Annex

Tree Density Per ha and Average Tree Height by Diameter Class (DBH in cm) and Species in the Forests Under Study

Species	dbh class in cm (density/average height in metres)									Total	
	<5	5.1-10	10.1-15	15.1-20	20.1-25	25.1-30	30.1-35	35.1-40	40.1-45	Trees	Seedlings
Karkiko Ban											
Banj	44/2.95	319/4.93	443/7.21	506/10.12	187/12.93	81/13.18	-	-	-	1580	480
Timmallo	131/2.60	356/3.98	206/2.62	37/6.40	-	-	-	-	-	730	140
Hadmallo	37/3.00	169/5.01	69/6.15	6/8.70	-	-	-	-	-	281	30
Bhadawa	6/3.20	81/5.15	50/7.05	12/9.50	25/10.20	6/11/35	-	-	-	180	5
Angeri	37/2.57	106/4.09	12/4.95	-	-	-	-	-	-	155	18
Gurans	44/2.54	19/3.76	-	-	-	-	-	-	-	63	13
Maawa	-	-	12/7.95	19/9.50	6/13.00	19/13.70	-	-	-	56	-
Phalans	6/2.50	12/3.55	6/10.60	6/12.00	6/12.80	12/12.80	-	-	-	48	19
Mel	19/3.60	25/5.40	-	-	-	-	-	-	-	44	233
Khaniyo	31/	6/	6/	-	-	-	-	-	-	43	17
Ryanja	-	6/	6/	6/	6/	-	-	-	-	24	-
Total	305	1099	810	592	230	118	-	-	-	3204	955
Seliko Ban											
Banj	188/1.52	526/1.62	261/5.2	182/7.3	161/8.5	73/10.5	36/11.8	10/12.7	5/12.8	1442	1500
Gurans	297/0.73	380/2.02	104/4.3	21/7.4	10/7.25	-	5	5	-	812	1200
Bhadawa	36/1.0	125/1.9	52/5.35	36/6.8	26/8.33	16/9.2	-	-	-	296	300
Phalans	135/1.5	57/2.5	42/4.1	10/5.8	16/6.83	-	-	5/11.5	-	260	900
Angeri	78/1.86	89/3.1	62/5.9	10/5.95	-	5/7.2	-	-	-	244	300
Bakarto	68/1.95	89/2.55	5/4.2	-	-	-	-	-	-	162	300
Kafal	47/1:95	73/2.2	21/3.6	10/4.2	-	-	-	-	-	151	400
Timmallo	68/2.55	47/4.06	16/5.2	-	-	-	-	-	-	131	500
Hadmallo	26/1.94	26/2.1	-	-	-	-	-	-	-	52	250
Garade	62/2.27	21/3.5	5/	-	-	-	-	-	-	88	-
Maawa	10/1.1	5/3.5	5/4.5	5/7.8	16/8.2	-	-	-	-	41	-
Mel	5/1.7	10/2.58	-	-	-	-	-	-	-	15	300
Tikyanj	-	5/1.72	10/5.1	-	-	-	-	-	-	15	-
Jamun	-	5.2.85	-	-	-	-	-	-	-	5	-
Total	1020	1458	583	274	229	94	36	15	5	3714	5950
Koti Gaanko Ban											
Sal	167/2.1	235/2.72	466/4.76	100/5.86	134/6.92	-	-	-	-	1102	4059
Ranel	-	-	-	-	-	-	-	-	-	-	467
Total	167	235	466	100	134	-	-	-	-	1102	4526

Species	dbh class in cm (density/average height in metres)									Total	
	25.1-30	30.1-35	35.1-40	40.1-45	45.1-50	50.1-55	55.1-60	60.1-65	65.1-80	Trees	Seedlings
Koti *Gaunko* Ban											
Salla (Pine Forest)	3/11.0	3/12.0	3/20.5	20/20.22	23/23.53	9/24.56	12/25.3	12/26.8	10/27.2	95	4500
Total	3	3	3	20	23	9	12	12	10	95	4500

Species	dbh class in cm (density/average height in metres)									Total	
	<5	5.1-10	10.1-15	15.1-20	20.1-25	25.1-30	30.1-35	35.1-40	40.1-45	Trees	Seedlings
Majar Kholako *Ban*											
Banj	44/2.16	209/4.03	210/6.13	286/7.66	143/8.73	132/10.21	33/10.0	22/11.3	11/13.2	1090	660
Kharsu	56/2.38	132/3.3	34/5.3	11/5.2	23/7.85	-	-	-	-	256	1320
Total	100	341	244	297	166	132	33	22	11	1346	1980
Dhamiko *Ban*											
	-	1/4.0	46/7.6	89/8.13	64/10.40	21/10.8	14/11.5	2/12.5	4/13.5	241	-
Banj	2/2.3	2/5.0	21/7.4	40/8.2	60/9.5	23/10.2	6/10.5	2/12.5	-	156	-
Kharenj	-	1/4.3	4/6.2	2/7.3	1/7.5	-	2/13.5	-	1/14.5	11	-
Kaus	-	-	2/4.0	3/8.0	2/8.3	1/8.5	5/12.8	1/16.0	-	14	-
Phalant											
Total	2	4	73	134	127	45	27	5	5	422	-
Kalapaniko *Ban*											
	3210/2.9	470/6.2	56/7.2	21/8.7	43/11.7	13/11.83					
Sal	138/3.0	60/4.3	3/6.5	3/7.2	3/10.4	13/16.0					
Salla	37/2.4	13/4.3	-	-	-	-					
Dhairo	47/2.75	-	-	-	-	-					
Amala	30/2.3	3/4.6	-	-	-	-					
Saurayo	67/3.0	37/4.5	-	-	-	-					
Others (Jamun, Mel, Barro, etc)											
Total	3529	583	59	24	46	26	20	25	-	4312	6743

Species	dbh class in cm (density/average height in metres)									Total	
	<5	5.1-10	10.1-15	15.1-20	20.1-25	25.1-30	30.1-35	35.1-40	40.1-45	Trees	Seedlings
Bhatwadako Ban											
Kharenj	5/1.3	7/3.5	44/8.2	94/11.6	82/16.3	84/17.5	26/18.5	5/19.0	17/19.2	364	866
Phalant	-	13/4.5	30/8.5	65/11.5	43/12.4	20/13.8	5/17.5	5/18.4	7/18.5	188	284
Gurans	550/3.2	115/5.1	98/6.5	63/9.0	16/9.5	5/9.8	5/10.6	-	-	852	2028
Angeri	40/-	68/-	84/-	56/-	9/-	7/-	2/-	-	-	266	2542
Mel	49/3.6	61/5.5	30/8.3	9/8.8	5/10.0	-	-	-	-	154	1022
Utis	-	5/8.5	-	2/10.4	-	2/11.8	7/13.2	2/15.5	11/19.0	29	171
Others (*Banj, Sallo, Kafal, Ghangaru,* etc)	26/3.5	19/5.2	7/6.9	7/10.1	9/11.3	2/12.8	5/15.0	-	-	75	3308
Total	670	288	293	296	164	120	50	12	35	1928	10221

Species	dbh class in cm (density/average height in metres)									Total	
	<5	5.1-10	10.1-15	15.1-20	20.1-25	25.1-30	30.1-35	35.1-40	40.1-45	Trees	Seedlings
Siddhesworiko Ban	176/3.0	65/4.5	67/9.6	92/13.3	27/15.1	22/15.6	2/15.7	-	2/15.8	453	4344
Sal	70/3.5	30/4.6	6/5.8	3/11.3	6/13.0	5/14.8	4/15.2	2/16.0	3/16.6	129	82
Sallo	436/1.8	4/2.0	2/3.6	-	-	-	-	-	-	442	232
Amala											
Total	682	99	6	95	33	30	6	2	5	1024	465

Source: Field Survey, 1991.

Forestry

The following two methods of sampling were used in preparing the forest inventory.

1. Belt Transect Method and
2. Square Plot Method

In the Belt Transect Method, horizontal and vertical belt transects were demarcated, crossing almost at the centre. The width and length of the transects were fixed as 5m and 20m respectively. While carrying out the inventory, all the plant species in each segment were recorded by their respective dbh and height. Trees below 1.5m height were measured at collar diameter.

The percentage of sampling varies from 1 to 15 per cent. In large tracts of forest, it is low whereas it is higher in smaller tracts.

Square Plot Method

This method was used in the pine forests in Baitadi district. It was felt suitable for measuring the scattered pine forest. Diameter tape, linear tape, silva compass and Abrey's level were used in preparing the inventory.

Area Estimation

A Belt Transect Method was used in seven cases where the average length and width of the forests were measured. Slope was considered and corrected before calculating the area. In the case of pine forests, the researchers made independent ocular estimates and compared the figures before agreeing on the estimated area of the forest patch in question.

All the forest areas calculated and estimated in the field were verified later at the respective district headquarters with the land survey data.

Crown closure classes are as described in the Master Plan for the Forestry Sector (HMG/N 1988).

10 - 40%	crown closure	= C_1
40 - 70%	crown closure	= C_2
> 70%	crown closure	= C_3