Government of India
Ministry of Food, Agriculture, Community
Development and Co-operation
(Department of Agriculture)

PREINVESTMENT SURVEY OF FOREST RESOURCES

INVENTORY RESULTS
MAHABOOB NAGAR FOREST DIVISION
ANDHRA PRADESH

GOVERNMENT OF INDIA
MINISTRY OF FOOD, AGRICULTURE, COMMUNITY
DEVELOPMENT AND CO-OPERATION
(DEPARTMENT OF AGRICULTURE)

PRE-INVESTMENT SURVEY OF FOREST RESOURCES

INVENTORY RESULTS
MAHABOOB NAGAR FOREST DIVISION
ANDHRA PRADESH

Compiled by:

DATA PROCESSING UNIT

FOREWORD

The present compilation is a result of active cooperation between the Andhra Pradesh Forest Department and the Preinvestment Survey of Forest Resources It started in 1968 with a request from the Chief Conservator of Forests, Andhra Pradesh to assist him in designing suitable sampling method for the State Forest Resources Survey to be undertaken as a Centrally sponsored scheme. The Preinvestment Survey of Forest Resources provided the sampling design, drew up field forms and preliminary field manual, trained the field staff in sampling techniques, processed and compiled the data The Andhra Pradesh Forest Deptt acting through the Working Plan Officer, Mahboob Nagar drew up detailed field instructions, carried out actual field work and supplied the field data to the Preinvestment Survey of Forest Resources

Being the first venture of its type, there were many difficulties to begin with It took sometime for the officers of the Preinvestment Survey of Forest Resources to understand the problems and requirements of the State Resources Survey Scheme and for the State Forest Officers and field staff the principles and techniques being adopted by the Preinvestment Survey of Forest Resources Through correspondence and mutual discussions, most of the difficulties were solved and a final procedure to conduct the work was developed The main coordinating link was Shri K Rajsekher Reddy, Working Plan Officer, Mahaboob Nagar, who had to undertake frequent visits to the Preinvestment Survey of Forest Resources in this context

The work of the State Resources Survey Scheme had a twin objective: firstly to collect sufficient information for compiling the Working Plan and secondly to collect a more comprehensive resource data for planning forestry and forest industries development for the division The present compilation only presents the basic resources data to be used for planning future forestry and forest industries programmes for the area It is hoped that the basic information, as presented, will serve the purpose for which it is designed

New Delhi

S N MAHALAHA
CHIEF COORDINATOR

Evaluation of Wood and Bamboo Resources of Mahaboob Nagar Forest Division

Preface

The Resources Survey in Mahaboob Nagar Forest Division was carried out by the State Forest Department of Andhra Pradesh. The Project "Preinvestment Survey of Forest Resources" collaborated in making the design of sample survey and processing of data. The enclosed note gives a brief summary of the design of survey and presents summary of the data in tabular form for the use of State Department.

DATA PROCESSING REPORT

MAHABOOB NAGAR FOREST DIVISION

ANDHRA PRADESH

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DATA PROCESSING REPORT
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LIST OF ERRATA

Page	Line	Printed	Corrected
VII	Last	———	———
VIII	10	UNDER BARK | CULL: 1 2 3 | 1 2 3	UNDER BARK | CULL: 1 2 3 | 1 2 3
XII	12	Vegitation	Vegetation
XVI	13	y	by
XVII	10	ENOCSURE	ENCLOSURE
XIX	Table No.10	Culms	Clumps
8	Last	Total	All
13	7	2,384	12,384
13	19	one third	middle one third
16	5	STON ABSENT	STONES ABSENT
19	10	H	Ha.
19	21	.3	18.3
21	2	SO L CONSTENCY	SOIL CONSISTENCY
23	Last	Tall	All
34	19	sine class	Size class
49	7	090	890
56	12	Sato	Satin
58	last	24	23
61	7	093	0.93
61	16	Boallia	Boswellia
76	23	Misprint	Average
78	8	0.3	10.3
	(FLOSSARY OF TERMS)		
1	34	Not clear	Shifting Cultivation

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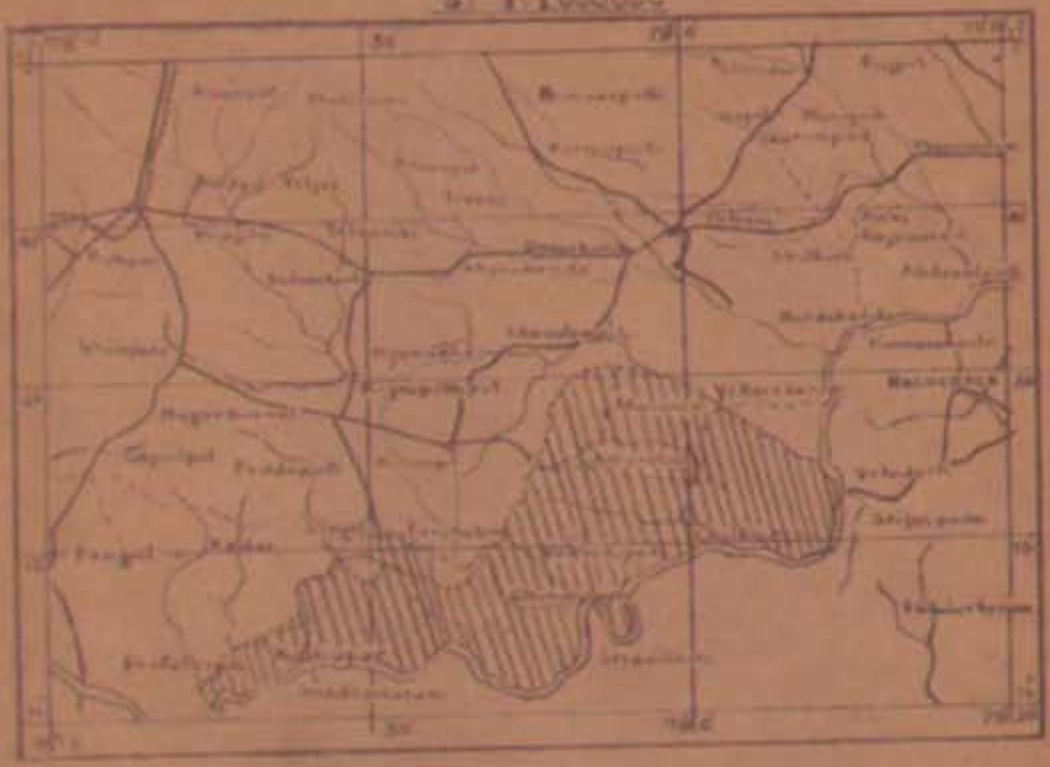
Sc 1:250000



INDEX

(1) RAILWAYS
(2) ROADS: PUCKA
(3) " KUTCHA
(4) RIVERS
(5) DIVISIONAL BOUNDARY

Introduction:

Chief object of survey in the Mahaboob Nagar Forest Division was to collect, analyse and present adequate information on sampling basis about the wood and bamboo resources of the division for making sound management.

The information sought are given in Enclosure-A.

Sources of information:

(i) Existing records of the State Forest Department.

(ii) Permanent sample plot data of Forest Research Institute.

(iii) Sample survey for collecting new information.

This note will mainly discuss the sample survey (category (iii))

Design of sample survey:

For collecting basic set of information net work of samples was systematically distributed over the whole area of the division at intersection of 1½' latitude and 1½' longitude grids about 2.25 Km. apart. Each sample consists of a cluster of two plots each 0.1 ha. in size, and square in shape, 400 metres apart on east and west of the centre.

On each sample plot four sets of field forms are filled in:

(i) Plot Description Form
(ii) Plot Enumeration Form
(iii) Bamboo Enumeration (clump and culm form)
(iv) Sample tree form.

Specimen of forms is given in Enclosure-II.

Detailed instructions for laying out the sample plot and collecting the information are given in the field manual prepared by the State Forest Department.

Volumes, cull and bamboo weight data has also been collected on a double sampling principles.

To assess the growth of Teak stem analysis was done for 50 trees.

Further basic cost data has also been collected for each sample plot.

System Analysis:

The system:

Since the processing of the data were done on IBM 1620 Electronic Computer, the whole system had to be punch card oriented to enable the computer to receive the data.

Punch Card:

The 'Punch Card' is a device which holds the information in the shape of small holes, spread all over its body. The length of the card is $7\frac{3}{8}$ inch and breadth is $3\frac{1}{4}$ inch. It has eighty vertical columns each of which can hold a number, an alphabet or some other specified character. Thus it can have 80 characters represented on its body by means of holes. Generally these are information codes. It is, therefore, obligatory that schedules for collecting the information from the field should have one to one correspondence with the punch card (Enclosure-II).

Plot Description Form:

The first schedule is the plot description form (Enclosure-II). If an item may be considered as the unit of information this form contains 42 items starting with job number, card design and ending with inventory design. Below each item digits are printed indicating the

card columns to which the information shall be transferred. Where the information needs more than one column a dash between the first and last column indicates the continuity of the columns.

All the schedules (forms) have been designed to contain 3 kinds of informations:

1. Identification of Survey
2. Identification of sample
3. Information.

Job number, Report number, sub-report number, crew leader and inventory design belong to the type 1.

Plot, grid, map sheet and card design belong to the type 2.

All the items from 'land class' to fire incidence from the type 3.

Each item of the information (type 3) describes the plot and helps to build up a comprehensive picture of the whole survey.

Plot Enumeration Form:

Another form, though similarly designed, yet contains completely different information. Each line of the form can have 9 tree species codes, their diameters and the total number of trees in the plot. Unlike the previous case a plot may have more than one 'form' depending on the number of trees. If 'n' is the total number of trees in the plot the number of cards shall be $\frac{n}{9}$ plus one card for the positive remainder. Each coded row in the form requires a card for transferring the information.

Bamboo Enumeration Form:

This is similar to enumeration form described before and instead of tree it is enumerating bamboo. However, it contains 4 items of plot description form - occurrence, species, quality and regeneration.

Four items, flowering and 3 items of clump enumeration size class, relate to the whole plot, but the details of each clump from item clump size to hollowness (columns 25-26 to columns 50) describe north west quadrant of the plot only. One card for each clump (Enclosure II).

Sample Tree Form:

All trees of North West quadrant and trees having diameter more than 40 centimetres throughout the plot have been recorded here. Unlike enumeration form which contain only the tree diameter this contains many other characters. A card can hold two trees only (Enclosure-II).

Form Factor Data:

As indicated earlier the tree enumeration card contains only the diameter of the tree (at breast height). Sample tree form gives some more details of the trees in a restricted area. This form gives much more details of individual tree, so much so that the 'identification' type 2 which was sufficient so far, is no longer capable of serving the purpose.

A tree may contain more than hundred cards since each 1 metre section of the tree is described by one line of the form which shall be transferred into one card.

Each one metre section of the tree has to be identified, therefore, the identification items shall include:

Species
Tree number
Tree portion
Tree section

Besides plot, grid and map sheet which were sufficient to locate the sample point so far (Enclosure II).

Treatment of Data: (Listing)

All data received from the field is registered. Each form is checked and a part of the form giving particulars of the survey is completed.

The contents of the form are then translated into punch card by means of punching machine and verified by the verifier. If the forms contained the PRIMARY data, the cards now contain the BASIC data. The cards are then sorted in the ascending orders of plot, grid and map sheet for card designs 1 to 4 and plot, grid, map sheet and species for card design 6.

Contents of the cards are printed (LISTED) by accounting machine. The output (LISTING) is compared with the forms (PRIMARY DATA) to assure that the data have been correctly translated into punched holes. Mistakes if any are corrected immediately.

Consistency Checking:

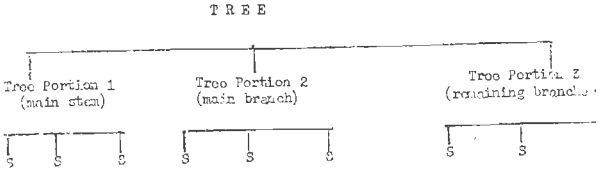
Data may contain mistakes which cannot be corrected by the methods mentioned above. These methods contain (1) the violation of code limits and (2) inconsistent data. Those mistakes are corrected through the consistency checking programmes on Electronic Computer where each item is checked for its upper and lower limits and the logical mistakes in association with other items. The wrong cards are replaced by the correct cards.

Form Factor:

Tree Volume:

Tree Portion and Section

The data for the form factor tree were obtained from all over the surveyed area. Each tree was measured as given in the form (Enclosure-II). For the purpose of volume a tree has been restricted to 3 tree portions. Each tree portion has almost two section for each metre length of the tree portion, since each section is generally 1 metre long except where the section is the end section or at a distance of 1 metre the tree portion is not normal (knotty, branching, deformed etc.)



S - Section

Types of Volume:

For volume calculations section has been considered as unit. The average basal area of the two end diameters of the section is calculated and then multiplied with the length of the section. Adding up all sectional volumes of a tree portion, both under bark and over bark yield the volume of the tree portion.

Cull volume for each tree portion, irrespective of sections, have been calculated separately. In all 9 types of volumes were calculated as given below:

OVER BARK			UNDER BARK		CULL			
Tree Portion-1	Tree Portion-2	Tree Portion-3	Tree Portion-1	Tree Portion-2	Tree Part-1	Tree Part-2	Tree Part-3	Tree Part-4

The volume of the tree calculated as mentioned above was loaded in the 'Disk' together with other relevant informations regarding the form factor data.

Tree species:

The table gives the tree species and the number of trees against each species. Species having lessthan 17 trees have been ignored.

Species code 1.	Species name 2.	No. of trees 3.
1	Tectona grandis	31
3	Terminalia tomentosa	97
4	Pterocarpus marsupium	53
9	Anogeissus latifolia	72
11	Chloroxylon swietenia	83
12	Lagerstroemia parviflora	24
15	Hardwickia binnata	56
19	Boswellia serrata	24
20	Lannea grandis	43
36	Albizzia lebbek	20
[illegible]	Cochlospermum spp.	44
78	Wrightia tinctoria	17
7[illegible]	Zizyphus jujulia	17

Relationship between volume, diameter and height:

The volume thus calculated has been used to develop a mathematical relationship between volume, diameter and height keeping volume a dependent variable.

The technique used to develop the relationship is shown as regression technique and since more than 2 variables are involved it is known as multiple regression. With the help of regression technique suitable equations which enable to predict volume with the help of height and diameter only, were evolved. These equations were used to predict the volume of sample tree data C.B.04 (Enclosure-C).

Grouping of Species:

Since all species do not have adequate number of trees, it was necessary to group the tree species having similar tapering in one group and then treating them as a single species. This grouping besides helping in bettering the precision reduces the number of equations to be handled.

Criterion for Grouping:

If x-axis of the graph represents d^2xh (d-diameter, h-height) and y-axis represents volume; all the trees of a species were plotted on the graph and the trend of the points thus obtained was studied. Suitable straight lines (best fitting) were formed. Species having similar straight lines both with respect to slope and cut at Y axis at zero 'x' were grouped together as follows:

Group No.	Species codes
1	9, 20, 47
2	11, 12, 36
4	4, 18, 78
5	3, 79
6	1, 15
7	36, 47, 78, 79

Regression equations in diameter and height:

Ten equations were developed with the help of the computer to calculate volume of the form factor trees. These equations contain the diameter and height and their algebraic combinations on the right hand side (Enclosure-C).

Regression equations in diameter only:

Equations obtained from the form factor data were used to calculate the volume of the sample tree data since the sample tree data contain both diameter and height measurements.

Again suitable groups of species were formed with the help of the following criteria for each sample tree species:

1. Variance of height
2. Variance of diameter
3. Correlation between height and diameter
4. Regression of the diameter on height
5. Regression of height on diameter.
6. Mean diameter
7. Mean height.

Mean $d^2 \times h$, d-diameter; h - height.

The grouped species were used to develop the relationship between volume and diameter for each group. Many equations were tried and suitable equations selected primarily on the basis of very high values of multiple regression coefficient (Enclosure-C). Those equations were used to evaluate the volume of the enumerated trees.

Plot volume, tree volume, stock and stem distributions:

With the help of the volume equations, volume of each tree was computed and tree volume cards were punched containing volume of at most six trees in each card. Plot volume cards were similarly punched by the computer giving volume by diameter classes for each plot.

For preparation of stock and stem distributions two modifications were used:

1. Forest types were reduced to 3, they are:

   i. Teak and mixed teak
   ii. Yeppa
   iii. All other.

2. Another modification was in respect of species. All species having number of stems less than 100 were omitted for the individual representation in the stem tables and were combined together and recorded as 'rest' species.

PROCEDURE ADOPTED FOR PROCESSING THE BAMBOO DATA OF THE FIRST BAMBOO PROJECT AT RAMAGOOB NAGAR FOREST DIVISION

1st Step: Culm Data Processing.

The source document for this step is the card design 3 namely, Bamboo Enumeration Form. The cards should be checked by an edit program and the errors should be reconciled. The corrected data should be put on the disk file.

Program should be made to process the following 10 set of tables for each bamboo species separately, in the form:

Size class of the clump (Col.27)

Quality class of the plot (Col.16)	1	2	3
1.			
2.			
3.			

The different characters which have to be cumulated are:

Table No.	Character	Col.Nos.
1.	No. of current season's culm	30-31
2.	No. of two season's culms	32-33
3.	No. of three season's and more	34-35
4.	Total No. of culms	36-37
5.	No. of damaged and top broken culms.	38-39
6.	No. of dry scarred or rotten culms.	40-41
7.	No. of rest culms	42-43
8.	Total of length in metres	44-45
9.	Total of culm diameter upto 2 cms.	48-49
10.	Total No. of clumps	48-49

When the figures cumulated in the tables 1-9 given above are divided by the corresponding number of clumps (item 10) measured, we get the value on per clump basis.

Bamboo Weight Equation: We need the bamboo weight equation of the form - $W = f(d, h)S$ where W is the weight of a single culm, diameter d and h belonging to the species S, f is the bamboo weight equation connecting the variables weight with the diameter and height for the species S By dividing the cumulated figures for the diameter in table-9 and height in table-8 by the number of clumps observed in the corresponding class i e. table-10, we get the average diameter and average height of a culm for various size classes of the clump and the site quality of the plot When the above values namely, diameter and corresponding heights are substituted in the bamboo weight equation, we get the weight of a culm in the form of two way tables given above

The weight of a culm for various size classes and the site quality of the plot should be punched on the cards to serve an input for further program.

Similarly when the cumulated figures in the tables 1 to 7 are divided by the number of clump observed in each cell of the table we get the figures on per clump basis. These average figures per clump are needed an input for further programs. Therefore they should be punched on the card. The format the significant digits for the computations are given below:

The significant digit in the computations:

The weight of a culm should be computed correct to three decimal place The information about the number of culm per clump should be computed correct to two decimal places Average height and average diameter of the culm should be computed to two decimal places

2nd Step: Processing of the Bamboo Weight on the plots and the storage of data on the plot description file (file-1):

The input required for the programs are the cards punched in step-1 described earlier Bamboo enumeration file (file-3) and plot description file (file-1).

When data about the weight of a culm obtained in the step-1 will be applied to the number of culms per clump, in the classes described earlier namely, rest, damaged or top broken, dry scarred or rotten obtained in step-1 for each site and size class separately, we get the result about the weight of a clump. Instead of giving equal weight to rest culms, damaged or broken culms and dry scarred or rotten culms occurring in the clump, the following method should be used. For the rest culms, give weightage as calculated in step-1, for the damaged or top broken culms give ½ weightage as computed in step-1, for the dry scarred or rotten culms give zero weightage. The above result should be applied to the clumps enumeration cols. 19-24 of all the cards of the card deck-3 together with the quality col 16 for each plot. For a particular plot following values should be computed.

Total weight of all clumps, its break up into the following smaller classes, the weight of rest culms, damaged or top broken culms, the number of current season culms, total number of two season's culms, total number of three season's or more culms.

Storage of Bamboo Data on Plot Description File (Disk File-1)

The disk file-1 should have the following data related to Bamboo (form disk file-3), Clump enumeration by size classes (Col 19-24), Flowering (18).

In addition it should have the following figures obtained during bamboo processing:

Total weight of all culms on the plot.
The weight of rest culms on the plot.
Weight of the damaged or top broken on the plot.
No. of current season culms.
Total No. of 2 season's culms.
Total No. of 3 season's culms.

Following tables should be processed from the above data file:

Tables 1-9 (described earlier but on per clump basis).

Table 10 1 - Weight of a culm by size and site class by species.

Table 10.2 - Weight of a clump.

For bamboo occurrence and site quality:

11.1 - No of plots

11.2 - Area

11 3 - % area

11.4 - No of clumps/ha.

11.5 - Total No of clump

11.6 - Bamboo clump weight/ha.

11 7 - Total bamboo weight

11 8 - % distribution of bamboo weight

11.9 - Volume of tree species.

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ENCLOSURES

ENCLOSURE – A: Each table has the following sub tables:

.1 Number of Plots
2. Area (Ha.)
.3 Volume/ha. (Cu m.^{3})
4 Total volume (100 cu m^3)
5 Percentage (Area)
.6 Percentage (Volume)

Table No	
1	Land Class and Legal Status of Total Area.
2	Vegitation class in the forest.
3	Forest Type by Land Class
4	Forest Type by Legal Status
5.	" " Altitude
6	" " Topography
7.	" " Slope
8.	" " Position on Slope
9	" " Aspect
10	" " Stoniness
11.	" " Humus
12	" " Colour of upper horizon of soil
13.	" " Soil consistency
14.	" " Soil texture
15.	" " Soil depth
16	" " Vegetation
17	" " Origin of Stand
18	" " No. of storeys
19	" " Top height
20	" " Size class
21	" " stocking %
22	" " Regeneration
23.	" " Biotic influence
24	" " Past treatment
25	" " Proposed treatment
26	" " Grass incidence
27.	" " Fire incidence
28	Distribution of stems/ha. by species and diameter class of forest type Teak and Mixed Teak
29.	Distribution of stems/ha. by species and diameter class of forest type Yeppa
30	Distribution of stems/ha. by species and diameter class of Forest type Rest

Enclosure-A tables contd

ENCLOSURE - B:

Height-diameter distribution of Stems of Form Factor Data.

ENCLOSURE - C

ENCLOSURE - D: Volume tables by Height and diameter class for following 9 species

1. Tectona grandis
2 Hardwickia binnata
3 Cochlospermum gossypium + religiosum
4 Anogeissus latifolia
5 Albizzia procera + odoratissima + amara
6 Pterocarpus marsupium
7 Terminalia tomentosa
8 Wrightia tinctorea
9 Miscellaneous

ENCLOSURE - E

Bark Volume, Branch Volume and Cull volume Percentage by Utility class of the following species:

1 Tectona grandis
2 Terminalia tomentosa
3 Pterocarpus marsupium
4 Anogeissus latifolia
5 Chloroxylon swietenia
6 Lagerstroemia parviflora
7 Hardwickia binnata
8 Boswellia serrata
9 Lannea grandis
10 Alcizzia procera + odoratissima + amara
11. Cochlospermum gossypium + religiosum
12. Wrightia tinctorea
13 Zizyphus zylopyra

ENCLOSURE - F

BAMBOO TABLES: Quality by size class

1. Average current season culms/clump
2 " Two " "
3 " Three " "
4. " Total "
5 " Damaged "
6 " Dry rotten "
7. " Sound "
8 " Length of a culm
9. Consumable length of a culm
10 Average diameter of a culm
11 Average No of clumps

ENCLOSURE - G:

Table No.

1	Total No. of culm (scattered occurrence)
1.1	Percentage (scattered occurrence)
1.2	Total weight
2	Total No. of culms (Dense occurrence)
2.1	Percentage
2.2	Total weight
2.3	Percentage (weight)
3	Total No. of culms (pure occurrence)
3.1	Percentage
3.2	Total weight
3.3	Percentage (weight)
4	Total sound weight
4.1	Sound weight/ha.
4.2	Percentage (sound weight)
5	Total dry rotten weight
5.1	Dry rotten weight/ha.
5.2	Percentage (Dry rotten weight)
6	Total damaged weight
6.1	Damaged weight/ha.
6.2	Percentage (damaged weight)
7	Total weight current season culms
7.1	Percentage
8	Total weight two season culms
8.1	Percentage
8.	Total weight three season culms
3.1	Percentage.
10	Distribution of bamboo culms by size class and quality.
10.1	Percentage
11	Bamboo quality by occurrence
11.1	By plots
11.2	Area (ha.)
11.3	Percentage
12	Bamboo quality

ENCLOSURE - II

1. Plot discription form
2. Plot enumeration form
3. Bamboo enumeration form
4. Sample tree form

ENCLOSURE III

CLASSIFICATION OF TIMBER INTO UTILITY CLASSES AS USED IN THE TABLES

S.No	Classification	Size	
		Diameter in cms.	Length in metres
1	Poles	Below 10 cms	2 metres
2	Vassam	11 - 15 cms	2 metres
3	Bazus	16 - 20 cms.	2-3 metres
4	Dulam	21-30 cms	3 m. and above
5	Karra	31 - 40 cms	-do-
6	Palaka	Above 40 cms.	-do-

GROUPS OF FOREST TYPES AS GIVEN IN THE TABLES

Sl No	Grouped Forest type	Forest types constituting the group as mentioned in glossary of terms	Description
1	Teak and Mixed Teak	1. Teak	More than 10% of growing volume is teak
		2 Mixed Teak	Less than 10% of growing volume of teak.
2	Yeppa	1 Yeppa (Hardwickia binata)	Yeppa forming more than 30% of growing volume.
3	Rest	1. Miscellaneous	Teak absent and no single miscellaneous species forming more than 30% of growing volume
		2 Nallamaddi (Terminalia tomentosa)	Nalla Maddi forming more than 30% of growing volume.
		3 Anogeissus latifolia	Anogeissus forming more than 30% of growing volume.
		4 Anduk (Boswellia serrata)	Anduk forming more than 30% of growing stock.
		5. Satin (Chloroxylon swietenia)	Satin forming more than 30% of growing volume
		6 Others	Plantations of species other than teak and any other forest type
		7. Blank	Forest temporarily unstocked i e with density less than 20% and which will be re-forested in foreseable future Here pure Bamboo stands with tree cover less than 20% was also included.

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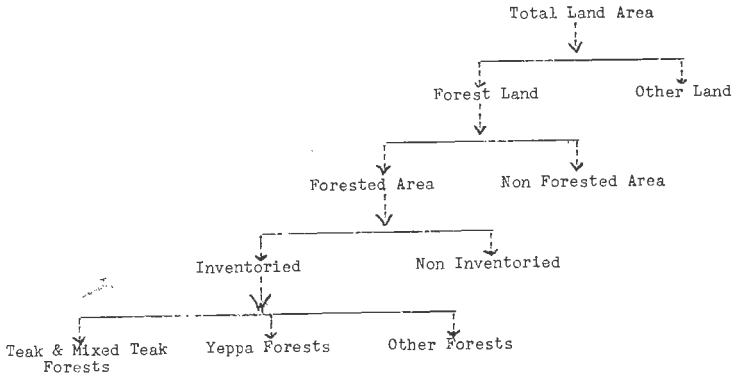
HIERARCHICAL SCHEME OF CLASSIFICATION



NOTE: ALL THE TABLES EXCEPT TABLE 1 RELATE TO INVENTORIED RESERVED AND PROTECTED FOREST ONLY.

MAHABOOB NAGAR FOREST DIVISION

Table-1 LAND CLASS AND LEGAL STATUS OF TOTAL LAND AREA

1.1. NUMBER OF PLOTS

LAND CLASS	LEGAL STATUS				TOTAL
	RESERVED	PROTECTED	CLASSIFIED	PRIVATE	
FOREST LAND					
FORESTED					
Inventoried	631	124	0	0	755
Non-inventoried	123	32	0	0	155
NONFORESTED	5	2	0	0	7
OTHER LAND	0	0	4	95	99
TOTAL	759	158	4	95	1,016

1.2. (AREA (IN HA.)

LAND CLASS	LEGAL STATUS				TOTAL
	RESERVED	PROTECTED	CLASSIFIED	PRIVATE	
FOREST LAND					
FORESTED					
Inventoried	162,130	31,861	0	0	193,991
Non-inventoried	31,804	8,222	0	0	39,826
NONFORESTED	1,285	514	0	0	1,799
OTHER LAND	0	0	1,028	24,409	25,437
TOTAL	195,019	40,597	1,028	24,409	261,053

1.3. PERCENTAGE (AREA)

LAND CLASS	LEGAL STATUS				TOTAL
	RESERVED	PROTECTED	CLASSIFIED	PRIVATE	
FOREST LAND					
FORESTED					
Inventoried	62.1	12.2	0	0	74.3
Non-inventoried	12.1	3.1	0	0	15.2
NONFORESTED	(0.5)	(0.2)	0	0	(0.7)
OTHER LAND	0	0	(0.4)	9.4	9.8
TOTAL	74.7	15.5	(0.4)	9.4	100

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TABLE-2. VEGETATION CLASS

VEGETATION CLASS	NO. OF PLOTS	TOTAL AREA (in ha.)	PERCENTAGE
FOREST	585	150,311	78
OPEN FOREST	159	40,854	21
SCRUB FOREST	11	2,826	1
TOTAL	755	193,991	100

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TABLE-3

FOREST TYPE

FOREST TYPE	NO. OF PLOTS	AREA (HA.)	VOLUME PER HA.	TOTAL VOLUME (100 cu.m.)	PERCEN-TAGE (AREA)	PERCEN-TAGE (VOLUME)
TEAK AND MIXED TEAK	176	45,222	31.3	14,178	23	32
YEPPA	263	67,576	18.3	12,384	35	28
REST	316	81,193	22.2	18,012	42	40
TOTAL	755	193,991	23.0	44,574	100	100

[illegible] NAGAR FOREST DIVISION

Table-4. FOREST TYPE BY LEGAL STATUS

4.1. NO. OF PLOTS

FOREST TYPE	LEGAL STATUS		TOTAL
	RESERVED	PROTECTED	
TEAK AND MIXED TEAK	114	62	176
YEPPA	236	27	263
REST	281	35	316
TOTAL	631	124	755

4.2. AREA (HA.)

TEAK AND MIXED TEAK	29,291	15,931	45,222
YEPPA	60,638	6,938	67,576
REST	72,200	8,993	81,193
TOTAL	162,129	31,862	193,991

4.3. VOLUME/HA (CU.MS.)

TEAK AND MIXED TEAK	29.0	35.7	31.3
YEPPA	17.2	27.9	18.3
REST	20.2	38.4	22.2
ALL	20.7	34.7	23.0

4.4. TOTAL VOLUME (100 CU.M.)

FOREST TYPE	LEGAL STATUS		TOTAL
	RESERVED	PROTECTED	
TEAK AND MIXED TEAK	8,497	5,681	14,178
YEPPA	10,447	1,937	12,384
REST	14,561	3,451	18,012
TOTAL	33,505	11,069	44,574

4.5. PERCENTAGE (AREA)

TEAK AND MIXED TEAK	15	8	23
YEPPA	31	4	35
REST	37	5	42
TOTAL	83	17	100

4.6. PERCENTAGE (VOLUME)

TEAK AND MIXED TEAK	19	13	32
YEPPA	24	4	28
REST	32	8	40
TOTAL	75	25	100

KARAKO NAGAR FOREST DIVISION

TABLE-5

FOREST TYPE BY ALTITUDE

5.1 No. of Plots

	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0	0	26	38	30	30	30	22	176
Yeppa	1	32	67	75	66	21	1	0	263
Rest	0	24	48	29	50	76	65	24	316
Total	1	56	141	142	146	127	96	46	755

5.2 AREA (HA.)

Forest Type	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0	0	6,681	9,764	7,708	7,708	7,708	5,653	45,222
Yeppa	257	8,222	17,215	19,271	16,958	5,396	257	0	67,576
Rest	0	6,167	12,333	7,451	12,847	19,527	16,701	6,167	81,193
Total	257	14,389	36,229	36,486	37,513	32,631	24,666	11,820	193,991

5.3 VOLUME/HA. (CU.ME.)

Forest Type	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0.0	0.0	25.0	28.6	27.9	32.0	38.7	37.4	31.3
Yeppa	30.0	21.5	16.3	17.6	19.0	20.2	8.1	0.0	18.3
Rest	0.0	10.7	13.6	16.6	20.8	29.2	26.0	27.8	22.2
All	30.0	16.9	17.0	20.3	21.5	28.4	30.0	32.4	23.0

[illegible] NAGAR FOREST DIVISION

TABLE - 5

FOREST TYPE BY ALTITUDE

5 4 TOTAL VOLUME (100 CU. METRES)

Forest Type	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0	0	1,668	2,793	2,151	2,466	2,984	2,116	14,178
Yeppa	77	1,771	2,804	3,392	3,229	1,090	21	0	12,384
Rest	0	660	1,638	1,234	2,677	5,698	4,343	1,717	18,012
Total	77	2,431	6,155	7,419	8,057	9,254	7,348	3,833	44,574

5 5 PERCENTAGE (AREA)

Forest Type	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0	0	3	5	4	4	4	3	23
Yeppa	(0 1)	4	9	10	9	3	(0 1)	0	35
Rest	0	3	6	4	7	10	9	3	42
Total	(0.1)	7	18	19	20	17	13	6	100

5 6 PERCENTAGE (VOLUME)

Forest Type	ALTITUDE (IN METRES)								Total
	100-	200-	300-	400-	500-	600-	700-	800-	
Teak and Mixed Teak	0	0	4	6	5	5	7	5	32
Yeppa	(0 2)	4	6	8	7	3	(0 0)	0	28
Rest	0	1	4	3	6	12	10	4	40
Total	(0 2)	5	14	17	18	20	17	9	100

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MAHABOOB NAGAR FOREST DIVISION

TABLE - 6 FOREST TYPE BY TOPOGRAPHY

6.1 NUMBER OF PLOTS

Forest Type	Topography				Total
	Flat	Gently Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	17	75	79	5	176
Yeppa	29	119	107	8	263
Rest	21	160	123	12	316
Total	67	354	309	25	755

6.2 AREA (HA.)

Forest Type	Topography				Total
	Flat	Gently Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	4,368	19,271	20,298	1,285	45,222
Yeppa	7,451	30,576	27,493	2,056	67,576
Rest	5,396	41,110	31,604	3,083	81,193
Total	17,215	90,957	79,395	6,424	193,991

6.3 VOLUME/HA.(CU. ME.)

Forest Type	Topography				Total
	Flat	Genetly Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	19.2	30.5	35.0	26.7	31.3
Yeppa	14.1	17.5	20.4	18.5	18.3
Rest	14.8	18.5	28.4	20.0	22.2
Total	15.6	20.7	27.3	20.9	23.0

TABLE-6

[illegible] NAGAR FOREST DIVISION
FOREST TYPE BY TOPOGRAPHY

6.4 TOTAL VOLUME (100 CU.METRES)

Forest Type	Topography				Total
	Flat	Gently Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	839	5,882	7,115	342	14,178
Yeppa	1,048	5,342	5,614	380	12,384
Rest	798	7,608	8,989	617	18,012
Total	2,685	18,832	21,718	1,339	44,574

6.5 PERCENTAGE (AREA)

Forest Type	Topography				Total
	Flat	Gently Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	2	10	10	1	23
Yeppa	4	16	14	1	35
Rest	3	21	16	2	42
Total	9	47	40	4	100

6.6 PERCENTAGE (VOLUME)

	Topography				Total
	Flat	Gently Rolling	Hilly	Very Hilly	
Teak and Mixed Teak	2	13	16	1	32
Yeppa	2	12	13	1	28
Rest	2	17	20	1	40
TOTAL	6	42	49	3	100

MAHABOOBNAGAR FOREST DIVISION

TABLE - 7

FOREST TYPE BY SLOPE

7.1 NUMBER OF PLOTS

Forest Type	Slope			Total
	Less than 10%	10% - 30%	30% -100%	
Teak and Mixed Teak	101	68	7	176
Yeppa	168	87	8	263
Rest	197	107	12	316
Total	466	262	27	755

7.2 AREA (HA.)

Forest Type	Slope			Total
	Less than 10%	10% - 30%	30% - 100%	
Teak and Mixed Teak	25,951	17,472	1,799	45,222
Yeppa	43,166	22,354	2,056	67,576
Rest	50,617	27,493	3,083	81,193
Total	119,734	67,319	6,938	193,991

7.3 VOLUME/HA. (CU. ME.)

Forest Type	Slope			Total
	Less than 10%	10% - 30%	30% - 100%	
Teak and Mixed Teak	28.7	35.5	29.4	31.3
Yeppa	17.0	20.7	20.0	18.3
Rest	18.4	29.1	21.9	22.2
All	20.1	28.0	23.3	23.0

MANAGOOD NAGAR FOREST DIVISION

TABLE - 7

FOREST TYPE BY SLOPE

7.4 TOTAL VOLUME (100 CU. METRES)

Forest Type	Slope			Total
	Less than 10%	10%-30%	30%-100%	
Teak and Mixed Teak	7,444	6,205	529	14,178
Yeppa	7,353	4,620	411	12,384
Rest	9,322	8,013	677	18,012
Total	24,119	18,838	1,617	44,574

7.5 PERCENTAGE (AREA)

Forest Type	Slope			Total
	Less than 10%	10%-30%	30%-100%	
Teak and Mixed Teak	13	9	1	23
Yeppa	22	12	1	35
Rest	26	14	2	42
Total	61	35	4	100

7.6 PERCENTAGE (VOLUME)

Forest Type	Slope			Total
	Less than 10%	10%-30%	30% - 100%	
Teak and Mixed teak	17	14	1	32
Yeppa	16	10	2	28
Rest	21	18	1	40
Total	54	42	4	100

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[illegible] OD, BAGAR FOREST DIVISION

TABLE - 8

FOREST TYPE BY POSITION ON SLOPE

8.1 NUMBER OF PLOTS

Forest Type	Position on Slope					
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	Total
Teak and Mixed Teak	17	47	44	53	15	176
Yeppa	13	54	83	89	24	263
Rest	32	98	88	75	23	316
Total	62	199	215	217	62	755

8.2 AREA (HA.)

Forest Type	Position on Slope					
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	Total
Teak and Mixed Teak	4,368	12,076	11,306	13,618	3,854	45,222
Yeppa	3,340	13,875	21,326	22,868	6,167	67,576
Rest	8,222	25,180	22,611	19,270	5,910	81,193
Total	15,930	51,131	55,243	55,756	15,931	193,991

8.3 VOLUME/HA. (CU. ME.)

Forest Type	Position on slope					
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	Total
Teak and Mixed Teak	37.2	31.3	37.2	28.1	19.4	31.3
Yeppa	19.2	19.0	19.0	18.1	14.4	18.3
Rest	22.6	23.5	23.7	20.7	15.2	22.2
All	25.9	24.1	24.6	21.5	15.9	23.0

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NAGAR NAGAR FOREST DIVISION

TABLE - 8 FOREST TYPE BY POSITION ON SLOPE

8.4 TOTAL VOLUME (100 CU. METRES)

Forest Type	Position on Slope					Total
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	
Teak and Mixed Teak	1,624	3,777	4,206	3,822	749	14,178
Yeppa	641	2,643	4,062	4,150	888	12,384
Rest	1,857	5,910	5,351	3,994	900	18,012
Total	4,122	12,330	13,619	11,966	2,537	44,574

8.5 PERCENTAGE (AREA)

Forest Type	Position on slope					Total
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	
Teak and Mixed Teak	2	6	6	7	2	23
Yeppa	2	7	11	12	3	35
Rest	4	13	12	10	3	42
Total	8	26	29	29	8	100

8.6 PERCENTAGE (VOLUME)

Forest Type	Position on slope					Total
	Ridge Top	Upper one third	Middle one third	Lower one third	No slope	
Teak and Mixed Teak	4	8	9	9	2	32
Yeppa	2	6	9	9	2	28
Rest	4	13	12	9	2	40
Total	10	27	30	27	6	100

NAGARJUNA NAGAR FOREST DIVISION

Table-9. FOREST TYPE BY ASPECT

9 1 NUMBER OF PLOTS

FOREST TYPE	ASPECT									TOTAL
	N	NE	E	SE	S	SW	W	NW	NONE	
TEAK AND MIXED TEAK	18	6	25	19	33	16	24	20	15	176
YEPPA	17	21	35	55	55	22	17	26	15	263
REST	38	22	47	48	79	22	21	17	22	316
TOTAL	73	49	107	122	167	60	62	63	52	755

9.2 AREA (Ha.)

TEAK AND MIXED TEAK	4,625	1,542	6,424	4,882	8,479	4,111	6,166	5,139	3,854	45,222
YEPPA	4,368	5,396	8,993	14,132	14,132	5,653	4,368	6,680	3,854	67,576
REST	9,763	5,653	12,076	12,333	20,298	5,653	5,396	4,368	5,653	81,193
TOTAL	18,756	12,591	27,493	31,347	42,909	15,417	15,930	16,187	13,361	193,991

9.3. VOLUME/Ha (CU ME)

TEAK AND MIXED TEAK	31 3	35 6	38 9	29 1	31 0	32 8	37 6	23 7	19.4	31 3
YEPPA	16 7	20 0	16 1	18 7	18 2	17 3	20.2	21.1	19 3	18 3
REST	20 1	36.6	23.3	19 7	23 0	19 6	23 1	20 8	14 1	22 2
ALL	22 1	29 3	24.6	20 7	23 0	22 3	28 7	21.9	15 4	23 0

AMBERNAGAR FOREST DIVISION

Table-9. FOREST TYPE BY ASPECT.

9.4. TOTAL VOLUME (100 Cu.M.)

FOREST TYPE	ASPECT									TOTAL
	N	NE	E	SE	S	SW	W	NW	NONE	
TEAK AND MIXED TEAK	1,448	548	2,501	1,422	2,625	1,350	2,319	1,216	749	14,178
YEPPA	729	1,078	1,451	2,641	2,568	979	1,013	1,411	514	12,384
REST	1,963	2,067	2,817	2,430	4,670	1,108	1,248	910	799	18,012
TOTAL	4,140	3,693	6,769	6,493	9,863	3,437	4,580	3,537	2,062	44,574

9.5 PERCENTAGE (AREA)

TEAK AND MIXED TEAK	2	1	3	3	4	2	3	3	2	23
YEPPA	2	3	5	7	7	3	2	4	2	35
REST	5	3	6	6	11	3	3	2	3	42
TOTAL	9	7	14	16	22	8	8	9	7	100

9.6. PERCENTAGE (VOLUME)

TEAK AND MIXED TEAK	3	1	6	3	6	3	5	3	2	32
YEPPA	2	3	3	6	6	2	2	3	1	28
REST	4	5	6	5	10	3	3	2	2	40
TOTAL	9	9	15	14	22	8	10	8	5	100

[illegible] NAGAR FOREST DIVISION

Table-10. FOREST TYPE BY STONINESS

10.1. NUMBER OF PLOTS

FOREST TYPE	STONINESS				TOTAL
	HIGH (ABOVE 80%)	MEDIUM (30% to 80%)	LOW (LESS THAN 30%)	STONINESS ABSENT	
TEAK AND MIXED TEAK	13	44	79	40	176
YEPPA	44	163	44	12	263
REST	40	161	90	25	316
TOTAL	97	368	213	77	755

10.2. AREA (HA.)

TEAK AND MIXED TEAK	3,340	11,306	20,298	10,278	45,222
YEPPA	11,306	41,881	11,306	3,083	67,576
REST	10,278	41,367	23,125	6,423	81,193
TOTAL	24,924	94,554	54,729	19,784	193,991

10.3. VOLUME/Ha. (CU. ME.)

TEAK AND MIXED TEAK	38.1	30.5	35.5	21.8	31.3
YEPPA	12.5	18.8	21.4	22.0	18.3
REST	13.6	19.9	30.3	21.2	22.2
ALL	16.4	20.7	30.4	21.6	23.0

MAHBOOBNAGAR FOREST DIVISION

Table-10. FOREST TYPE BY STONINESS

10.4. TOTAL VOLUME (100 Cu.M.)

FOREST TYPE	STONINESS				TOTAL
	HIGH (ABOVE 80%)	MEDIUM (60% to 80%)	LOW (LESS THAN 30%)	STONES ABSENT	
TEAK AND MIXED TEAK	1,271	3,482	7,215	2,240	14,178
YEPPA	1,414	7,875	2,418	677	12,384
REST	1,400	8,236	7,014	1,362	18,012
TOTAL	4,085	19,563	16,647	4,279	44,574

10.5. PERCENTAGE (AREA)

TEAK AND MIXED TEAK	2	6	10	5	23
YEPPA	6	21	6	2	35
REST	5	21	12	4	42
TOTAL	13	48	28	11	100

10.6. PERCENTAGE (VOLUME)

TEAK AND MIXED TEAK	3	8	16	5	32
YEPPA	3	18	5	2	28
REST	3	18	16	3	40
TOTAL	9	44	37	10	100

[illegible] NAGAR FOREST DIVISION

Table-11. FOREST TYPE BY HUMUS

NOTE:- ALL THE PLOTS BELONG TO THE CLASS 'NO HUMUS'

TABLE -12

MAHABOOB NAGAR FOREST DIVISION

FOREST TYPE BY COLOUR OF UPPER HORIZON OF SOIL

12.1 NUMBER OF PLOTS

Forest Type	Colour of Upper Horizon of Soil.					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed Teak.	5	168	2	1	o	176
Yeppa	10	246	5	2	0	263
Rest	16	286	7	3	4	316
Total	31	700	14	6	4	755

12.2 AREA (HA)

Forest Type	Colour of Upper Horizon of Soil					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed Teak.	1,285	43,166	514	257	0	45,222
Yeppa	2 569	63,208	1,285	514	0	67,576
Rest	4,111	73,485	1,798	771	1,028	81,193
Total	7,965	179,859	3,597	1,542	1,028	193,991

12 3 VOLUME/ Ha. (CU. ME.)

Forest Type	Colour of Upper Horizon of Soil.					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed Teak	34 6	31 4	24.7	19.4	0	31.3
Yeppa	20 9	18 3	16.0	14.3	0	18 3
Rest	57 7	20.5	15.3	9 7	23 3	22 2
All	42.1	22.3	16.9	12.9	23 3	23 0

TABLE -12

MAHABOOB NAGAR FOREST DIVISION
FOREST TYPE BY COLOUR OF UPPER HORIZON OF SOIL

12.4 TOTAL VOLUME (100 cu. METRES)

Forest Type.	Colour of Upper Horizon of Soil					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed Teak.	444	13,557	127	50	0	14,178
Yeppa	538	11,568	205	73	0	12,384
Rest	2,371	15,051	276	75	239	18,012
Total	3,353	40,176	608	198	239	44,574

12.5 PERCENTAGE (AREA)

Forest Type	Colour of Upper Horizon of Soil					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed teak	1	22	(0.3)	(0.1)	0	23
Yeppa	1	33	1	(0.3)	0	35
Rest	2	38	1	(0.4)	(0.5)	42
Total	4	93	2	(0.8)	(0.5)	100

12.6 PERCENTAGE (Volume)

Forest Type.	Colour of Upper Horizon of Soil					
	Black	Brown	Red	Others	Nosoil	Total
Teak and Mixed Teak.	1	30	(0.3)	(0.1)	0	32
Yeppa	1	26	(0.5)	(0.2)	0	28
Rest	5	34	1	(0.2)	(0.5)	40
Total	7	90	2	(0.5)	(0.5)	100

MAHABOOB NAGAR FOREST DIVISION

TABLE -13 FOREST TYPE BY SOIL CONSISTENCY

13.1 NUMBER OF PLOTS.

Forest Type	Soil consistency				
	Friable	Slightly Compact	Compact	Cemented	Total
Teak and Mixed Teak.	139	36	1	0	176
Yeppa	225	47	1	0	263
Rest	203	55	1	7	316
Total	567	138	3	7	755

13 2 AREA (Ha)

Forest Type	Soil consistency				
	Friable	Slightly Compact	Compact.	Cemented	Total
Teak and Mixed Teak	35,715	9,250	257	0	45,222
Yeppa	55,243	12,076	257	0	67,576
Rest	65,006	14,132	257	1,798	81,193
Total	1,55 964	35,458	771	1,798	1,93,991

13 3 VOLUME/Ha (CU. ME.)

Forest Type	Soil consistency				
	Friable	Slightly compact	Compact	Cemented	Total
Teak and Mixed Teak.	31 6	30 4	27 8	0	31.3
Yeppa	17 9	19 5	43 4	0	18.3
Rest	21 7	22 4	41 1	35 6	22 2
Total	22 6	23 5	37 4	35 6	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE -13 FOREST TYPE VS SOIL CONSISTENCY

13.4 TOTAL VOLUME (100 cu METRES)

Forest Type	Soil consistency				
	Friable	Slightly compact	Compact	Cemented	Total
Teak and Mixed Teak	11,291	2,816	71	0	14,178
Yeppa	9,913	2,357	111	0	12,384
Rest	14,106	3,181	106	640	18,012
Total	35,312	8,[illegible]	288	640	44,574

13.5 PERCENTAGE (AREA)

Forest Type	Soil consistency				
	Friable	Slightly compact	Compact	Cemented	Total
Teak and Mixed Teak	18	5	(0.1)	0	23
Yeppa	29	6	(0 1)	0	35
Rest	34	7	(0 1)	1	42
Total	81	18	(0 3)	1	100

13.6 PERCENTAGE (VOLUME)

Forest Type	Soil consistency				
	Friable	Slightly compact	Compact	Cemented	Total
Teak and Mixed Teak	28	6	(0 2)	0	32
Yeppa	23	5	(0 3)	0	28
Rest	32	7	(0.2)	1	40
Total	81	18	(0 7)	1	100

MAHABOOB NAGAR FOREST DIVISION

TABLE -14 FOREST TYPE BY SOIL TEXTURE

14.1 NUMBER OF PLOTS.

Forest Type.	Soil Texture							
	Clay	Clayey loam	Loam	Sandy Loam	Sand	Pebbles	No soil	Total
Teak and Mixed teak.	3	23	30	114	0	6	0	176
Yeppa	4	54	41	157	0	7	0	263
Rest	5	52	34	205	3	13	4	316
Total	12	129	105	476	3	26	4	755

14.2 AREA (Ha)

Forest Type	Soil Texture							
	Clay	Clayey loam	Loam	Sandy loam	Sand	Pebbles	No soil	Total
Teak and Mixed teak	771	5,910	7.708	29,291	0	1,542	0	45,222
Yeppa	1,028	13,875	10,535	40,340	0	1,798	0	67,576
Rest	1,285	13,361	8,736	52,673	771	3,340	1,027	81,193
Total	3,084	33,146	26,979122,304		771	6,680	1,027	193,991

14.3 VOLUME / Ha (Cu. Me.)

Forest Type.	Soil Texture							
	Clay	Clayey loam	Loam	Sandy loam	Sand	Pebbles	No soil	Total
Teak and Mixed teak	15.3	33.1	33.2	31.2	0	26.0	0	31.3
Yeppa	18.1	19.3	19.8	17.4	0	22.1	0	18.3
Rest	33.5	30.2	24.4	19.5	13.5	24.6	23.3	22.2
Total	23.8	26.2	25.1	21.6	13.5	24.2	23.	23.0

Contents

MAHABOOB NAGAR FOREST DIVISION

TABLE-14 FOREST TYPE BY SOIL TEXTURE

14.4 TOTAL VOLUME (100 cu-METRES)

Forest Type	Soil texture							
	Clay	Clayey loam	Loam	Sandy loam	Sand	Pebbles	Nosoil	Total
Teak and Mixed teak	118	1,955	2,559	9,145	0	401	0	14,178
Yeppa	186	2,683	2,088	7,030	0	397	0	12,384
Rest	430	4,038	2,130	10,249	105	821	239	18,012
Total	734	8,676	6,777	26,424	105	1,619	239	44,574

14.5 PERCENTAGE (AREA)

Forest Type	Soil Texture							
	Clay	Clayey loam	Loam	Sandy loam	Sand	Pebbles	Nosoil	Total
Teak and Mixed teak	(0 4)	3	4	15	0	1	0	23
Yeppa	(0.5)	7	5	21	0	1	0	35
Rest	1	7	4	27	(0 4)	2	(0 5)	42
Total	2	17	13	63	(0 4)	4	(0 5)	100

14.6 PERCENTAGE (VOLUME)

Forest Type	Soil texture							
	Clay	Clayey loam	Loam	Sandy loam	Sand	Pebbles	Nosoil	Total
Teak and Mixed teak	(0 3)	4	6	21	0	1	0	32
Yeppa	(0 4)	6	5	16	0	1	0	28
Rest	1	9	5	23	(0.2)	2	(0 5)	40
Total	1	19	16	60	(0 2)	4	(0.5)	100

MAHABOOB NAGAR FOREST DIVISION

TABLE -15 FOREST TYPE BY SOIL DEPTH

15.1 NUMBER OF PLOTS.

Forest Type.	Soil Depth				
	Very Shallow	Shallow	Medium.	Deep	Total
Teak and Mixed teak	20	65	56	35	176
Yeppa	83	106	55	19	263
Rest	81	138	70	27	316
Total	184	309	181	81	755

15.2 AREA (Ha)

Forest Type.	Soil Depth				
	Very Shallow	Shallow	Medium	Deep	Total
Teak and Mixed teak.	5,139	16,701	14,389	8,993	45,222
Yeppa	21,336	27,236	14,132	4,882	67,576
Rest	20,812	35,458	17,986	6,937	81,193
Total	47,277	79,395	46,507	20,812	193,991

15.3 VOLUME/Ha (CU.M.)

Forest Type	Soil Depth				
	Very Shallow	Shallow	Medium	Deep	Total
Teak and Mixed teak.	32.3	34.2	31.4	25.4	31.3
Yeppa	14.9	20.0	19.0	22.2	18.3
Rest	17.5	21.8	22.6	37.0	22.2
ALL	18.0	23.8	24.2	28.5	23.0

MAHABOOB NAGAR FOREST DIVISION

FOREST TYPE BY SOIL DEPTH

TABLE-15

15.4 TOTAL VOLUME (100 cu.METRES)

Forest Type.	Soil Depth				
	Very Shallow	Shallow	Medium	Deep	Total
Teak and Mixed teak.	1,662	5,714	4,515	2,287	14,178
Yeppa	3,187	5,434	2,680	1,083	12,384
Rest	3,643	7,742	4,058	2,569	18,012
Total	8,492	18,890	112,53	5,939	44,574

15.5 PERCENTAGE (AREA)

Forest Type.	Soil Depth				
	Very shallow	Shallow	Medium	Deep	Total
Teak and Mixed teak.	3	9	7	4	23
Yeppa	11	14	7	3	35
Rest	11	18	9	4	42
Total	25	41	23	11	100

15.6 PERCENTAGE (VOLUME)

Forest Type.	Soil Depth				
	Very Shallow	Shallow	Medium	Deep	Total
Teak and Mixed teak	4	13	10	5	32
Yeppa	7	12	6	3	28
Rest	8	17	9	6	40
Total	19	42	25	14	100

CHANDRA NAGAR FOREST DIVISION

TABLE -16

FOREST TYPE BY VEGITATION

16.1 NUMBER OF PLOTS

Forest Type	Vegetation					Total
	Forest	Open Forest	Scrub Forest	Open scrub	Grassy blanks and others	
Teak and Mixed Teak	170	6	0	0	0	176
Yeppa	176	86	1	0	0	263
Rest	239	67	4	4	2	316
Total	585	159	5	4	2	755

16.2 AREA (HA.)

Forest Type	Vegetation					Total
	Forest	Open Forest	Scrub forest	Open scrub	Grassy blanks and others	
Teak and Mixed teak	43,680	1,542	0	0	0	45,222
Yeppa	45,222	22,097	257	0	0	67,576
Rest	61,409	17,215	1,028	1,028	513	81,193
Total	150,511	40,854	1,285	1,028	513	193,991

16.3 VOLUME/HA. (Cu. Me.)

Forest Type	Vegetation					Total
	Forest	Open Forest	Scrub Forest	Open Forest	Grassy blanks and others	
Teak and Mixed Teak	31.7	21.9	0	0	0	31.3
Yeppa	19.9	15.1	16.6	0	0	18.3
Rest	26.4	9.5	9.7	3.2	4.1	22.2
All	26.0	13.0	11.1	3.2	4.1	23.0

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MATHERAN NAGAR FOREST DIVISION

TABLE -13 FOREST TYPE BY VEGETATION

16.4 TOTAL VOLUME (100 CU.METRES)

Forest Type	Vegetation					Total
	Forest	Open Forest	Scrub Forest	Open Scrub	Grassy blanks and others	
Teak and Mixed Teak	13,841	337	0	0	0	14,178
Yeppa	9,002	3,339	43	0	0	12,384
Rest	16,221	1,637	100	33	21	18,012
Total	39,064	5,313	143	33	21	44,574

16 5 PERCENTAGE (AREA)

Forest Type	Vegetation					Total
	Forest	Open Forest	Scrub forest	Open scrub	Grassy blanks and others	
Teak and Mixed Teak	22	1	0	0	0	23
Yeppa	23	11	(0 1)	0	0	34
Rest	32	9	(0 5)	(0 5)	(0 [illegible])	42
Total	77	21	(0 6)	(0 5)	(0 3)	100

16 6 PERCENTAGE (VOLUME)

Forest Type	Vegetation					Total
	Forest	Open forest	Scrub forest	Open scrub	Grassy blanks and others	
Teak and Mixed Teak	31	1		0	0	32
Yeppa	20	8	(0 1)	0	0	28
Rest	36	4	(0 2)	(0.1)	(0.05)	40
Total	87	13	(0 3)	(0 1)	(0 05)	100

MAHADOB NAGAR FOREST DIVISION

TABLE -17 FOREST TYPE BY ORIGIN OF STAND

NOTE: ALL THE PLOTS BELONG TO THE CLASS 'NATURAL FOREST'.

[illegible] NAGAR FOREST DIVISION

TABLE -18 FOREST TYPE BY NO. OF STOREYS

18 1 NUMBER OF PLOTS

Forest Type	No. of Storeys: Forest one storeyed	Forest two storeyed	Total
Teak and Mixed Teak	175	1	176
Yeppa	259	4	263
Rest	316	0	316
Total	750	5	755

18.2 AREA (HA.)

Forest Type	No of Storeys: Forest one storeyed	Forest two storeyed	Total
Teak and Mixed Teak	44,965	257	45,222
Yeppa	66,548	1,028	67,576
Rest	81,193	0	81,193
Total	192,706	1,285	193,991

18 3 VOLUME/HA. (CU. ME.)

Forest Type	No of Storeys: Forest one storeyed	Forest two storeyed	Total
Teak and Mixed Teak	31 4	28 4	31.3
Yeppa	18 4	12 0	18 3
Rest	22 2	0	22 2
All	23.0	15 3	23 0

LOWER SUBANSIRI NAGAR FOREST DIVISION

TABLE -18 FOREST TYPE BY NO. OF STOREYS

18.4 TOTAL VOLUME (100 CU. METRES)

Forest Type	No of Storeys: Forest one storeyed	Forest two storeyed	Total
Teak and Mixed Teak	14,105	73	14,178
Yeppa	12,261	123	12,384
Rest	18,012	0	18,012
Total	44,378	196	44,574

18.5 PERCENTAGE (AREA)

Forest Type	No of Storeys: Forest one storeyed	Forest Two storeyed	Total
Teak and Mixed Teak	23	(0.1)	23
Yeppa	34	(0.5)	35
Rest	42	0	42
Total	99	(0.6)	100

18.6 PERCENTAGE (VOLUME)

Forest Type	No of Storeys: Forest one storeyed	Forest two storeyed	Total
Teak and Mixed Teak	32	(0.2)	32
Yeppa	28	(0.3)	28
Rest	40	0	40
Total	100	(0.5)	100

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MANANDOOB NAGAR FOREST DIVISION

TABLE -19

FOREST TYPE BY TOP HEIGHT

19.1 NUMBER OF PLOTS

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	5	94	71	6	0	176
Yeppa	44	188	30	0	1	263
Rest	85	166	62	3	0	316
Total	134	448	163	9	1	755

19.2 AREA (HA.)

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	1,285	24,152	18,243	1,542	0	45,222
Yeppa	11,306	48,305	7,708	0	257	67,576
Rest	21,840	42,652	15,930	771	0	81,193
Total	34,431	115,109	41,881	2,313	257	193,991

19.3 VOLUME/HA.(CU. ME.)

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	15.6	27.9	35.5	49.5	0	31.3
Yeppa	15.0	17.9	25.4	0	40.6	18.3
Rest	9.3	21.6	40.7	39.4	0	22.2
All	11.4	21.3	35.6	46.1	40.6	23.0

MATHOOR NAGAR FOREST DIVISION

TABLE -19 FOREST TYPE BY TOP HEIGHT

19.4 TOTAL VOLUME (100 CU. METRES)

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	201	6,731	6,483	763	0	14,178
Yeppa	1,699	8,626	1,955	0	104	12,384
Rest	2,026	9,194	6,488	304	0	18,012
Total	3,926	24,551	14,926	1,067	104	44,574

19.5 PERCENTAGE (AREA)

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	1	12	9	1	0	23
Yeppa	6	25	4	0	(0.1)	35
Rest	12	22	8	(0.4)	0	42
Total	19	59	21	1	(0.1)	100

19.6 PERCENTAGE (VOLUME)

Forest Type	Top Height (In Metres)					Total
	5-9	10-14	15-19	20-24	25+	
Teak and Mixed Teak	(0.5)	15	14	2	0	32
Yeppa	4	19	5	0	(0.2)	28
Rest	4	21	14	1	0	40
Total	8	55	33	3	(0.2)	100

MALAMPUZHA NAGAR FOREST DIVISION

TABLE - 20

FOREST TYPE BY SIZE CLASS

20.1 NUMBER OF PLOTS

Forest Type	Size Class					Total
	Regeneration crop	Pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	9	37	60	13	57	176
Yeppa	9	16	139	32	67	263
Rest	9	67	133	16	91	316
Total	27	120	332	61	215	755

20.2 AREA (HA.)

Forest Type	Size Class					Total
	Regeneration crop	Pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	2,313	9,507	15,416	3,340	14,646	45,222
Yeppa	2,313	4,111	35,715	8,222	17,215	67,576
Rest	2,313	17,215	34,173	4,111	23,381	81,193
Total	6,939	30,833	85,304	15,673	55,242	193,991
	3.5	15.8	43.9	8.0	28.4	

20.3 VOLUME/HA. (CU. MS.)

Forest Type	Size Class					Total
	Regeneration Crop	pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	24.0	22.7	32.1	42.4	34.8	31.3
Yeppa	18.3	13.5	17.4	23.2	19.0	18.3
Rest	8.5	17.3	22.5	59.8	19.9	22.2
All	16.9	18.5	22.1	36.9	23.6	23.0

MANDOONACAR FOREST DIVISION

TABLE 20

FOREST TYPE BY SIZE CLASS

20 4 TOTAL VOLUME (100 CU. METRES)

Forest Type	Size Class					Total
	Regeneration crop	Pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	556	2,159	4,951	1,415	5,097	14,178
Yeppa	423	553	6,227	1,909	3,272	12,384
Rest	197	2,987	7,708	2,459	4,661	18,012
Total	1,176	5,699	18,886	5,783	13,030	44,574

20 5 PERCENTAGE (AREA)

Forest Type	Size Class					Total
	Regeneration crop	Pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	1	5	8	2	7	23
Yeppa	1	2	19	4	9	35
Rest	1	9	18	2	12	42
Total	3	16	45	8	28	100

20 6 PERCENTAGE (VOLUME)

Forest Type	Size Class					Total
	Regeneration crop	Pole crop	Small timber	Big timber	Mixed size class	
Teak and Mixed Teak	1	5	11	3	12	32
Yeppa	1	1	14	4	8	28
Rest	(0 4)	7	17	6	10	40
Total	2	13	42	13	30	100

MAHABOOB NAGAR FOREST DIVISION

TABLE-21 FOREST TYPE BY STOCKING %

21.1 NUMBER OF PLOTS

Forest type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and mixed Teak	15	110	47	4	176
Yeppa	102	131	29	1	263
Rest	113	144	48	11	316
Total	230	385	124	16	755

21.2 AREA (HA)

Forest type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and Mixed Teak	3,854	28,264	12,076	1,028	45,222
Yeppa	28,206	33,659	7,452	257	67,576
Rest	29,034	37,000	12,333	2,826	81,193
Total	59,096	98,923	31,861	4,111	193,991

21.3 VOLUME/HA. (CU. ME.)

Forest type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and Mixed Teak	19.5	33.8	29.1	31.2	31.3
Yeppa	15.1	19.9	22.1	25.0	18.5
Rest	13.7	26.1	28.6	30.2	22.2
All	14.7	26.2	27.3	31.0	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE-21

FOREST TYPE BY STOCKING %

21.4 TOTAL VOLUME (100 Cu. METRES)

Forest Type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and Mixed teak	750	9,558	3,519	351	14,178
Yeppa	3,963	6,704	1,650	67	12,384
Rest	3,977	9,656	3,525	854	18,012
Total	8,690	25,918	8,694	1,272	44,574

21.5 PERCENTAGE (AREA)

Forest Type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and Mixed Teak	2	15	6	(0.5)	23
Yeppa	14	17	4	(0.1)	35
Rest	15	19	6	2	42
Total	31	51	16	2	100

21.6 PERCENTAGE (VOLUME)

Forest typ type	Stocking %				Total
	Poor	Medium	Good	Fully stocked	
Teak and mixed teak	2	21	8	1	32
Yeppa	9	15	4	(0.1)	28
Rest	9	21	8	2	40
All	20	57	20	3	100

MAHABOOD NAGAR FOREST DIVISION

TABLE 22

FOREST TYPE BY REGENERATION

22.1 NUMBER OF PLOTS

Forest type	Regeneration		Total
	Adequate 500 and above seedling per ha.	Inadequate Less than 500 seedling per ha.	
Teak and Mixed Teak	61	115	176
Yeppa	16	247	263
Rest	70	246	316
Total	147	608	755

22.2 AREA (HA)

Forest Type	Regeneration		Total
	Adequate 500 and above seedling per ha.	Inadequate Less than 500 seedling per ha.	
Teak and Mixed Teak	15,674	29,548	45,222
Yeppa	4,111	63,465	67,576
Rest	17,986	63,207	81,193
Total	37,771	156,220	193,991

22.3 VOLUME/HA. (CU.MS)

Forest Type	Regeneration		Total
	Adequate 500 and above seedling per ha.	Inadequate Less than 500 seedling per ha.	
Teak and Mixed Teak	34.8	29.6	31.3
Yeppa	21.7	18.1	18.3
Rest	26.7	20.9	22.2
All	29.4	21.4	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE - 22

FOREST TYPE BY REGENERATION

22.4 TOTAL VOLUME (100 Cu. METRES)

Forest Type	Regeneration		Total
	Adequate 500 and above seedling per ha.	Inadequate Less than 500 seedling per ha.	
Teak and Mixed Teak	5,424	8,754	14,178
Yeppa	690	11,694	12,384
Rest	4,806	13,206	18,012
Total	11,120	33,454	44,574

22.5 PERCENTAGE (AREA)

Forest Type	Regeneration		Total
	Adequate 500 and above seedling per Ha.	Inadequate Less than 500 seedling per ha.	
Teak and Mixed Teak	8	15	23
Yeppa	2	33	35
Rest	9	33	42
Total	19	81	100

22.6 PERCENTAGE (VOLUME)

Forest Type	Adequate 500 and above seedling per ha.	Inadequate Less than 500 seedling per ha.	Total
Teak and Mixed Teak	12	20	32
Yeppa	2	26	28
Rest	11	29	40
All	25	75	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 23 FOREST TYPE BY BIOTIC INFLUENCE

23.1 NUMBER OF PLOTS

Forest Type	Biotic Influence					Total
	Borer and Leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	No Biotic interference	
Teak and Mixed teak	1	43	19	68	51	176
Yeppa	3	42	85	42	91	233
Rest	4	44	32	106	130	316
Total	8	129	136	210	272	755

23.2 AREA (HA)

Forest Type	Biotic influence					Total
	Borer and leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	No biotic interferance	
Teak and Mixed Teak	257	11,049	4,882	15,930	13,104	45,222
Yeppa	771	10,791	21,840	10,792	23,382	67,576
Rest	1,028	11,305	8,222	27,236	33,402	81,193
Total	2,056	33,145	34,944	53,958	69,888	193,991

23.3 VOLUME/Ha. (CU.ME.)

Forest Type	Biotic Influence					Total
	Borer and leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	No biotic interference	
Teak and Mixed Teak	35.8	30.5	24.3	31.1	34.8	31.3
Yeppa	17.0	18.4	19.6	19.0	16.3	18.3
Rest	11.0	22.2	14.6	30.5	17.6	22.2
All	16.3	23.7	19.1	28.4	23.1	23.0

TABLE - 23.

MAHABOOB NAGAR FOREST DIVISION
FOREST TYPE BY BIOTIC INFLUENCE

23.4 TOTAL VOLUME (100 Cu. METRES)

Forest Type	Biotic Influence					Total
	Borer and leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	No biotic interference	
Teak and Mixed Teak	92	3,375	1,187	4,961	4,563	14,178
Yeppa	131	1,985	4,200	2,055	3,933	12,304
Rest	113	2,512	1,197	8,295	5,895	18,012
Total	336	7,872	6,664	15,311	14,391	44,574

23.5 PERCENTAGE (AREA)

Forest Type	Biotic influence					Total
	Borer and leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	No biotic interference	
Teak and Mixed Teak	(0 1)	6	2	8	7	23
Yeppa	(0 4)	6	11	6	12	35
Rest	1	6	4	14	17	42
Total	1	18	17	28	36	100

23.6 PERCENTAGE (VOLUME)

Forest Type	Biotic influence					Total
	Borer and leaf defoliator	Top dying caused by borer attack	Gridling	Burning and scarring	Biotic interference	
Teak and Mixed Teak	(0.2)	8	3	11	10	32
Yeppa	(0.3)	4	10	5	9	28
Rest	(0.3)	6	3	18	13	40
All	(0.8)	18	16	34	32	100

TABLE-24

MAHABOOB NAGAR FOREST DIVISION
FOREST TYPE BY PAST TREATMENT

24 1 NUMBER OF PLOTS

Forest Type	Past Treatment				
	Selection cum Improvement Felling.	Coppice with Reserve	Clear Felling	No Felling	Total
Teak and Mixed teak	13	35	1	127	176
Yeppa	0	10	0	253	263
Rest	14	16	0	286	316
Total	27	61	1	666	755

24.2 AREA (Ha)

Forest Type	Past Treatment				
	Selection cum Improvement Felling.	Coppice with Reserve	Clear Felling	No Felling	Total
Teak and Mixed teak.	3,340	8,993	257	32,632	45,222
Yeppa	0	2,570	0	65,006	67,576
Rest	3,597	4,111	0	73,485	81,193
Total	6,937	15,674	257	171,123	193.991

24.3 VOLUME/Ha. (CU.ME.)

Forest Type	Past Treatment				
	Selection cum Improvement Felling.	Coppice with Reserve	Clear Felling	No felling	Total
Teak and Mixed teak	32.5	23.9	12 4	33.4	31 3
Yeppa	0	17.4	0	18.4	18.3
Rest.	30 4	13.4	0	22.3	22.2
All	31.4	20 1	12.4	22 9	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE 24 FOREST TYPE E. PAST TREATMENT.

24 4 TOTAL VOLUME (100 cu-METRES)

Forest Type	Selection cum Improvement Felling	Coppice with Reserve	Clear Felling	No Felling	Total
Teak and Mixed Teak	1,085	2,154	32	10,807	14,178
Yeppa	0	447	0	11,937	12,384
Rest	1,093	553	0	16,866	18,012
TOTAL	2,178	3,154	32	39,210	44,574

24.5 PERCENTAGE (AREA)

Forest Type	Past Treatment				
	Selection cum Improvement Felling	Coppice with Reserve	Clear Felling	No felling	Total
Teak and Mixed teak	2	5	(0.1)	16	23
Yeppa	0	1	0	34	35
Rest	2	2	0	38	42
Total	4	8	(0 1)	88	100

24.6 PERCENTAGE (VOLUME)

Forest Type	Past Treatment				
	Selection cum Improvement Felling	Coppice with Reserve	Clear Felling	No Felling	Total
Teak and Mixed teak	2	5	(0.1)	25	32
Yeppa	0	1	0	27	28
Rest	2	1	0	37	40
TOTAL	4	7	(0 1)	89	100

Contents

MAHABOOB NAGAR FOREST DIVISION

TABLE -25 FOREST TYPE BY PROPOSED TREATMENT

25 1 NUMBER OF PLOTS

Forest Type	Proposed Treatment.					
	Selection cum Improvement Felling	Thinning	C.W R	Clear Felling with Planatation.	No Felling	Total.
Teak and Mixed teak.	37	13	72	36	18	176
Yeppa	23	1	126	25	85	263
Rest	44	12	121	27	112	316
Total	107	26	319	88	215	755

25 2 AREA (Ha)

Forest Type	Selection cum Improvement Felling	Thinning	C.W R.	Clear Felling With Planatation	No Felling	Total
Teak and Mixed teak	9,507	3,340	18,500	9,250	4,325	45,222
Yeppa	6,681	257	32,374	6,424	21,840	67,576
Rest	11,505	3,083	31,090	6,938	28,777	81,193
Total	27,193	6,680	81,964	22,612	55,242	193,991

25 3 VOLUME/Ha (CU ME)

Forest Type	Proposed Treatment.					
	Selection cum Improvement Felling	Thinning	C.W R.	Clear Felling with Planatation	No Felling	Total
Teak and Mixed Teak	35 9	22 0	34.9	24.7	27 8	31.3
Yeppa	18.1	12.0	20.0	13.8	17 3	18.3
Rest	33.9	24 7	28.9	17.5	11.2	22 2
All	30.7	22 9	26 8	19 4	15 0	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE 25 FOREST TYPES BY PROPOSED TREATMENT

25.4 BY VOLUME (100 cu METRES)

Forest Type	Proposed treatment					
	Selection cum Thinning Improvement Felling		C.W.R.	Clear Felling with Plantation	No Felling	Total
Teak and Mixed teak	3,442	735	6,462	2,281	1,298	14,178
Yeppa	1,210	31	6,705	885	3,773	12,334
Rest	3,802	763	8,984	1,212	3,221	18,012
Total	8,454	1,529	21,931	4,378	8,292	44,574

25 5 PERCENTAGE (AREA)

Forest Type	Proposed Treatment					
	Selection cum Improvement Felling	Thinning	C.W.R.	Clear Felling With Plantation	No Felling	Total
Teak and Mixed teak	5	2	9	5	2	23
Yeppa	4	(0 1)	17	3	11	35
Rest	6	2	16	4	14	42
Total	15	4	42	12	27	100

25 6 PERCENTAGE (VOLUME)

Forest Type	Proposed Treatment					
	Selection cum Improvement Felling	Thinning	C.W.R.	Clear Felling With Plantation	No Felling	Total
Teak and Mixed teak	8	2	14	5	3	32
Yeppa	3	(0.1)	15	2	8	28
Rest	8	2	20	3	7	40
All	19	4	49	10	18	100

MAHABOOD NAGAR FOREST DIVISION

TABLE 26 — FOREST TYPE BY GRASS INCIDENCE

26.1 NUMBER OF PLOTS

Forest Type	Grass Incidence: Grass scattered	Medium	Dense	Absent	Total
Teak and Mixed Teak	54	90	31	1	176
Yeppa	74	117	61	11	263
Rest	104	141	54	17	316
Total	232	348	146	29	755

26.2 AREA (Ha.)

Forest Type	Grass incidence: Grass scattered	Medium	Dense	Absent	Total
Teak and Mixed Teak	13,875	23,125	7,965	[illegible],257	45,222
Yeppa	19,014	30,062	15,673	2,827	67,576
Rest	26,721	36,229	13,875	4,338	81,193
Total	59,610	89,416	37,513	7,452	193,991

26.3 VOLUME/Ha. (CU.ME)

Forest Type	Grass incidence: Grass scattered	Medium	Dense	Absent	Total
Teak and Mixed Teak	34.6	29.9	29.5	36.4	31.3
Yeppa	18.9	19.4	14.5	24.6	18.3
Rest	23 7	23.4	19.4	11 5	22.2
All	24.7	23.7	19.5	17.3	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE - 28 FOREST TYPE BY GRASS INCIDENCE

26.4 TOTAL VOLUME (100 cu. METRES)

Forest Type	Grass Incidence				Total
	Grass scattered	Medium	Dense	Absent	
Teak and Mixed Teak	4,804	6,927	2,354	93	14,178
Yeppa	3,588	5,822	2,280	694	12,334
Rest	6,335	8,476	2,698	503	18,012
Total	14,727	21,225	7,332	1,290	44,574

26.5 PERCENTAGE (AREA)

Forest Type	Grass Incidence				Total
	Grass scattered	Medium	Dense	Absent	
Teak and Mixed Teak	7	12	4	(0.1)	23
Yeppa	10	15	8	2	35
Rest	14	19	7	2	42
Total	31	46	19	4	100

26.6 PERCENTAGE (VOLUME)

Forest Type	Grass incidence				Total
	Grass scattered	Medium	Dense	Absent	
Teak and Mixed Teak	11	16	5	(0.2)	32
Yeppa	8	13	5	2	28
Rest	14	19	6	1	40
All	33	48	16	3	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 27 FOREST TYPE BY FIRE INCIDENCE

27.1 NUMBER OF PLOTS

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	145	31	176
Yeppa	150	113	263
Rest	205	111	316
Total	500	255	755

27.2 AREA (Ha.)

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	37,257	7,965	45,222
Yeppa	38,541	29,035	67,576
Rest	52,673	28,520	81,193
Total	128,471	65,520	193,991

27.3 VOLUME/Ha. (CU. ME.)

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	31.3	31.5	31.3
Yeppa	19.8	16.3	18.3
Rest	25.8	15.6	22.2
All	25.6	17.8	23.0

MAHABOOB NAGAR FOREST DIVISION

TABLE - 27 FOREST TYPE BY FIRE INCIDENCE

27.4 TOTAL VOLUME (100 cu METRES)

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	11,668	2,510	14,178
Yeppa	7,648	4,736	12,384
Rest	13,574	4,438	18,012
Total	32,890	11,684	44,574

27 5 PERCENTAGE (AREA)

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	19	4	23
Yeppa	20	15	35
Rest	27	15	42
Total	66	34	100

27.6 PERCENTAGE (VOLUME)

Forest Type	Fire incidence		Total
	Fire occurence noticed	Fire absent	
Teak and Mixed Teak	26	6	32
Yeppa	17	11	28
Rest	30	10	40
All	73	27	100

MAHABOOB NAGAR FOREST DIVISION

TABLE-28 / DISTRIBUTION OF STEMS/HA. BY SPECIES AND DIAMETER CLASS OF FOREST TYPE TEAK AND MIXED TEAK

Species	Diameter class in cms								Total
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
Tectona grandis	9 1	3 4	2 4	1 0	0 9	0 3	0.3	0.2	17 6
Terminalia tomentosa	17 6	6 6	4 4	1.2	0 3	0 2	0 1	0 2	30 6
Pterocarpus marsupium	3.3	2 2	1 0	0 9	0 2	0 2	0	0	8 1
Diospyros melanoxylon	2 6	0 5	0 7	0 1	0	0	0	0	3 9
Anogeissus latifolia	22 9	3 6	1 6	0 9	0 4	0 1	0 1	0 1	29 7
Chloroxylon swietenia	12 5	1 2	0 7	0 2	0	0	0	0	14 6
Lagerstroemia parviflora	6 6	0 9	0 4	0 1	0	0	0	0	8 0
Hardwickia binnata	1 4	0 8	0 9	0 7	0 8	0 3	0 2	1 2	6.3
Boswalia serrata	1 1	1 2	1.2	0 7	0 8	0.3	0 1	0 1	5 3
Lannea grandis	9 0	3 0	1 2	0 3	0 4	0.2	0 1	0	14 2
Madhuca latifolia	1 5	0 9	0 2	0 3	0 2	0 1	0	0 2	3 4
Terminalia belerica	0 4	0 2	0 1	0	0	0	0	0	0 7
Acacia leucofolia + lenticularis	2 3	0 2	0.2	0	0	0	0	0	2 7
Sterculia urens	0 6	0 4	0 6	0 6	0 5	0 2	0 3	0 6	3 8
Albizzia procera + odoratissima + amara	1 8	0.6	0 2	0.1	0 1	0	0	0	2.8
Buchanania lanzana + latifolia + anugustifolia	3 4	1 0	0 2	0 2	0	0	0	0	4 8
Cochlospermum gossipium+ religiosum	13 2	2 5	1 0	0 2	0 1	0	0	0	17 0
Dalbergia paniculata	3 6	0 3	0 3	0 4	0 3	0 1	0 1	0 1	5 2
Gardenia turgida + latifolia	1 7	0 3	0	0	0	0	0	0	2 0
Premna tomentosa	4.0	0 6	0 2	0	0	0	0	0	4 8
Strychnos potatorum	2 2	0 6	0 2	0 2	0	0	0	0	3 2
Wrightia tinctorea	5.9	0 3	0 1	0 1	0	0	0	0	6 4
Zizyphus xylocyra	6 7	0 5	0 1	0	0	0	0	0	7 3
Erythrina suberosa	2 6	0 5	0 3	0 3	0	0	0 1	0	3 7
Miscellaneous species	6 6	1 0	0 3	0 2	0 1	0.1	0	0 1	8 4
GI Rottleriformis	0 8	0 4	0 6	0 5	0 3	0.1	0 1	0 3	2 9
Grewia poplifolia	7.6	0 6	0 1	0 1	0	0	0	0	8 4
Erythrina monogysium	0 4	0 2	0 1	0	0	0	0	0	0 7
Dolichenran fuloata	0 7	0.2	0	0	0	0	0	0	0 9
Rest species	17 6	2 9	1 6	1.5	0 9	0.3	0 2	0.6	25.6
									253.0

MAHABOOB NAGAR FOREST DIVISION

TABLE-29 - DISTRIBUTION OF STEMS/HA. BY SPECIES AND DIAMETER CLASS OF FOREST TYPE YEPPA

Species	Diameter class in cms.								Total
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
Tectona grandis	0	0	0	0	0	0	0	0	0
Terminalia tomentosa	0.3	0.2	0.1	0	0	0	0	0	0.6
Pterocarpus marsupium	1.6	0.6	0.3	0.1	0.1	0	0	0	2.7
Diospyros melanoxylon	1.2	0.3	(0.04)	(0.04)	0	0	0	0	1.5
Anogeissus latifolia	12.3	1.0	0.4	(0.04)	0.1	0	0	0	13.8
Chloroxylon swietenia	20.6	1.2	0.3	0	0	(0.04)	0	0	22.1
Lagerstroemia parviflora	0.4	0	0	0	0	0	0	0	0.4
Hardwickia binnata	18.2	9.8	8.2	4.8	3.6	1.7	1.1	1.8	49.2
Boswellia serrata	0.4	0.6	0.6	0.2	0.1	0.2	0.1	0.1	2.3
Lannea grandis	2.3	0.3	0.3	0.2	0	0	0	0	3.1
Madhuca latifolia	0.1	0.1	0	0	(0.04)	(0.04)	0	0	0.2
Terminalia belerica	0.8	0.3	(0.04)	0.2	0.1	0	(0.04)	(0.04)	1.4
Acacia leucafolia + lenticularis	6.0	0.7	0.5	0.1	(0.04)	0	0	(0.04)	7.3
Sterculia urens	0.1	0.1	0.1	0.1	0.3	(0.04)	0	0	0.7
Albizzia procera + odoratissima + amara	2.5	1.1	0.5	0.3	0.1	0.1	0	0.2	4.8
Buchanania lanzana + latifolia + angustifolia	0	0	0	0	0	0	0	0	0
Gochlospermum gossypium + religiosum	0.4	(0.04)	0	0	0	0	0	0	0.4
Dalbergia paniculata	1.2	0.1	0.1	0	(0.04)	0	(0.04)	0	1.4
Gardenia turgida + latifolia	0.5	0.1	(0.04)	0	0	0	0	0	0.6
Premna tomentosa	0.5	(0.04)	0	0	0	0	0	0	0.5
Strychnos potatorum	0.8	0.1	0	0.1	0	0	0	0	0.8
Wrightia tinctorea	3.4	0.2	(0.04)	0.1	0	0	0	0	3.7
Zizyphus xylopyra	2.1	(0.04)	0	0	0	0	0	0	2.1
Erythrina suberosa	(0.04)	0	0	0	0	0	0	0	(0.04)
Miscellaneous species	1.7	0.2	0.1	0.1	0.1	0	0	0	2.2
Gl. Rottleriformis	0.5	0.8	0.3	0.3	0.3	0.1	0.1	0.2	2.8
Grewia poplifolia	6.7	0.2	0	0	0	0	0	0	6.9
Erythrina monogysium	0.8	0	0	0	0	0	0	0	0.8
Dolichenran fulcata	1.4	0.2	0.2	(0.04)	(0.04)	0	0	0	1.8
Rest species	7.3	1.4	0.9	0.3	0.2	0.2	0.1	(0.04)	10.4
									144.3

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MAHABOOB NAGAR FOREST DIVISION

TABLE-30. DISTRIBUTION OF STEMS/HA. BY SPECIES AND DIAMETER CLASS OF FOREST TYPE MISCELLANEOUS, MALLAMADI, ANOGEISSUS, ANDOK, SATIN, OTHERS AND BLANK

Species	Diameter class in cms.								Total
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
Tectona grandis	0.2	(0.03)	0	(0.03)	0	0	0	0	0.2
Terminalia tomentosa	20.2	4.5	1.9	0.6	0.4	0.1	0.1	(0.03)	27.8
Pterocarpus marsupium	4.3	2.6	1.1	0.5	0.3	(0.03)	0.1	0.1	9.0
Diospyros melanoxylon	2.2	0.6	0.5	0.1	(0.03)	0	0	0	3.4
Anogeissus latifolia	22.2	2.0	0.3	0.2	0.1	0.1	0	0	24.9
Chloroxylon swietenia	21.0	2.5	0.5	0.3	0.1	0	0	0	24.4
Lagerstroemia parviflora	2.7	0.3	0.1	0.1	0	0	0	0	3.2
Hardwickia binnata	3.7	1.2	0.8	1.2	0.6	0.3	0.4	0.2	7.2
Boswellia serrata	0.8	1.1	1.2	0.8	0.5	0.2	(0.03)	0.1	4.5
Lannea grandis	7.8	1.4	0.6	0.1	0.1	0	(0.03)	0	10.0
Madhuca latifolia	1.2	0.6	0.2	0.2	0.1	0.1	0.1	0.1	2.6
Terminalia belerica	1.0	0.3	0.3	0.1	0.1	0.2	0	0	2.0
Acacia leucafolia + lenticularis	2.9	0.6	0.2	0.1	0	0	0	(0.03)	3.8
Sterculia urens	0.3	0.3	0.3	0.2	(0.03)	0.2	0.1	0.1	1.5
Albizzia procera + odoratissima + amara	2.6	1.0	0.5	0.3	0.3	0.2	0.1	0.3	5.3
Buchanania lanzana + latifolia + anugustifolia	2.1	0.9	0.4	0.1	(0.03)	0	0	0	3.5
Cochlospermum gossypium+ religiosum	12.4	1.2	0.3	0.1	(0.03)	0	0	0	14.0
Dalbergia paniculata	2.0	0.5	0.3	0.1	0.2	(0.03)	(0.03)	(0.03)	3.1
Gardenia turgida + latifolia	2.0	0.2	0	0	(0.03)	0	0	0	2.2
Pegamma tomentosa	2.1	0.1	0.1	(0.03)	0	0	0	0	2.3
Strychnos potatorum	1.0	0.3	0.1	0	0	0	0	0	1.4
Wrightia tinctorea	2.2	0.2	0	0.1	0	0	0	(0.03)	2.5
Zizyphus xylopyra	4.4	0.2	(0.03)	(0.03)	0	0	0	0	4.6
Erythrina suberosa	1.0	0.3	0	0	0	0	0	0	1.3
Miscellaneous species	7.1	1.1	0.5	0.3	0.1	0.1	(0.03)	0.1	9.3
Gl.Rottleriformis	1.1	0.7	0.7	0.5	0.3	0.2	(0.03)	0.2	3.7
Grewia oopliflolia	6.5	0.2	(0.03)	(0.03)	0	0	0	0	6.7
Erythrina monogysium	2.7	0.1	0	0	0	0	0	0	2.8
Dolichenran falcata	0.7	0.1	0.1	0	0.1	0	(0.03)	(0.03)	1.0
Rest species	14.4	2.8	1.4	1.1	0.9	0.3	0.4	0.7	22.0
									210.4

NAGARCOOD NAGAR FOREST DIVISION

TABLE-31. DISTRIBUTION OF VOLUME(M3) BY SPECIES AND DIAMETER CLASS ON FOREST TYPE TEAK AND MIXED TEAK (VOLUME IN CU METRES)

Species	Diameter class in Cms								
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	Total
Tectona grandis	0.4	0.6	0.8	0.4	0.6	0.3	0.3	0.3	3.7
Terminalia tomentosa	0.8	0.7	0.9	0.4	0.1	0.1	0.1	0.3	3.4
Pterocarpus marsupium	0.1	0.2	0.2	0.3	0.1	0.1	0	0	1.0
Diospyros melanoxylon	0.2	0.1	0.1	(0.02)	0	0	0	0	0.4
Anogeissus latifolia	1.6	0.4	0.3	0.2	0.1	(0.02)	(0.03)	0.3	2.9
Chloroxylon swietenia	0.4	0.1	0.1	(0.04)	0	0	0	0	0.6
Lagerstroemia parviflora	0.2	0.1	0.1	(0.02)	0	0	0	0	0.4
Hardwickia binnata	0.1	0.1	0.2	0.2	0.3	0.2	0.1	2.2	3.4
Boswellia serrata	(0.04)	0.1	0.2	0.2	0.2	0.2	0.1	0.1	1.1
Lannea grandis	0.3	0.4	0.2	0.1	0.2	0.1	0.1	[illegible]	1.4
Madhuca latifolia	0.1	0.1	(0.03)	0.1	0.1	0.1	0	0.2	0.7
Terminalia belerica	(0.03)	(0.02)	(0.01)	0	0	0	0	0	0.1
Acacia leucofolia+ lenticularis	(0.06)	(0.03)	(0.04)	0	0	0	0	0	0.1
Sterculia urens	(0.01)	0.1	0.1	0.2	0.2	0.1	0.2	0.7	1.6
Albizzia procera+ odoratissima+amara	0.1	0.1	(0.04)	(0.03)	0.1	0	0	0	0.3
Buchanania lanzana+ latifolia+angustifolia	0.2	0.1	(0.04)	(0.04)	0	0	0	0	0.3
Cochlospermum gossypium+religiosum	0.7	0.3	0.2	(0.05)	(0.04)	0	0	0	1.2
Dalbergia paniculata	0.2	(0.03)	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Gardenia turgida+ latifolia	0.1	(0.03)	0	0	0	0	0	0	0.1
Premna tomentosa	0.3	0.1	(0.03)	0	0	0	0	0	0.4
Strychnos potatorum	0.2	0.1	(0.02)	(0.05)	0	0	0	0	0.3
Wrightia tinctorea	0.3	(0.04)	(0.02)	(0.02)	0	0	0	0	0.3
Zizyphus xylopyra	0.3	(0.03)	(0.01)	0	0	0	0	0	0.3
Erythrina suberosa	0.2	0.1	0.1	0.1	0	0	(0.03)	0	0.5
Miscellaneous spec	0.5	0.1	0.1	(0.03)	(0.02)	(0.05)	0	0.1	0.8
Cl Rottleriformis	0.1	0.1	0.1	0.1	0.1	0.1	(0.04)	0.3	0.9
Grewia poplifolia	0.3	(0.04)	(0.01)	(0.01)	0	0	0	0	0.3
Erythrina monogysium	(0.03)	(0.02)	(0.01)	0	0	0	0	0	0.1
Dolichenran fulcata	0.1	(0.02)	(0.01)	0	0	0	0	0	0.1
Rest species	1.2	0.3	0.2	0.3	0.2	0.1	0.1	1.2	3.6
									31.1

MAHAROOB NAGAR FOREST DIVISION

TABLE-32. DISTRIBUTION OF VOLUME/HA. BY SPECIES AND DIAMETER CLASS OF FOREST TYPE YEPPA (VOLUME IN CUBIC METRES)

Species	Diameter class in cms.								Total
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	
Tectona grandis	0	0	0	0	0	0	0	0	0
Terminalia tomentosa	(0.02)	0.02	(0.02)	0	0	0	0	0	0.1
Pterocarpus marsupium	0.1	0.1	(0.05)	(0.02)	(0.03)	0	0	0	0.2
Diospyros melanoxylon	0.1	(0.04)	(0.0)	(0.01)	0	0	0	0	0.1
Anogeissus latifolia	0.9	0.1	0.1	(0.01)	(0.03)	0	0	0	1.1
Chloroxylon swietenia	0.6	0.1	(0.04)	0	0	(0.01)	0	0	0.7
Lagerstroemia parviflora	(0.01)	0	0	0	0	0	0	0	(0.01)
Hardwickia binnata	1.6	1.2	1.4	1.2	1.2	0.8	0.7	2.4	10.5
Boswellia serrata	(0.02)	0.1	0.1	0.1	(0.03)	0.1	0.1	0.1	0.6
Lannea grandis	0.1	(0.03)	0.1	0.1	0	0	0	0	0.3
Madhuca latifolia	(0.02)	(0.01)	0	0	(0.01)	(0.02)	0	0	0.1
Terminalia belerica	(0.05)	(0.03)	(0.01)	(0.04)	(0.02)	0	(0.02)	(0.03)	0.2
Acacia leucofolia + lenticularis	0.2	0.1	0.1	(0.03)	(0.02)	0	0	(0.03)	0.4
Sterculia urens	(0.01)	(0.01)	(0.03)	(0.02)	0.1	0.02	0	0	0.2
Albizzia procera + odoratissima + amara	0.1	0.1	0.1	0.1	0.1	0.1	.0	033	0.9
Buchanania lanzana + latifolia + anugustifolia	0	0	0	0	0	0	0	0	0
Cochlospermum gossypium+ religiosum	(0.02)	(0.0)	0	0	0	0	0	0	(0.02)
Dalbergia paniculata	0.1	(0.02)	(0.02)	0	(0.2)	0	(0.03)	0	0.2
Gardenia turgida + latifolia	(0.03)	(0.01)	(0.0)	0	0	0	0	0	(0.04)
Premna tomentosa	(0.03)	(0.0)	0	0	0	0	0	0	(0.03)
Strychnos potatorum	(0.05)	(0.02)	0	(0.02)	0	0	0	0	0.1
Wrightia tinctoria	0.2	(0.03)	(0.0)	(0.03)	0	0	0	0	0.2
Zizyphus xylopyra	0.1	(0.0)	0	0	0	0	0	0	0.1
Erythrina suberosa	(0.0)	0	0	0	0	0	0	0	0.0
Miscellaneous species	0.1	(0.02)	(0.02)	(0.02)	0	0	0	0	0.1
Gl. Rottleriformis	(0.04)	0.1	0.1	0.1	0.1	0.05	0.1	0.3	0.8
Grewia poplifolia	0.2	(0.01)	0	0	0	0	0	0	0.2
Erythrina monogysium	(0.05)	0	0	0	0	0	0	0	(0.05)
Dolichenran fulcata	0.1	(0.02)	(0.03)	(0.01)	(0.01)	0	0	0	0.1
Rest Species	0.5	0.1	0.1	0.1	0.1	0.1	0.1	(0.03)	1.1
									18.3

MAHBOOB NAGAR FOREST DIVISION

TABLE-33 DISTRIBUTION OF VOLUME/HA. BY SPECIES AND DIAMETER CLASS OF FOREST TYPE, MISCELLANEOUS, NALLAMALL, ANOGEISSUS, ANDUK, SATIN, OTHERS AND BLANK (VOL. IN CU MTS.)

Species	Diameter Class in Cms.								
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	Total
Tectona grandis	(0 01)	(0.01)	0	(0 02)	0	0	0	0	(0 04)
Terminalia tomentosa	0.[illegible]	0 5	0 4	0 2	0 2	0 1	0 1	0 1	2.4
Pterocarpus marsupium	0.1	0 3	0 2	0 2	0 1	(0 02)	0 1	0 1	1.1
Diospyros melanoxylon	0 2	0 1	0 1	(0 03)	(0.01)	0	0	0	0 4
Anogeissus latifolia	1.6	0 2	0 1	(0 03)	(0.03)	(0 04)	0	0	2 0
Chloroxylon swietenia	0 7	0 2	0 1	0 1	(0 03)	0	0	0	1.1
Lagerstroemia parviflora	0.1	(0 03)	(0 01)	(0 01)	0	0	0	0	0.1
Hardwickia binnata	0 2	0 1	0 1	0 3	0 2	0 2	0 3	0 3	1.7
Boswellia serrata	(0 02)	0 1	0 2	0 2	0 2	0 1	(0 02)	0 1	0 9
Lannea grandis	0.2	0 2	0.1	(0 04)	(0 03)	0	(0 02)	0	0 6
Madhuca latifolia	0.1	0 1	(0 03)	(0 05)	(0 04)	0 1	(0.04)	0 2	0 7
Terminalia belerica	0 1	(0 03)	(0 04)	(0 03)	(0 04)	0 1	0	0	0 3
Acacia leucafelia + lenticularis	0.1	0 1	(0.03)	(0 03)	0	0	0	(0.03)	0 3
Sterculia urens	(0 01)	(0 03)	0 1	0 1	(0.01)	0 1	(0 04)	0 1	0 5
Albizzia procera+ odoratissima+amara	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 4	1.1
Buchanania lanzana+ latifolia+angustifolia	0.2	0 1	0 1	(0 01)	(0 01)	0	0	0	0 4
Gochlospermum gossypium+religiosum	0 6	0 1	(0 05)	(0.03)	(0 01)	0	0	0	0 8
Dalbergia paniculata	0 1	0 1	0.1	(0 02)	0 1	(0 02)	(0 03)	(0 05)	0 5
Gardenia turgida+ latifolia	0 1	(0 02)	0	0	(0 01)	0	0	0	0 1
Premna tomentosa	0 1	(0 01)	(0.01)	(0.01)	0	0	0	0	0 1
Strychnos potatorum	0 1	(0.03)	(0 01)	0	0	0	0	0	0.1
Wrightia tinctorea	0 1	(0 03)	0	(0 02)	0	0	0	(0 05)	0 2
Zizyphus xylopyra	0 2	(0 01)	(0 0)	(0 0)	0	0	0	0	0.2
Erythrina suberosa	0 1	(0.03)	(0 01)	0	0	0	0	0	0 1
Miscellaneous specs	0.5	0 1	0 1	0 1	(0 04)	(0 02)	(0 02)	0 1	1.0
Cl. Rottleriformis	0.1	0 1	0 1	0 1	0 1	0.1	(0 02)	0 2	0 8
Grewia poplifolia	0.2	(0 02)	(0 0)	(0 01)	0	0	0	0	0 2
Erythrina monogynum	0 2	(0 01)	0	0	0	0	0	0	0 2
Dolichenrsa fulcata	(0 05)	(0 01)	(0 01)	0	(0.02)	(0 02)	(0.04)	0	0.1
Rest species	1.0	0.3	0.2	0 2	0 3	0 1	0 2	2 1	4.4
									22.4

MAHABOOB NAGAR FOREST DIVISION

TABLE-34 DISTRIBUTION OF VOLUME/HA. BY FOREST TYPE AND DIAMETER CLASS (VOL. IN CU.M.)

Forest type	Diameter class in cms.								Total	No. of plots
	-14	15-19	20-24	25-29	30-34	35-39	40-44	45+		
Teak	2.9	3.3	4.1	5.5	5.7	4.3	3.5	12.7	42.0	15
Mixed Teak	5.2	4.1	4.4	4.0	2.6	2.3	1.3	6.5	30.4	161
Miscellaneous	4.5	3.1	3.0	2.2	1.8	1.7	1.1	5.6	23.0	220
Nalla Maddi	7.6	6.4	4.5	3.2	2.7	2.4	0.9	1.6	29.3	29
Yeppa	2.7	2.4	2.3	2.2	1.7	1.7	1.1	4.0	18.1	263
Anogeissus	6.8	4.4	4.5	2.2	1.3	2.2	1.4	1.9	24.7	21
Anduk	6.0	4.0	5.0	3.0	2.7	0	0	0	20.7	3
Satin	3.9	2.1	1.5	1.1	1.7	0	0.2	1.7	12.2	21
Others	2.4	1.3	1.9	1.0	0	0.4	0	5.4	12.4	7
Blank	0.7	0.5	0.8	0.8	0.9	0.7	0.7	5.9	11.0	15
									23.0	755

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TABLE – 1 HEIGHT-DIAMETER DISTRIBUTION OF STEMS OF FORM FACTOR DATA

SPECIES – TECTONA GRANDIS

Height Class in metre	Diameter Class in cm.			
	0–9	10–19	20–29	Total
0–4	0	0	0	0
5–9	2	14	1	17
10–14	0	13	3	16
Total	2	27	4	33

TABLE – 2

SPECIES – TERMINALIA TOMENTOSA

Height Class in metre	Diameter Class in cm					
	0–9	10–19	20–29	30–39	40–49	Total
0–4	0	2	0	0	0	2
5–9	2	62	2	0	0	66
10–14	0	10	15	1	1	27
15–19	0	0	2	1	0	[illegible]
Total	2	74	19	2	1	9[illegible]

TABLE – 3.

SPECIES – PTEROCARPUS MARSUPIUM

Height Class in metre	Diameter Class in cm			
	10–19	20–29	30–39	Total
0–4	1	0	0	1
5–9	21	4	1	26
10–14	7	16	1	24
15–19	0	1	0	1
Total	29	21	2	52

MAHABOOB NAGAR FOREST DIVISION

TABLE -4. HEIGHT-DIAMETER DISTRIBUTION OF STEMS OF FORM FACTOR DATA

SPECIES - ANOGEISSUS LATIFOLIA.

Height Class in Metre.	Diameter Class in cm. 10-19	20-29	Total
0-4	2	0	2
5-9	42	4	46
10-14	19	1	20
Total	63	5	68

TABLE- 5. SPECIES - CHLOROXYLON SWIETENIA

Height Class in Metre.	Diameter Class in cm. 10-19	20-29	30-39	Total
0-4	6	0	0	6
5-9	55	2	1	58
10-14	13	5	0	18
Total	74	7	1	82

TABLE - 6. SPECIES - LAGERSTROEMIA PARVIFLORA

Height Class in metre.	Diameter Class in cm- 10-19	20-29	Total
0-4	1	0	1
5-9	20	0	20
10-14	1	1	2
Total	22	1	23

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TABLE -7 HEIGHT DIAMETER DISTRIBUTION OF STEMS OF FORM FACTOR DATA

SPECIES - HARDWICKIA BINNATA.

Height Class In Metre.	Diameter Class in cm.							
	0-9	10-19	20-29	30-39	40-49	50-59	70-79	Total
0-4	0	8	0	0	0	0	0	8
5-9	1	15	15	4	1	0	1	37
10-14	0	3	2	2	2	0	0	9
15-19	0	0	0	0	0	1	0	1
Total	1	26	17	6	3	1	1	65

TABLE - 8. SPECIES - BOSWELLIA SERRATA.

Height Class in Metre	Diameter Class in cm				
	10-19	20-29	30-39	40-49	Total
0-4	0	0	0	0	0
5-9	4	3	0	0	7
10-14	2	8	5	1	16
Total	6	11	5	1	23

TABLE - 9. SPECIES - ALBIZZIA PROCERA + ODORATISSIMA + AMARA

Height Class in Meter.	Diameter Class in cm.					
	10-19	20-29	30-39	40-49	50-59	Total
0-4	[illegible]	0	0	0	0	1
5-9	8	2	1	0	1	12
10-14	3	2	1	0	0	6
Total	12	4	2	0	1	19

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TABLE- 10 HEIGHT-DIAMETER DISTRIBUTION OF STEMS OF FORM FACTOR DATA.

SPECIES- LANNEA GRANDIS

Height Class in Meter	Diameter Class in cm.			
	10-19	20-29	30-39	Total
0-4	0	1	0	1
5-9	24	7	0	31
10-14	2	5	2	9
Total	26	13	2	41

TABLE - 11 SPECIES - COCHLOSPERMUM GOSSYPIUM + RELIGIOSUM

Height Class in Meter	Diameter class in Cm			
	0-9	10-19	20-29	Total
0-4	0	0	0	0
5-9	2	27	2	31
10-14	0	6	5	11
Total	2	33	7	42

TABLE - 12. SPECIES - WRIGHTIA TINCTORIA.

Height Class in Meter	Diameter Class in cm		
	10-19	20-29	Total
0-4	1	0	1
5-9	14	2	16
Total	15	2	17

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MAHABOOB NAGAR FOREST DIVISION.

TABLE - 1. FINAL VOLUME EQUATIONS FROM SAMPLE TREES

Species	No. of observations	R^2	Equation
Hardwickia Binnata Madhuca Latifolia Gl. Rottleri formis	386	.86	$V = .063632 + 5.355486\ D^3$
Ziziphus xylonyra Gl. Rottleri formis Grewia poplifolia.	142	093	$V = .027354 + 4.663714\ D^3$
Lannea grandis Acacia Leucofolia + lenticularis, Chundra, Leucofloa.	126	.94	$V = -.027403 + 3.069449\ D^2$
Dalbergia Paniculata Cochlospermum Gossypium + Religiosum.	205	.96	$V = .028917 + 7.777047\ D^3$
Acacia Catechu Serratula Wrightia Tinctoria.			
Chlorozylon Swietenia Lagerstroemia parviflora	204	.86	$V = -.063156 + 2.043969\ D^2$
Hardwickia Binnata	304	.87	$V = .061438 + 3.496232\ D^3$
Pterocarpus marsupium Boswellia serrata Albizzia procera + odoratissima + amara Sterculia urens Gl. Rottleri Formis	255	.75	$V = -.043832 + 3.262852\ D^2$
Tectona grandis	51	.86	$V = -.005926 + 5.640754\ D^2$
Terminalia Tomentosa	179	.86	$V = .012763 + 9.281220\ D^3$
Miscellaneous	443	.96	$V = .058237 + 4.597983\ D^3$
Anogeissus latifolia Hardwickia binnata	533	.81	$V = .55883 + 5.603009\ D^3$

V - Volume (cubic metre, under bark)

D - Diameter (Metre)

R^2 - Coefficient of determination.

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TABLE - 2. Final equations - 'Form Factor' Trees

Species Name	Volume Equation
Tectona grandis	$V = .003027 + .295446\ D^2H$
Hardwickia binnata	$V = -.023583 + .279472\ D^2H$
Cordiloperum gossypium + religiosa	$V = .005185 + .245578\ D^2H$
Dalbergia paniculata	
Anogeissus latifolia	$V = .001359 + .242330\ D^2H$
Lannea grandis	
Chloroxylon swietenia	
Lagerstroemia parviflora	$V = .009134 + .173150\ D^2H$
Albizzia procera + odoratissima + amara	
Boswellia serrata	$V = .009486 + .232207\ D^2H$
Wightia tinctorea	
Pterocarpus marsupium	$V = .013437 + .217379\ D^2H$
Terminalia tomentosa	
Madhuca latifolia	$V = -.002557 + .280114\ D^2H$
Ziziphus xylopyra	
Miscellaneous	$V = .001446 + .243906\ D^2H$

D = Diameter (Metre)

H = Height (Metre)

V = Volume (cubic metre)

Units = Metre

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TABLE - 3. Volume Equations tried for Sample Trees

$$V = a + bD + cD^2$$

$$V = a + bD^3 + cD^2$$

$$V = a + bD^2 + cD^3$$

$$V = a + bD^2 + cD$$

$$V = a + bD^3 + cD + dD^2$$

V = Volume

D = Diameter

a, b, c, d - Regression Coefficients

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TABLE - 4. VOLUME EQUATIONS TRIED FOR 'FORM FACTOR'

$V = a+bD^2H + c(D^2H)^2$

$V = a+bD^2H + cD^2+dH$

$V = a+bD^2 + cD^3+dD$

$V = a+bD^3 + cD^2$

$V = a+bD^2H + cD^2+dH$

$V = a+bD + cD^2 + dD^3$

$V = a+bD^2H + cD + dH$

$V = a+bD^2H + cD^3H$

$V = a+D^2 + D^3$

$V = a+D^2H +D$

$V = a+D^2 + DH$

$V = a+bD^2H$

V = Volume

D = Diameter

H = Height

a,b,c,d - Regression coefficients.

MAHABOOB NAGAR FOREST DIVISION

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TABLE 1

VOLUME TABLE FOR SPECIES: TECTONA GRANDIS

UNIT: Volume in Cu Mts under bark till 5 Cms over bark top diameter limit
It contains main stem plus first straight branch

Height class in metres	Diameter in centimetres				
	10	15	20	25	30
4	0207	0429	0739	1138	1625
6	0266	0562	0975	1507	2157
8	0325	0695	1212	1876	2689
10	0384	0827	1448	2246	3221
12	0443	0960	1684	2615	3752
14	0502	1093	1921	2984	4284

V = 003027 + 298446 D
V = Under bark volume in cubic Metres
D = Diameter in Metres
H = height in Metres

TABLE 2

VOLUME TABLE FOR SPECIES: HARDWICKIA BINNATA

UNIT: Volume in Cu Mts under bark till 5 Cms. over bark top diameter limit
It contains main stem plus first straight branch

Height Class in metres	Diameter in Centimetres									
	10	15	20	25	30	35	40	45	50	55
4	- 0008	0141	0434	0812	1273	1818	2446	3159	3955	4836
6	- 0012	0267	0658	1161	1776	2502	3341	4291	5353	6526
8	0043	0392	0881	1510	2279	3187	4235	5423	.8750	8217
10	0099	0518	1105	1860	2782	3872	5129	6554	8147	.9908
12	0155	0644	1329	2209	3285	4556	6023	.7686	9544	1 1598
14	0211	0770	1552	2558	.3788	5241	6918	8818	.0942	1.3289

V = - 023583 + .279452 D^2xH
V = Under bark volume in cubic metre
D = Diameter in metres
H = Height in Metres

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TABLE .3 VOLUME TABLE FOR SPECIES: COCHLOSPERMUM GOSSYPIUM + RELIGIOSUM

Unit; Volume in Cu. Mts. under bark till 5 cms. over bark top diameter limit. It contains main stem plus first straight branch.

Height Class in Metres	Diameter in centimetres				
	10	15	20	25	30
4	.0199	.0383	.0641	.0972	.1378
6	.0248	.0493	.0837	.1279	.1820
8	.0297	.0604	.1034	.1586	.2262
10	.0346	.0714	.1230	.1893	.2704
12	.0395	.0825	.1427	.2200	.3146
14	.0444	.0935	.1623	.2507	.3588

$V = .003188 + .246578\ D^2xH$

V = Under bark volume in cubic metres

D = Diameter in metres

H = Height in Metres.

.4 VOLUME TABLE FOR SPECIES: ANOGEISSUS LATIFOLIA

Unit: Volume in Cu.Mts. under bark till 5 Cms. over bark top diameter limit. It contains main stem plus first straight branch.

Height Class in Metres	Diameter in centimetres				
	10	15	20	25	30
4	.0171	.0353	.0608	.0935	.1335
6	.0220	.0463	.0802	.1238	.1771
8	.0268	.0571	.0995	.1541	.2207
10	.0317	.0680	.1189	.1844	.2643
12	.0365	.0789	.1383	.2146	.3079
14	.0414	.0898	.1577	.2449	.3516

$V = .002659 + .242330\ D^2xH$

V = Under bark volume in cubic metres

D = Diameter in metres

H = Height in metres.

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TABLE. 5

VOLUME TABLE FOR SPECIES: ALBIZZIA PROCERA + CORDATISSIMA + AMARA

Unit: Volume in Cu Mts. under bark till 5 Cms. over bark top diameter limit
It contains main stem plus first straight branch

Height Class in metres	Diameter in Centimetres									
	5	10	15	20	25	30	35	40	45	50
4	.0195	0325	0506	.0740	1026	1363	1753	2195	2688	3234
6	0229	0403	0645	.0957	.1338	.1788	.2307	2896	3554	4281
8	0264	0480	.0783	1173	.1649	2212	2861	.3597	.4420	.5329
10	0299	0558	.0922	1389	1961	2636	3415	.4298	5285	6376
12	.0333	.0636	1060	.1606	2273	3060	.3969	5000	6151	7424
14	0368	0714	.1199	1822	.2584	3485	4523	5701	7017	8471

V = 009134+ 173150 D^2xH ; V = Under bark volume in cubic metres ;
D = Diameter in metres ; H = Height in Metres

TABLE. 6

VOLUME TABLE FOR SPECIES: PTEROCARPUS MARSUPIUM

Unit : Volume in Cu.Mts. under bark till 5 Cms. over bark top diameter limit
It contains main stem plus first straight branch

Height Class in Metres	Diameter in Centimetres						
	10	15	20	25	30	35	40
4	0264	0427	0556	0949	1306	1732	2221
6	0308	0525	0829	1221	1699	2264	2916
8	0351	0623	1003	.1492	2090	2797	3612
10	0395	0721	.1177	1764	2482	.3329	.4308
12	.0438	0819	1351	2036	2873	3862	5003
14	0482	0916	1525	2308	.3264	.4394	5699
16	0525	1014	.1699	2579	3655	4927	6394
18	0569	1112	1873	2851	4047	5460	7090
20	0612	1210	2047	3123	4438	5992	7786

V = 013437+ 217379 D^2x

V = Under bark volume in cubic metres.

D = Diameter in metres

H = Height in Metres

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TABLE.7 VOLUME TABLE FOR SPECIES: TERMINALIA TOMENTOSA

Unit: Volume in Cu.Mts. under bark till 5 Cms. over bark top diameter limit. It contains main stem plus first straight branch.

Height Class in Metres	Diameter in centimetres						
	10	15	20	25	30	35	40
4	.0130	.0325	.0598	.0949	.1379	.1886	.2471
6	.0182	.0442	.0806	.1275	.1847	.2523	.3303
8	.0234	.0559	.1014	.1600	.2315	.3160	.4136
10	.0286	.0676	.1222	.1925	.2783	.3799	.4968
12	.0338	.0793	.1431	.2250	.3251	.4435	.5800
14	.0390	.0910	.1639	.2575	.3720	.5072	.6633
16	.0442	.1027	.1847	.2900	.4188	.5709	.7465
18	.0494	.1144	.2055	.3225	.4656	.6347	.8298
20	.0546	.1261	.2263	.3550	.5124	.6984	.9130

$V = -.022597 + .230114\ D^2 xH$

V = Under bark volume in cubic metres

D = Diameter in metres; H= Height in Metres.

TABLE.8 VOLUME TABLE FOR SPECIES: WRIGHTIA TINCTOREA

Unit: Volume in Cu. Mts. under bark till 5 Cms. over bark top diameter limit. It contains main stem plus first straight branch.

Height Class in metres	Diameter in centimetres				
	10	15	20	25	30
4	.0234	.0438	.0652	.0965	.1348
6	.0280	.0512	.0837	.1255	.1766
8	.0327	.0617	.1023	.1546	.2184
10	.0373	.0721	.1209	.1836	.2602

$V = .009486 + .232207\ D^2H$

V = under bark volume in cubic metres

D= Diameter in Metres; H= Height in Metres.

TAB VOLUME TABLE FOR SPECIES: MISCELLANEOUS

Unit: Volume in Cu.Mts. under bark till 5 Cms. over bark top diameter limit. It contains main stem plus first straight branch.

Height Class in Metres	Diameter in centimetres				
	10	15	20	25	30
4	.0180	.0363	.0619	.0949	.1351
6	.0229	.0473	.0814	.1253	.1790
8	.0278	.0583	.1010	.1558	.2229
10	.0327	.0693	.1205	.1863	.2668

$V = .003446 + .243906\ D^2xH$

V = Under bark volume in cubic metres

D = Diameter in metres; H= Height in Metres.

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MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE 1. SPECIES - TECTONA GRANDIS

Utility Classes	Bark vol.% Tree Portion (1 + 2)	Branch vol. % of main stem.	Bark vol.% Tree Portion (2 + 3)	Cull %
Poles	59.5	9.8	46.3	2.4
Vasam	28.8	0	20.4	8.3
Bazus	30.1	0	0	15.9
Dolum	18.2	0	0	8.4
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	20.5	19.2	28.7	19.9

TABLE 2. SPECIES - TERMINALIA TOMENTOSA

Utility classes	Bark vol.% Tree Portion (1 + 2)	Branch vol. % of main stem.	Bark vol.% Tree Portion (2 + 3)	Cull %
Poles	76.1	33.8	76.1	11.7
Vasam	52.3	9.1	50.1	7.5
Bazus	43.5	0	48.1	5.8
Dolum	37.2	0	28.1	0.4
Karra	11.2	0	0	1.1
Palaka	0	0	0	0
Firewood	51.6	48.6	62.7	20.4

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MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.3 SPECIES - PTEROCARPUS MARSUPIUM

Utility classes	Bark vol % Tree Portion (1 + 2)	Branch vol % of main stem	Bark vol % Tree Portion (2 + 3)	Cull %
Poles	58 5	52 6	58 1	7 0
Vasam	46 4	9 4	45 0	9.2
Dazus	36.8	0	36 0	11 4
Dolum	29 5	0	0	22 5
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	37 8	46 2	62 9	30 5

TABLE.4 SPECIES - ANOGEISSUS LATIFOLIA

Utility classes	Bark vol % Tree portion (1 + 2)	Branch vol % of main stem	Bark vol % Tree portion (2 + 3)	Cull %
Poles	17 0	19 0	32 2	6 8
Vasam	28 1	6 8	20 3	4 3
Dazus	13 9	0	0	10 7
Dolum	11 3	0	0	14 8
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	26 5	31 4	38 4	17 1

MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.5 SPECIES - CHLOROXYLON SWIETENIA

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem	Bark vol.% Tree portion (2 + 3)	Cull %
Poles	53.0	26.8	52.9	2.0
Vasam	44.8	7.2	31.0	2.0
Bazus	34.9	0	50.0	4.7
Dolum	22.9	0	0	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	45.8	33.6	70.1	8.9

TABLE.6 SPECIES - LAGERSTROEMIA PARVIFLORA

Utility classes	Bark vol.% Tree Portion (1 + 2)	Branch vol. % of main stem	Bark vol.% Tree Portion (2 + 3)	Cull %
Poles	43.1	3.2	45.1	1.6
Vasam	38.1	0	0	0
Bazus	0	0	0	0
Dolum	0	0	0	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	59.2	4.1	55.6	15.6

MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.7 SPECIES - HARDWICKIA BINNATA

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem	Bark vol.% Tree portion (2 + 3)	Cull %
Poles	78.8	117.7	74.0	9.9
Vasam	70.8	45.7	54.0	5.4
Bazus	58.6	50.6	50.5	3.9
Dolum	40.2	31.7	44.5	12.5
Karra	26.3	0	29.4	37.5
Palaka	17.3	0	0	41.5
Firewood	55.7	69.2	53.5	26.3

TABLE.8 SPECIES - BOSWELLIA SERRATA

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem.	Bark vol.% Tree portion (2 + 3)	Cull %
Poles	54.6	182.5	67.6	0
Vasam	39.5	42.0	47.4	12.7
Bazus	33.5	0	32.1	13.0
Dolum	26.0	0	25.7	16.8
Karra	27.2	0	0	11.9
Palaka	0	0	0	0
Firewood	42.8	120.8	86.6	6.4

MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.9 SPECIES - LANNEA GRANDIS

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem.	Bark vol.% Tree portion (2 + 3)	Cull %
Poles	70.6	60.4	68.8	16.5
Vasam	48.5	10.8	47.3	0.1
Bazus	44.3	3.9	51.2	0
Dolum	23.9	0	7.9	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	60.2	149.5	80.3	3.0

TABLE.10 SPECIES - ALBIZZIA PROCERA + ODORATISSIMA + AMARA

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem	Bark vol.% Tree portion (2+ 3)	Cull %
Poles	36.9	75.9	36.3	5.1
Vasam	31.5	14.9	24.7	1.2
Bazus	16.7	30.6	17.8	1.1
Dolum	20.8	0	21.7	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	15.0	15.4	33.1	42.1

MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.11 SPECIES - GOSSYPIUM + RELIGIOSUM

Utility classes	Bark vol.% Tree portion (1+2)	Branch vol % of main stem.	Bark vol.% Tree portion (2+3)	Cull %
Poles	53 0	4 2	67 7	0
Vasam	42 6	0	0	0
Bazus	35 4	0	0	0
Dolum	29 7	0	0	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	46.1	19.1	76 8	0

TABLE.12 SPECIES - WRIGHTIA TINCTOREA

Utility classes	Bark vol.% Tree portion (1+2)	Branch vol % of main stem	Bark vol % Tree portion (2+3)	Cull %
Poles	32 6	22 9	21 5	0
Vasam	21.0	8 1	11 1	0
Bazus	12 7	0	10 0	0
Dolum	11 8	0	0	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	25 1	26 9	38 1	0 9

MAHABOOB NAGAR FOREST DIVISION

BARK VOLUME, BRANCH VOLUME AND CULL VOLUME PERCENTAGE BY UTILITY CLASS

TABLE.13 SPECIES - ZIZYPHUS XYLOPYRA

Utility classes	Bark vol.% Tree portion (1 + 2)	Branch vol. % of main stem.	Bark vol.% Tree portion (2 + 3)	Cull %
Poles	42.6	0	0	0
Vasam	33.7	0	0	0
Bazus	7.7	0	0	0
Dolum	0	0	0	0
Karra	0	0	0	0
Palaka	0	0	0	0
Firewood	46.1	6.4	79.3	20.2

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MAHABOOB NAGAR FOREST DIVISION

TABLE-1. AV. NO. OF CURRENT SEASON CULMS/CLUMP BY SIZE AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS Less than 1M	1M - 2M	2M +	TOTAL
Av. culm with height more than 7 metres and av. DBH more than 4 Cms.	0.3	1.3	3.1	4.7
Av. culm with height more than 2 Metres and av. D.B.H. less than 4 Cms.	0.8	1.3	2.4	4.5
Total	1.1	2.6	5.5	9.2

TABLE -2.

AVERAGE NO. OF TWO SEASON CULMS/CLUMP BY SIZE AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS Less than 1M	1M - 2M	2M +	TOTAL
Av. culm with height more than 7 Metres and av. DBH more than 4 Cms.	2.4	6.0	8.7	17.1
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	3.2	8.4	8.8	20.4
Total	5.6	14.4	17.5	37.5

TABLE 3.

AVERAGE NO. OF THREE SEASON OR MORE CULMS/CLUMP BY SIZE CLASS AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS Less than 1M	1M - 2M	2M +	TOTAL
Av. culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	3.9	8.4	30.2	42.5
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	8.6	24.4	31.6	64.6
Total	12.5	32.8	61.8	107.1

TABLE - 4.

AVERAGE NO. OF CULMS/CLUMP BY SIZE CLASS AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS Less than 1M	1M - 2M	2M +	TOTAL
Av. culm with height more than 7 Metres and av. DBH more than 4 Cms.	6.6	15.8	42.0	64.2
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	12.6	34.0	42.8	89.4
Total	19.2	49.8	84.8	153.6

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TABLE - 5

AVERAGE NO. OF DAMAGED CULMS/CLUMP BY SIZE CLASS AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4Cms.	1.9	3.8	9.4	15.1
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	4.0	10.2	12.4	26.6
Total	5.9	14.0	21.8	41.7

TABLE - 6

AVERAGE NO. OF DRY AND ROTTEN CULMS/CLUMP BY SIZE CLASS AND QUALITY

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Av. culm with height more than 7 Metres and av. DBH more than 4 Cms.	2.4	5.9	22.7	31.0
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	3.7	11.7	17.8	33.2
Total	6.1	17.6	40.5	64.2

TABLE - 7

AVERAGE NO. OF SOUND CULMS/CLUMP BY SIZE CLASS AND QUALITY

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Av. culm with height more than 7 Metres and av. DBH more than 4 Cms.	2.3	5.9	9.9	18.1
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	4.9	12.1	12.5	29.5
Total	7.2	18.0	22.4	47.6

TABLE - 8

AVERAGE LENGTH/ CLUMP

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4Cms.	8.6	8.8	9.1	23.5
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	6.7	8.1	7.8	22.6
Total	15.3	16.9	16.9	49.1

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TABLE - 9

AVERAGE CONSUMABLE LENGTH/CLUMP I.E. LENGTH UPTO 2 Cm. TOP

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	5.4	5.6	6.2	17.2
Average culm with height more than 2 Metres and av. DBH less than 4 Cms.	4.9	5.4	6.4	16.7
Total	10.3	11.0	12.6	33.9

TABLE - 10

AVERAGE DIAMETER (IN CM.)/CLUMP AT BREAST HEIGHT

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	3.7	3.7	4.0	11.4
Average culm with height more than 2 Metres and av. DBH less than 4 Cms.	2.5	2.6	2.7	7.8
Total	6.2	6.3	6.7	19.2

TABLE - 11

AVERAGE NO. OF CLUMPS OBSERVED FOR PREDICTION OF GROWTH AND DECAY OF BAMBOO

SPECIES : DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	7	11	9	27
Average culm with height more than 2 Metres and av. DBH less than 4 Cms.	102	56	13	171
Total	109	67	22	198

MAHABOOB NAGAR FOREST DIVISION

TABLE - 1. BAMBOO QUALITY BY SIZE CLASS FOR OCCURRENCE

SPECIES - DENDROCALAMUS STRICTUS

TOTAL NO. OF CLUMPS (SCATTERED OCCURRENCE)

QUALITY	NO. OF CLUMPS SIZE CLASS			TOTAL
	LESS THAN 1 M	1 M-2M	2 M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	0	0	0	0
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	400,826	269,787	64,235	734,848
Total	400,826	269,787	64,235	734,848

TABLE - 1.1 PERCENTAGE (SCATTERED OCCURRENCE)

QUALITY	NO. OF CLUMPS SIZE CLASS			TOTAL
	LESS THAN 1 M	1 M - 2 M	2M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	0	0	0	0
Average culm with height more than 2 metres and average D.B.H. less than 4 Cms.	54	37	9	100
Total	54	37	9	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 1.2

BAMBOO QUALITY BY SIZE CLASS FOR OCCURRENCE

SPECIES - DENDROCALAMUS STRICTUS

TOTAL WEIGHT (SCATTERED OCCURRENCE, 1,000 Metric Ton)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1M - 2 M	2M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	0	0	0	0
A-verage culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	8	16	5	29
Total	8	16	5	29

TABLE 1.3

PERCENTAGE (TOTAL WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1 M - 2 M	2 M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	0	0	0	0
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	28	57	17	100
Total	26	57	17	100

Equation used: $W = 0.120482 + 0.079747\ DH$

W = Weight (kg.)

H = Height (Metres)

D = Diameter (c m.)

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TABLE - 2. BAMBOO QUALITY BY SIZE CLASS FOR OCCURRENCE

SPECIES - DENDROCALAMUS STRICTUS

TOTAL NO. OF CLUMPS (DENSE OCCURRENCE)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1M - 2M	2M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	7,708	12,847	12,847	23,402
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	241,529	149,025	128,263	418,812
Total	249,232	161,872	41,110	452,214

TABLE-2.1. PERCENTAGE (DENSE OCCURRENCE)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1M - 2M	2 M +	
Average culm with height more than 7 Metres and average DBH more than 4 cms.	2	3	3	8
Average culm with height more than 2Metres and Average DBH more than 4 Cms.	53	33	6	92
Total	55	36	9	100

TABLE - 2.2 TOTAL WT. (DENSE OCCURRENCE, 1,000 METRIC TON)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	(0.1)	(0.5)	2	2
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	5	9	2	16
Total	5	9	4	18

TABLE - 2.3. PERCENTAGE (TOTAL WT.)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	1	3	9	13
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	25	50	12	87
Total	26	53	21	100

TABLE - 3

MAHABOOB NAGAR FOREST DIVISION

BAMBOO QUALITY BY SIZE CLASS FOR OCCURRENCE

SPECIES: DENDROCALAMUS STRICTUS

NO. OF CLUMPS (PURE OCCURRENCE)

QUALITY	SIZE CLASS			TOTAL NO. OF PLOTS
	Less than 1 M	1 M - 2 M	2 M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	143,886	131,039	38,541	313,466
Average culm with height more than 7 Metres and average DBH less than 4 Cms.	773,389	290,342	66,804	1130,535
Total	917,275	421,381	105,345	1444,001

TABLE - 3.1

PERCENTAGE (PURE OCCURRENCE)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1 M - 2M	2M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	10	9	3	22
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	53	20	5	78
Total	63	29	8	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 3.2 BAMBOO QUALITY BY SIZE CLASS FOR OCCURRENCE

SPECIES - DENDROCALAMUS STRICTUS

TOTAL WT. (PURE OCCURRENCE, 1,000 METRIC TON)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1 M - 2M	2 M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	3	5	5	13
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	15	18	5	38
Total	18	23	10	51

TABLE - 3.3 PERCENTAGE (TOTAL WT.)

QUALITY	SIZE CLASS			TOTAL
	Less than 1 M	1 M - 2 M	2 M +	
Average culm with height more than 7 Metres and average D.B.H. more than 4 Cms.	6	10	10	26
Average culm with height more than 2 Metres and average D.B.H. less than 4 Cms.	29	35	10	74
Total	35	45	20	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 4.

BAMBOO QUALITY BY SIZE CLASS

SPECIES: DENDROCALAMUS STRICTUS

TOTAL SOUND WEIGHT (1,000 METRIC TON)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	1	2	2	5
Average culm with height more than 2 Metres and av. DBH less than 4 Cms.	10	15	4	29
Total	11	17	6	34

TABLE - 4.1 SOUND WEIGHT/ha (Kg)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	732.0	1784.0	1188.0	3704.0
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	382.1	567.1	131.6	1080.8
All	397.8	621.9	179.2	1198.9

TABLE - 4.2 PERCENTAGE (SOUND WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	3	6	6	15
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	29	44	12	85
Total	32	50	18	100

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TABLE - 5 BAMBOO QUALITY BY SIZE CLASS

SPECIES: DENDROCALAMUS STRICTUS

TOTAL DRY ROTTEN WEIGHT (1,000 Metric Tons)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	1	2	4	7
Av. culm with height more than 2 Metres and av. D BH less than 4 Cms.	8	15	5	28
Total	9	17	9	35

TABLE - 5.1 DRY ROTTEN WEIGHT/hac.(Kgs.)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	764.0	1784.0	2724.0	5272.0
Av. culm with height more than 2 Metres and av. DBH less than 4 Cms.	288.5	548.4	187.4	1024.3
All	309.9	604.0	301.8	1215.6

TABLE - 5.2 PERCENTAGE (DRY ROTTEN WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and av. DBH more than 4 Cms.	3	6	11	20
Av. culm with height more than 2 Metres and average DBH less than 4 Cms.	23	43	14	80
Total	28	49	25	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 6 BAMBOO QUALITY BY SIZE CLASS

SPECIES: DENDROCALAMUS STRICTUS

TOTAL DAMAGED WEIGHT (1,000 Metric Ton)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and average DBH more than 4 Cms.	1	1	1	3
Av. culm with height more than 2 Metres and average DBH less than 4 Cms.	9	13	4	26
Total	10	14	5	29

TABLE - 6.1 DAMAGED WEIGHT/hac.(Kgs.)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	606.0	1150.0	1128.0	2884.0
Ave. culm with height more than 2 Metres and ave. DBH less than 4 Cms.	311.9	478.0	130.6	920.4
All	325.1	508.3	175.5	1008.9

TABLE - 6.2. PERCENTAGE (DAMAGED WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	3	3	3	9
Averagd culm with height more than 2 Metres and av. DBH less than 4 Cms.	32	45	14	91
Total	35	48	17	100

MANABOOB NAGAR FOREST DIVISION

TABLE - 7

BAMBOO QUALITY BY SIZE CLASS

SPECIES: DENDROCALAMUS STRICTUS

TOTAL WEIGHT CURRENT SEASON CULMS (1,000 Metric Ton)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and average DBH more than 4 Cms.	(0.1)	1	(0.5)	1
Ave. culm with height more than 2 Metres and av. DBH less than 4 Cms.	2	2	1	5
Total	2	3	1	6

TABLE - 7.1

PERCENTAGE (CURRENT SEASON CULMS WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	(2)	17	(8)	17
Ave. culm with height more than 2 Metres and ave. DBH less than 4 Cms.	33	33	17	83
Total	33	50	17	100

TABLE - 8.

TOTAL WEIGHT TWO SEASON CULMS (1,000 Metric Ton)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	1	2	1	4
Ave. culm with height more than 2 Metres and ave. DBH less than 4 Cms.	7	11	2	20
Total	8	13	3	24

MAHABOOB NAGAR FOREST DIVISION

TABLE - 8.1 BAMBOO QUALITY BY SIZE CLASS

SPECIES: DENDROCALAMUS STRICTUS

PERCENTAGE (TWO SEASON'S CULMS WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and average DBH more than 4 Cms.	4	8	4	16
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	30	46	8	84
Total	34	54	12	100

TABLE - 9. TOTAL WEIGHT THREE SEASON CULMS (1,000 Metric Ton)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and average DBH more than 4 Cms.	2	3	5	10
Ave. culm with height more than 2 Metres and av. DBH less than 4 Cms.	18	31	9	58
Total	20	34	14	68

TABLE - 9.1. PERCENTAGE (THREE SEASONS CULMS WEIGHT)

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	3	5	6	14
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	27	46	13	86
Total	30	51	19	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 10. DISTRIBUTION OF BAMBOO CLUMPS BY SIZE CLASS AND QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	151,594	143,886	51,588	348,068
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	1415,739	709,154	159,302	2284,195
Total	1567,333	853,040	210,890	2631,263

TABLE - 10.1 PERCENTAGE OF BAMBOO CLUMPS BY SIZE CLASS AND QUALITY

QUALITY	SIZE CLASS			TOTAL
	Less than 1M	1M - 2M	2M +	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	8	5	2	13
Ave. culm with height more than 2 Metres and ave. DBH less than 4 Cms.	54	27	6	87
Total	60	32	8	100

MAHABOOB NAGAR FOREST DIVISION

TABLE - 11

BAMBOO QUALITY BY OCCURRENCE

SPECIES: DENDROCALAMUS STRICTUS

TABLE -11.1 PLOTS

QUALITY	OCCURRENCE			TOTAL
	Scattered	Dense	Pure	
Average culm with height more than 7 Metres and average DBH more than 4 Cms.	2	1	2	5
Average culm with height more than 2 Metres and av. DBH less than 4 Cms.	66	25	15	106
Total	68	26	17	111

TABLE - 11.2 AREA (Hrs.)

QUALITY	OCCURRENCE			TOTAL
	Scattered	Dense	Pure	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	514	257	514	1,285
Ave. culm with height more than 2 Metres and ave. DBH less than 4 Cms.	16,958	6,423	3,854	27,235
Total	17,472	6,680	4,368	28,520

TABLE - 11.3 PERCENTAGE (AREA)

QUALITY	OCCURRENCE			TOTAL
	Scattered	Dense	Pure	
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	2	1	2	5
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	59	22	14	95
Total	61	23	16	100

TABLE - 12

BAMBOO QUALITY

SPECIES: DENDROCALAMUS STRICTUS

QUALITY	No. of plots	Area (ha.)	Percentage
Average culm with height more than 7 Metres and ave. DBH more than 4 Cms.	5	1,285	5
Average culm with height more than 2 Metres and ave. DBH less than 4 Cms.	106	27,235	95
Total	111	28,520	100

FOREST RESOURCES SURVEY, ANDHRA PRADESH.

Plot Description Form

JOB NO	CARD DESIGN.	REPORT NO	SUB-REPORT NO	CREW LEADER
1-3	4-5	6-7	8	9-10
	01			

GRID NO.	MAP SHEET NO.	INVENTORY DESIGN.
71-74	75-78	79-80

				To be filled in only for Forest and Agric. Tree Land													FOR FOREST ONLY							COST DATA										BAMBOO				STAND TREATMENT					
					Logging Data						Soil Data																																
State	Revenue District	Forest Division	Land.Classification	Legal Status	Altitude	Topography	Slope	Position on Slope	Aspect	Stoniness	Humus	Colour	Consistency	Texture	Depth	Vegetation	Origin of Stand	Forest Type	No of Storeys	Top Height	Size Class	Stocking %	Regeneration											Occurrence	Species	Quality	Regeneration	Biotic Influence	Past Treatment	Proposed Treatment	Grass Incidence	Fire Incidence	Plot No
11-12	13 14	15 16	17	18	19 20	21	22	23	24	25	26	27	28	29	30	31	32	33 34	35	36 37	38	39	40											51	52 53	54	55	56	57	58	59	60	69-70
03																																											

NAME OF CREW LEADER

KEY FOR CODING :-

Land classification (col 17) Forest Land(1) Agricultural tree Land(2) NonForestry Plantations(3) Agricultural Crop Land (4) Pasture Land(5) Urban Areas Village sites etc.(6) Barren Land(7) Other Areas(8)

Date . ...

(P T O.)

Legal Status	(col 18)	Reserved(1) Protected(2) National Parks(3) Classified(4) Sub-mergible and rehabilitation areas(5) Private(6) Undetermined(7)
Humus	(col 26)	No humus(1) Shallow-less than 2 cms (2) Medium-2cms. to 5 cms.(3) Deep 5 cms. + (4)
Colour	(col 27)	Black (1) Brown(2) Red(3) Others(4) No soil(5)
Consistency	(col 28)	Friable(1) Slightly compact(2) Compact(3) Cemented(4)
Texture	(col 29)	Clay(1) Clayey loam(2) Loam(3) Sandy loam(4) Sand(5) Pebbles(6) No soil(7)
Soil Depth	(col 30)	Very shallow (Less than 15 cms.)(1) Shallow (15 to 30 cms.)(2) Medium (30 cms to 90 cms.)(3) Deep (90 cms +)(4)
Vegetation	(Col 31)	Forest(1) Open forest(2) Tree in line(3) Scrub forest(4) Open scrub(5) Grassy blanks & others(6)
Origin of stand	(col 32)	Naturel forest(1) Man made forest(2) Partly natural Partly man made (3)
Forest Type	(col 33/34)	Teak(01) Mixed teak(02) Miscellaneous(03) Nallamaddi(04) Yeppa(05) Anogeissus(06) Anduk(07) Satin(08) Others(09) Blank(10)
No of storeys	(col 35)	One storeyed(1) Two storeyed(2) Three or more storeyed(3)
Size class	(col 36)	Regeneration crop(1) Pole crop(2) Small timber(3) Big timber(4) Mixed size class(5)
Stocking percent	(col 39)	Poor 0-25%(1) Medium 25-50%(2) Good 50-75%(3) Fully stocked 75%+ (4)
Regeneration	(col 40)	Adequate (More than 500 seedlings)(1) Inadequate (Less than 500 seedlings (2)
Bamboo occurrence	(col 51)	Scattered(1) Dense(2) Pure(3) No bamboo (4)
Bamboo sp.	(col 52/53)	Dendrocalamus strictus(01) Bambusa arundinacea(02)
Quality of Bamboo	(col 54)	Average culm with height more than 7 metres & Average DBH more than 4 cms.(1) Do " 2 metres " " Less 4 cms. (2)
Regeneration	(col 55)	Dense(1) Medium(2) Scattered(3) Absent(4)
Biotic influence	(col 56)	Borer and leaf defoliator(1) Top dying caused by borer attack(2) Girdling(3) Burning and scarring(4) No Biotic interference(5)
Past treatment	(col 57)	Selection cum improvement felling(1) Thinning(2) Coppice with reserve(2) Clear felling(3) No fellings(4)
Proposed treatment	(col 58)	Selection cum improvement felling(1) Thinning(2) C W R (3) Clear felling with plantations(4) No felling (5)
Grass incidence	(col 59)	Grass scattered(1) Medium(2) Dense(3) Absent(4)
Fire Incidence	(col 60)	Fire occurrence noticed(1) Fire absent (2)

FOREST RESOURCES SURVEY, ANDHRA PRADESH

PLOT ENUMERATION FORM

Job No.	Card Design	R.No.	S.R. No.	Crew Leader
1-3	4-5	6-7	8	9-10
	02			

Total No. of Trees	Plot No.	Grid No.	Map Sheet No.	Inv. de-sign
67-68	69-70	71-74	75-78	79-80

SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		SPECIES		
Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	Code	Diam.	
11-15	14-16	17-19	20-22	23-25	26-28	29-31	32-34	35-37	38-40	41-43	44-46	47-49	50-52	53-55	56-58	59-61	62-64			

All trees which touch North West and South West Quadrants will be "in" trees
Trees touching other sides will be "out" trees.

Name of Crew Leader.

Date.....

FOREST RESOURCES SURVEY, ANDHRA PRADESH

BAMBOO ENUMERATION FORM

Job No.	Card design	R.No.	S.R. No.	Crew Leader	In and Around the Plot: Bamboo Description: Occurrence	Sps	Qlty	Regn.	Flowering	In the plot only: Clump Enumeration size class in Mts.: Less than 1 m	1 m - 2 m	2 m +
1-3	4-5	6-7	8	9-10	11-12	13-14	15	16	17	18-19	20-21	22-23
	03											

Total No. of clumps in NW quadrant	Plot No.	Grid No.	Map sheet No.	Inventory design
67-68	69-70	71-74	75-78	79-80

IN NORTH WEST QUADRANT OF EACH PLOT ONLY. ALL CLUMPS WHICH TOUCH ANY SIDE WILL BE "IN" CLUMPS

Clump No.	Size class	Species code	No. of culms as per age: Current season's	Two season's	Three season's & more	Total No. of culms	Distribution of Culms as per use: Damaged or top broken culms	Dry scarred or Rotten culms	Rest	Size of Culms: Average Length in Mtrs.	Average Length upto 2 cm dia	Average Culm dia. in cm. at DBH	Hollowness
24-25	26	27-25	29-30	31-32	33-34	35-36	37-38	39-40	41-42	43-44	45-46	47-48	49

Hollowness (col.49) Hollow(1) Solid(2)
Size Class (Col.26) Less than 1 m. Diameter of the Clump(1)
1-2 Metres " " (2)
2 Metres + " " (3)
Flowering (col.17) Flowering absent(1) Flowering scattered(2)
Flowering gregarious(3)

Name of the Crew Leader

Date .....

FOREST RESOURCES SURVEY, ANDHRA PRADESH.

SAMPLE TREE FORM.

Job No	Card Design	[illegible] No.	S R No	Crew Leader
1-3	4-5	6-7	8	9-10
	04			

Total No. of Trees	Plot No	Grid No	Map Sheet No.	Inventory Design.
67-68	69-70	71-74	75-78	79-80

SPECIES	S.No	Species code	Dominance	D.B.H.	Total height	Clear Bole	Form: Longi-tudinal	Form: Sectional	Defects: Natural	Defects: Other	SPECIES	S.No.	Species code	Dominance	D.B.H.	Total height	Clear Bole	Form: Longi-tudinal	Form: Sectional	Defects: Natural	Defects: Other
	11 12	13-15	16	17-19	20 21	22 23	24	25	26	27		37 38	39 41	42	43 45	46 47	48 49	50	51	52	53
	01											02									
	03											04									
	05											06									
	07											08									
	09											10									
	11											12									
	13											14									

Dominance (col.16 & 42) Pre-dominant(1) Co-dominant(2) Dominated(3) Supressed(4) Tree of under storey(5) Solitary(6) Others(7)

Longitudinal Form (col 24 & 50) Very straight(1) Slightly bent(2) One Pronounced bend(3) More than one Pronounced bend(4)

Sectional Form (col.25 & 51) Cylindrical(1) Elliptical(2) Fluting(3) Buttressed (4)

Natural Defects(col 26 & 52) Complete stem free of any Natural Defects(1) One third of the stem with Natural Defects(2) Two thirds of the stem with Natural Defects(3) Full Bole with Natural Defects(4)

Other Defects (col.27 & 53) Complete stem free of any other defect(1) One third of the stem with defects(2) Two thirds of the stem with defects(3) Full Bole Length with defects(4)

Measure trees > 40 cms. D B H all over the plot

Measure all trees > 10 cms. D B H in northern half of the northwest quadrant only. (Trees touching any of the three sides will be "in" trees.

Name of Crew Leader.

Date .....

GLOSSARY OF TERMS

Land Classification

1. Forest Land:	All lands with a forest cover (including bamboo and palm) i.e., with trees and/or scrub growth and where land surface is not used primarily for purposes other than forestry.
2. Agricultural Tree Land:	All lands presently under cultivation of agricultural crop with tree cover of any size and density.
3. Non-forestry Plantations:	All lands with tree growth primarily planted for purposes other than forestry.
4. Agricultural Crop Land:	All lands under cultivation and without any tree cover.
5. Pasture Land:	All land which are primarily managed for cultivation of grasses and grazing (i.e. used primarily for purposes other than forestry.)
6. Urban, Village sites and Industrial Area:	All land area included within urban, village sites and industrial area.
7. Barren Lands:	All areas with exposed surface and which are lying un-utilized e.g. barren lands, exposed rocks, sand dune, swamp areas without vegetation.
8. Other Areas:	All land classes which can not be classified in any of the above categories.

Examples:-

Taungya was classified as forest land because primary object is production of wood - a forest produce.

Shifting cultivation at the time of inventory was classified as agricultural tree land or agricultural crop land depending on presence or absence of tree cover, even though it may be within boundaries of reserve forest because primary land use is for agriculture.

Abandoned Shifting Cultivation site covered with tree or scrub growth of any density was classified forest land Farm forests if less than 0 5 ha was classified as agricultural tree land Permanent cultivation in forest villages (within reserve forest) was classified as agricultural crop land. Grassy blanks enclosed in reserved forest boundaries were classified as forest because primary function is not pasture or grazing but forms part of Forest land.

Legal Status.

1 Reserved.	As per definition of Indian Forest Act.
2 Protected.	As definition of Indian Forest Act This included reserve land (Areas which have been notified under section 4 + 29 but settlement proceedings not yet completed)
3. National Parks	National Parks and Forest areas where fellings are restricted by legislation.
4. Classified:	This include all Govt forest other than Reserved and Protected Forest. Revenue Forest land and Nistar areas, etc. will be recorded under this item.
5. Submergible & Rehabilitation Areas.	Forest areas which will soon have to be clear cut on account of submergence or for rehabilitation
6 Private.	Forest land owned by private individual or corporations.
7. Undetermined:	Any forest land which can not be classified in any of the above categories.

Altitude.

Altitude of the centre of the plot read on the topomap of Survey of India at scale 2" = 1 mile with reference to adjoining contours and expressed in meters. The last two digits truncated and remaining digits left coded in the form

Example: Suppose the centre of a plot is located at an elevation of 1700'; expressed in metres, this will read 515 m. After truncating last two digits only 5 remains. In the form therefore 05 was coded.

General Topography:

General topography of the area surrounding the plot was examined on Survey of India 2" = 1 mile topo sheet. For this purpose terrain conditions in a minimum area 5 square kilometres i.e., the area of the grid were viewed and the general topography was classified into one of the following categories:

1 Flat
2 Gently rolling
3 Hilly
4 Very Hilly

Always both the plots were described as belonging to the same topography.

Example: Suppose there is a hillock 100 - 200 m. height covering an area of 1 square kilometer surrounded by 40-50 square kilometer of gently undulating areas. Both the plots were classified as belonging to gently rolling topography.

Slope:

Slope of land around the grid centre was determined with help of 2" = 1 mile Survey of India topo sheet. About one square kilometer around the grid centre was examined. The grid centre was classified as belonging to one of the following slope classes:

1 Less than 10%
2 10% - 30%
3 30% - 100%
4 100% +

In case there is a ridge separating the two plots the slopes for two plots were recorded separately.

Example: Suppose slope of a plot is less than 10% but 1 square kilometer area around grid centre has slope more than 30%. The plot was classified as belonging to slope class more than 30%.

Position on Slope:

Position of grid centre was examined on 2" = 1 mile topo sheet and its position with reference to hill slope on which it is located was classified as:

1 Ridge top
2 Upper one third
3 Middle one third
4 Lower one third
5 No slope

Aspect refers to the direction of the slope to be determined from 2" = 1 mile topo sheet, for the slope defined earlier aspect was recorded into one of the following classes:

1 N
2 NE
3 E
4 SE
5 S
6 SW
7 W
8 NW
9 NONE

Stoniness:

Stoniness refers to % of land surface in a 2 ha. area around the plot which is covered with massive stone or rock making the area unfit for growth of trees. Small pieces of broken stones and pebbles which will be lying loose on the ground were not included as stones Stoniness was classified into one of the following classes:

1 High % of stones - more than 80% of land surface covered with stones or rock

2 Medium % of stones - 30 to 80% of land surface covered with stones or rock

3 Low % of stones - less than 30% of land surface is stoney

4 Stones absent - complete land available for tree growth.

Soil Data:

Soil data was collected after digging to a depth of 15 cms. in a representative place in a 2 hectares area Following information was recorded:

Humus: Humus is the decomposed organic material (leaf, twigs and branches) which has become a constituent part of the uppermost soil horizon This was clearly distinguished from undecomposed or partially decomposed leaf litter. This litter was removed from soil surface before making any measurements

Presence of humus was classified in one of the following classes:

1 No humus - Humus absent
2 Shallow - Less than 2 cm.
3 Medium - More than 2 cm. but less than 5 cm.
4 Deep - 5 cm +

Colour:

The colour of the upper horizon of soil below humus layer was determined and classified as [redacted]

1 Black
2 Brown
3 Red
4 Other
5 No soil.

Consistency

Consistency described the aggregation of soil particles. The various classes were:

1 Friable - A friable soil is one which is loose and which crumbles very easily while pressing with finger in hand: sand contents are more in this type of soil

2 Slightly compact - A slightly compact soil is one which sticks together as a lump when taken in hand. Digging at pit in this type of soil is comparatively easier than in compact soil; such soil can be scraped easily with the toe of the shoe.

3 Compact - A compact soil is one which makes digging difficult Clay contents are more in this type and is very hard

4 Cemented - A cemented soil is one which makes digging practically impossible due to soil particles cementing together

Texture

Texture of soil referred to relative occurrence of clay, silt and sand particles. The various types were:

1 Clay - soil containing mostly clay particles

2 Clayey Loam-soil having higher percentage of clay particles but also some sand and silt.

3 Loam - soil having mostly silt and same with some clay.

4 Sandy loam - soil in which sand particles are predominant but it also contains some silt.

5 Sand - soil having mostly sand particles.

6 Pebbles - the soil having very little soil but having mostly pebbles and stones

7 No soil.

Soil depth:

Depth of soil was estimated by digging a 15 cm. deep pit and guessing the remaining depth. The guess was based on all available informations. e g. exposed soil profile in nearby area or luxuriance of ground vegetation The various classes were:

1. Less than 15 cms. - Very shallow
2. 15 to 30 cm. - Shallow
3. 30 to 90 cm. - Medium
4. 90 cm + - Deep

Vegetation.

1 Forest. areas with tree cover with crown density more than 20% of the land area, and not used primarily for purposes other than forestry. Specific areas which were included or excluded from this definition are given below:

Included:

a) Public and Private Forests;

b) All plantation, including one - rotation plantation, primarily used for forestry purposes;

c) Areas temporarily unstocked as well as young natural stands and all plantations established for forestry purposes, which have not yet reached a crown density of more than 20%;

d) Forest roads, streams and other small open areas, as well as forest nurseries, that constitute on integral part of the forest.

e) Bamboo bearing areas.

f) Abandoned cultivation having forest cover in forest areas.

Excluded.

a) Areas occupied by orchards, parks, private gardens and pastures;

b) Areas occupied by isolated tree groups smaller than 0 5 hectares;

c) Areas of wind - break and shelter - belt tree which are in small groups on narrow strips e.g. trees along road sides canals and streams which are too small to be managed as forests.

2 Open forest Areas with tree cover from 20% to a lower limit of 5%. It may have undergrowth of scrubs of any density

3 Tree in line; areas with trees planted along road side, canal bank wind break and shelter

4 Scrub forest Areas with density of scrub growth more than 20% and scattered trees having density not more than 5% of the total vegetation cover.

5 Open scrub: Areas with the density of scrub growth less than 20%. It may or may not have tree cover less than 5%.

6 Grassy blanks and other areas not given above. This included grassy blanks in forest and any other areas which could not be classified in any of above categories.

Origin of Stand.

Depending on its origin the stand was classified as belonging to one of the following classes:

1 Natural forests

2 Man-made forests

3 Forest partly natural and partly man-made e.g. natural forest supplemented with artificial regeneration.

Forest Type

Definition Forest type of the plot was described keeping in view the composition of trees on the plot and also surround to a minimum extent of 2 hectares. Based on the species composition of the trees on the plot and the surround the plot was described as belonging to one of the ten forest types given below:

Teak - More than 10% of growing volume is teak.

Mixed Teak. - Less than 10% of growing volume of teak.

Miscellaneous. Teak absent and no single miscellaneous species forming more than 30% of growing volume.

Nalla Maddi - Nalla Maddi forming more than 30% of growing volume.

Yerpa - Yerpaforming more than 30% of growing volume.

Anogeissus - Anogeissus forming more than 30% of growing volume.

Anduk - Anduk forming more than 30% of growing volume.

Satin - Satin forming more than 30% of growing volume

Others - Plantations of species other than teak and any other forest type.

Blank - Forest temporarily unstocked i.e. with density less than 20% and which will be reforested in foreseable future. Here pure Bamboo stands with tree cover less than 20% was also included.

Example-1: Suppose stand composition of trees on the plot conforms to Miscellaneous with teak type; the vegetation of the surrounding 2 ha. area also belongs to the same type. In such circumstances the plot was described as belonging to miscellaneous with teak type.

Example-2 Suppose there is miscellaneous with teak forest around the plot but the plot has only miscellaneous species without teak. In such circumstances the plot was described as belonging to Miscellaneous with teak type

No. of Storeys:

The number of storeys described the vertical distribution of height in the stand. The classes were:

1 Forest one-storeyed. A small height variation may exist even in one-storeyed forests.

2 Forest two-storeyed: The variation in height is large and the trees can be grouped into one upper and one lower canopy.

3 Forest three or more storeyed: The variation in height is very large and in most cases it is not possible to group the trees in canopy

Top Height

Occularly the average height of predominant, co-dominant and dominant trees surrounding the plot within an area of 2 hectares was estimated, rounded to the nearest 5 metre and recorded The occular estimate was checked by measuring few trees (say 2-3) among predominant, co-dominant and dominant trees in the stand.

Example-1: If the average height of the trees was 27 metres it was rounded off to 25 metres and recorded.

Example-2: If the average height of the trees was 28 metres, then it was rounded off to 30 metres and recorded.

Size Class:

Size class characterises the pre-dominant diameter class in the stand. The various classes were: (Ocular estimate only).

1 Regeneration crop: (Seedlings and sapling only) trees below 10 cm. diameter pre-dominate.

2 Pole crop: trees between 10 to 15 cm. diameter predominate.

3 Small timber: trees mostly between diameter 15 to 30 cms. predominate.

4 Big timber: tree with diameter more than 30 cms. predominate.

5 Mixed size classes: tree crop with no marked dominance of any size class.

Stocking %

Stocking % described the degree of occupying of land by trees. It was measured by the actual number of trees in the stand by size compared to number of trees required to fully utilise the growth potential of the land.

A fully stocked stand in various stages of development was to contain following number of trees per ha.

0 - 25% Poor	15 trees per plot	
25 - 50% Medium	15-35 trees per plot	
50 - 75% good	35-50 trees per plot	
75% +	More than 50 trees per plot.	

Regeneration:

An occular estimate of the abundance of regeneration present on the plot and surround to about 2 hectares was recorded. For this purpose only species below 10 cm. diameter but more than 2 cm. (i.e. established regeneration) were considered. The various classes were:

1 Adequate regeneration - 500 + Seedlings per hectare.

2 Inadequate regeneration - less than 500 seedling per hectare.

Bamboo occurrence:

The presence or absence of bamboo clumps within 2 ha area around the plot was recorded as given below:

1 Scattered (50 clumps or less per ha.)

2 Dense (more than 50 clumps but less than 100 clumps per ha.)

3 Pure (more than 100 clumps per ha.)

4 No bamboo (No bamboo clumps present)

Definition of clump: A bamboo clump is to contain 1 or more culms or currently exploited stumps of culms.

Definition of a culm: Bamboo culm is one which is 2 metres or more in height and more than 2 cms in diameter at 1.37 metres height

Bamboo species:

If more than one species occurred the dominant one was recorded.

1 Dendrocalamus strictus

2 Bambusa arundinacea

Quality (Bamboo):

Object of assessing site quality for bamboo was to determine the capacity of site to produce bamboo culms of given size. As is the case with tree species method of assessing the site quality for producing bamboo is indirect one as it relies on the standing clumps in the stand. In case there are no established clumps in nearby area of 2 ha. the quality could not be defined. The various classes were:

1 Average culms with height more than 7 metres and average D.B.H. more than 4 cm. (in case of Bambusa average D.B.H. more than 5 cm. and average height more than 7 metres.)

2 Average culms with height more than 2 metres but average D.B.H. less than 4 cms(in case of Bambusa average D.B.H. less than 5 cms. but height more than 2 meters)

Note Culms more than 4 cm. or 5 cm. in diameter, in case of Dendrocalamus species and bambusa species respectively but less than 7 metres in height were also recorded under this quality class

Regeneration

Bamboo bearing areas where clumps formation was not very clear or areas under bamboo regeneration containing bamboo seedling and culms were classified in one of the following classes:

1 Dense Regeneration
2 Regeneration medium
3 Regeneration scattered
4 Regeneration absent

Biotic influence:

Borer attack, top dying of trees, girdling of existing trees over a large area (about 2 ha.) and burning and scarring of trees was recorded as follows.

1 Borer attack and leaf defoliator attack likely to create epidemic.

2 Top dying or solitary dying of timber trees caused by borer attack or draught or epidemic.

3 Girdling of trees for encroachment.

4 Burning and scarring of the existing trees.

5 No biotic interference.

Past treatment

Treatment already given to the crop was recorded in one of the following categories:

1 Improvement cum selection fellings
2 Coppice with reserve
3 Clear felling
4 No felling

Proposed treatment

Based on silvicultural requirements, the treatment to be given to the stand was classified in one of the following group:

1 Improvement cum selection fellings
2 Thinnings
3 Coppice with reserves
4 Clear felling with plantations
5 No felling

Thinning.- If the crop is young to middle aged and convested (pole crop and middle aged trees) thinning was recommended.

Felling.- If the crop is mature and overmature the silvicultural systems required are simple coppice or coppice with reserve or improvement system or selection system.

Clear felling with planting:- Mature crop is standing without adequate regeneration and area is suitable for plantation clear felling was recommended.

No felling - Forest crop having density less than 70% crop standing on precipitious slope young and middle aged forest not in need of tending or thinnings etc. was classified here.

Grass incidence.

The occurrence of grass in the plot was recorded as given below.

1 Grass growth scattered
2 Medium grass growth
3 Dense grass growth
4 Grass absent

Fire incidence

Based on fire scars on tree stems occurrence of fire was indicated as.

1 Fire occurrence noticed.
2 Fire absent.

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