>	Udal	Sterculiaceae
<i>Sterculia species</i>		-do-
<i>Stereospermum personatum</i>	Faroli	Bignoniaceae
<i>Stereospermum suaveolens</i>	Padar	-do-
<i>Syzygium cumini</i>	Jamun	Myrtaceae
<i>Syzygium species</i>		-do-
<i>Talauma hodgsonii</i>		Magnoliaceae
<i>Talauma phellocarpa</i>	Titasopa	-do-
<i>Terminalia bellirica</i>	Bohera	Combretaceae
<i>Terminalia chebula</i>	Hilika	-do-
<i>Terminalia citrina</i>	Hilika	-do-
<i>Terminalia myriocarpa</i>	Hollock	-do-
<i>Tetrameles nudiflora</i>	Bhelu	Datisceae

## COMMON BAMBOOS

<i>Dendrocalamus hamiltonii</i>	Kako	Poaceae (Bambusae)
<i>Pseudostachyum polymorphum</i>	Bajal	-do-
<i>Bamboosa pallida</i>	Bijuli	-do-
<i>Bamboosa tulda</i>	Jati	-do-
<i>Teinostachyum dullos</i>	Dulu	-do-

## COMMON CANES

<i>Calamus flagellum</i>	Raideng	Araceae
<i>Calamus floribundus</i>	Leziabet	-do-
<i>Calamus tenuis</i>	Jatibet	-do-
<i>Calamus erectus</i>	Jeng	-do-

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ANNEXURE - II

B I B L I O G R A P H Y

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2. Statistical Handbooks of Lohit District for 1984-85, 1988 and 1991 published by Dy. Commissioner's Office, Lohit District, Tezu.
3. Forest Statistics of Arunachal Pradesh - 1985
4. Working Plan for A.N.R. Forest Division, Namsai (1982-83 to 1991-92)
5. Report on Forest Resources of Lohit and Tirap (Arunachal Pradesh) prepared by Forest Survey of India 1981
6. Botanical and Vernacular Names of Important and Common Forest Plants of Arunachal Pradesh - K.Haridasan, Systemetic Botanist

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ANNEXURE III

LIST OF OFFICERS AND STAFF ASSOCIATED WITH SURVEY WORK  
IN LOHIT DISTRICT OF ARUNACHAL PRADESH

1. S/shri V.B. Joshi, IFS,  
Joint Director
  
- 2 R.M. Das, IFS,  
Joint Director
  
3. M.D. Singh, STA
4. B.R.Pandey, STA
5. M.K.Madaria, JTA
6. P.R.Singh, JTA
7. R.P.Sao, JTA
8. R.K.Mahobe, JTA
9. P.R.Rawani, JTA
10. S.K.Bajpai, JTA
11. S.K.Roy, JTA
12. J.S.Kumbhkar, JTA
13. S.K.Bhattacharya, JTA
14. C.B.Murty, Jr. D/Man
15. D.S.Gulkari, Jr. D/Man
16. N.P.Singh, Dy. Ranger
17. M.H.Kanoje, Dy. Ranger
18. S.S.Baghel, Dy. Ranger
19. G.G.Pathak, Dy. Ranger
20. R.C.Vermna, Dy. Ranger
21. N.C.Dewangan, Dy. Ranger
22. A.K.Bose, Dy. Ranger
23. B.N.Roy, Dy. Ranger
24. B.K.Roy, Dy. Ranger
25. Jagdeo Prasad, Dy. Ranger

- 26 C.S.Rawat,Fieldman  
27. Bhagbali Dawana,Fieldman  
28. Fagoo Ram, Fieldman  
29. M.K.Singh, Fieldman  
30. Sarwan Das, Fieldman  
31. B.P.Sharma,Fieldman  
32. D.G.K.Pillai,Fieldman  
33. L.N.Kuril,Fieldman  
34. Banci Ram,Fieldman  
35. R.P.Thapliyal,Fieldman  
36. P.A.Swamy,Fieldman  
37. Dwarika Prasad,Fieldman  
38. Chandan Singh,Fieldman  
39. B.K.Maharana,Fieldman  
40. Dharam Singh,Fieldman  
41. Chandrika Prasad,Fieldman  
42. R.R.Singh,Fieldman  
43. V.S.Bist,Fieldman  
44. Ramadhin Yadav,Fieldman  
45. Bharat Singh,Fieldman  
46. Dharam Deo, Driver  
47. R.S.Pandey,Driver  
48. R.A.Dongre,Driver  
49. R.S. Ukey,Driver  
50. V.J.Gondane.Driver

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