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ATTRIBUTES OF FOREST USER GROUPS IN MANAGEMENT OF COMMUNITY FOREST MANAGEMENT IN THE CENTRAL HIMALAYAN REGION OF Nepal: A preliminary analysis of follow-up of community forest case studies in central and western Hills of Nepal.[1]

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BACKGROUND

Over the decades the concept of *hariyoban Nepal ko dhan* (meaning green forest is Nepal's wealth) is getting transformed to *samudayikban Nepal ko dhan* (meaning community forest is Nepal's wealth).

In decades of efforts to develop community forestry in Nepal, nearly one tenth (0.658 Mha.) of forest area (5.52 Mha.) has been formally handed over to more than nine thousand forest user groups (9061 FUGs as of April 2000). Of this total area handed over, 20.6 % area is managed by 1978 FUGs (21.8%) in the central development region. Similarly, some 2539 FUGs (28 %) manage 17.4% of the total handed-over CF area in the western development region. Average FUG size in the CDR and WDR are 115.8 and 111.7 households respectively. Likewise, average forest area per FUG in the CDR and WDR are 68.4 and 45 ha. (DoF, 2000) respectively. Per capita accessible forest area is 0.18 in the CDR and 0.23 ha. in the WDR which is less than corresponding national average of 0.27 ha. Per capita (MPFSN, 1988). The current paper draws on preliminary findings of a follow-up study of some forty percent of 47 community forest case studies carried out, by Campbell, J. G.; Shrestha, R.P and Euphrat[ii], in 1986-87 in the districts of Dhading (in CDR) and Kaski, Parbat and Baglung (in WDR) (Map 1). A two year study[iii] initiated in 1998 took the selective sample of 8 cases in Dhading, five in Kaski, one in Parbat and 3 in Baglung districts. Most of these case studies (15) lie in the Mid Hills (500-1500 m elevation) and two in the high Mountains (1500- 2300 m. elevation). The study used adapted version of IFRI v.8.1 (January 1996) research instruments by incorporating information of our earlier study's questions not included in the IFRI coding forms. Additionally, a household interview schedule was also used to survey sample households (AFORDA, 1998).

Methodology

The study used adapted version of IFRI v.8.1 (January 1996) research instruments by incorporating information of our earlier study's questions not included in the IFRI coding forms, namely: site overview, forest, forest plot, forest product, forest association, settlement, user

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group, forest-user group relationship, non-harvesting, and inter-organizational inventory. Additionally, a household interview schedule was also used to survey sample households (AFORDA, 1998). The data was stored and processed in relational database- ACCESS and EXCEL. And analysis was done using SPSS.

A total of 17 sites (corresponding to 20 cases of the 1986/1987 study) were purposively selected for the follow-up study (Appendix-1). The field data collection was carried out during the period November 1998 to July 1999.

TENTATIVE FINDINGS

Biodiversity

1. Trees: A total of 371 plant species recorded in the forests (31) studied. Some 87-tree species were recorded in the canopy layer. Most important canopy tree species include *Shorea robusta, Schima wallichii, Pinus roxburghii, Castanopsis indica,* and *Alnus nepalensis*. Other important valuable tree species recorded are *Acacia catechu* and *Cythea spinulosa* (an endangered plant species due to its restricted distribution). Similarly, 98 tree species and 34 shrub species were recorded in the subcanopy layer. Important subcanopy tree species are *Shorea robusta, Castanopsis indica, Schima wallichii, Lyonia ovalifolia,* and *Pinus roxburghii*. Likewise in the ground cover, 102 seedlings of tree species and 47 seedlings of shrubs species were recorded in a plant population of 8058. Major tree seedlings regenerating in ground cover include *Shorea robusta, Castanopsis indica, Cornus oblonga, Lyonia ovalifolia, Schima wallichii,* and *Phyllanthus emblica*. Other important ground cover tree species are *Acacia catechu, Cythea spinulosa,* and *Rhododendron arboreum*. The forests under study are distributed between elevations of 630m to 2300m.

2. Shrub: A total of 34 shrub species were recorded in sub-canopy layer and major species being are *Osbekia stellata, Maesa chisia, Desmodium multiflorum, Clerodendron viscosum, Duranta repens, Barleria cristata,* etc. Likewise, there are 47 shrub seedlings in groundcover and major species are *Osbekia stellata, Woodfordia fruticosa, Desmodium multiflorum* and *Sagino*, etc.

3. Herbaceous Plants: Altogether there are as many as 149 herbaceous plant species recorded in ground cover. Major species in ground cover are *Pogonatheru crinitum, Gleichenia glauca, Imperata cylindrica, Nephrolepsis cordifolia,* and *Polystichum lentum*

Forest Condition

In general, forests are in better condition and dense than twelve years ago. Perception of most households (over nine-tenths of 439 HHs) interviewed reported increase in general conditions of the forests.

Plant densities and Regeneration

Total number of tree species recorded in the canopy, sub-canopy and groundcover layers are 87, 98 and 102 species respectively. Appendix 3 below shows overall plant density for all species in the three layers are 242.76, 2154.29, and 31249.03 plants per hectare respectively. Further, the table shows *Shorea robusta* as the most dominant tree species in all three layers with density of 61.31, 64.25, and 8.96 plants per hectare respectively. Highest plant density of 508 plants per hectare was recorded in the Torikhet CF, Dhading district. Likewise the lowest plant density of 38.18 trees per hectare was found in recently handed-over Ramche Ko Pakha CF, Dhikurpkhari, Kaski district. Similarly, the highest density (4457 Pl/ha) of tree species in sub-canopy layer in Kalsing GF-2 and lowest density (626 Pl/ha) in Kalsing GF-1 both in Dhading district were recorded.

One striking observation is that *Alnus nepalensis* was recorded only in the canopy layer (indicating its inability to regenerate under canopy cover and rasing doubt about its ability to stablise slope). For instance, in some cases owing to over-emphasis placed on species like *Alnus nepalensis* for slope stabilisation in areas such as Andherikhola forest (AF_ID No.4011371) over the last two decades, there is no natural regeneration of this species in subcanopy and ground cover layers. Being located in high rainfall zone (>5000 mm annual rainfall) coupled with fragile slope having light soil, mature *Alnus* trees are uprooted easily thus exposing ground to more landslides. The study team was repeatedly told by the user group members during the field visit that *Alnus nepalensis* is not the best species suitable for afforestation/ conservation- slope stabilisation planting (because once the mature tree is cut, there is no regeneration). More action research in this area is called for to protect the Fewa tal (Lake) catchment area.

Table: Occurrence of Major Tree Species, Their Regeneration and Plant Densities

Canopy Layer	Sub-Canopy Layer	Groundcover Layer
Dominant plant species (PL/ha)	**Dominant plant species* (PL/ha)**	**Dominant plant species* (pl/ha)**
Shorea robusta (61.31)	Shorea robusta (713.98)	Shorea robusta (11247.65)
Schima wallichii (52.03)	Castanopsis indica (323.34)	Castanopsis indica (3163.96)
Pinus roxburghii (29.27)	Schima wallichii (201.09)	Cornus oblonga (1888.34)
Castanopsis indica (23.97)	Lyonia ovalifolia (89.60)	Lyonia ovalifolia (1762.93)
Alnus nepalensis (18.31)	Pinus roxburghii (73.67)	Schima wallichii (1135.87)
All Species: 87 (242.76)	All Species: 98 (2154.29)	All Species: 102 (31249.03)

* Shrub species are excluded from calculation

When we look at the sub-canopy layer, *Castanopsis indica* emerges as the second dominant species. Other dominant species include *Schima wallichii*, *Lyonia ovalifolia*, and *Pinus*

roxburghii. Density of all tree species in sub-canopy layer is 2154.29 plants per hectare. There are a total of 34 shrub species found in the sub-canopy layer with overall plant density of 154.80 plants per hectare. Important shrub species found in the forests include *Osbekia stellata*, *Maesa chisia*, *Barleria cristata*, *Dichroa febrifusa*, and *Maesa macrophylla*. Likewise, of the 149 seedling species in groundcover, 102 species are to tree seedlings and remaining 47 are shrub species with overall seedling density of 31249.03 and 16411.03 plants per hectare for tree seedlings and shrub seedlings, respectively.

Forest Products

Fuelwood, fodder, cut grass, leaf litter are among the important forest products extracted from all the forests studied Table 1). Preliminary analysis shows per household consumption of Fuelwood is 472 kg per year with highest of 659 kg in Kaski and lowest of 286 kg per year in Baglung – Parbat area. Similarly average per household fodder collection is 339 kg with highest of 678 kg in Dhading. Leaf litter is another important product whose per household collection is 1165 kg per year with the cases in Dhading area reporting as high as 2247 kg and lowest 114 kg in Baglung area.

Table: District-wise Forest Products Harvesting by the Users

S. N.	Product	District						Total Forests (5155 hhs)	
		Dhading (2231 hhs)		Kaski (1214 hhs)		Parbat/ Baglung (1710 hhs)		Grand Total	Average
		Quantity	Average	Quantity	Average	Quantity	Average		
1	Fuelwood	1144080	512.81	799922.5	658.91	488640	285.75	2432642.5	471.90
2	Fodder	1511500	677.50	225000	185.34	11875	6.94	1748375	339.16
3	Cut grass	5012460	2246.73	800660	659.52	194080	113.50	6007200	1165.32
4	Leaf litters	1020840	457.57	219405	180.73	319710	186.96	1559955	302.61
5	Timber	4826	2.16	3306	2.72			8132	1.58
6	Resin					4000	2.34	4000	0.78
7	Nigalo			15450	12.73			15450	3.00
8	Sal Leaf	78390	35.13671					78390	15.21

Limited volume of timber is found to be harvested in more than half of the forests (54.8%) particularly in cases of Dhading and Kaski areas. On an average about 1.6 cu.ft of timber is given per household per year for house repair and agricultural tools. In Jhakri salla CF, Parbat districts as many as six forest products are reported to be extracted. In this forest resin is also being extracted as part of income generating activities initiated by the NUKCFP. Among non-timber products extracted from the forests, are nigalo (cane) in Andherikhola CF, Dhikurpokhari and Deurali CF, Hansapur both in Kaski district, and sal leaf (*Shorea robusta*) in Torikhet CF and Machhindranath CF both in Dhading district.

FOREST USERS AND THEIR ORGANISATION

Thirty-one forest user groups (comprising 5155 HHs) are managing thirty-one forests with total area of 1332.1ha. Of these forests nearly one-third have not been formally handed over[iv] to the FUGs. Forest user groups are relatively small (121 HHs per group) in Kaski area. A forest user committee (FUC) size ranges from 11 to 13 members with an average of 12 members manage the FUGs. Women's participation in FUC is highest in Baglung (28.2%) and lowest (13.3%) in Kaski area.

It appears that FUGs have been in existence for longer period in Kaski (15.2 years) than in Dhading (10 years) and Baglung-Parbat areas 12.06 years). With few exceptions office term of FUC is fixed for a period of three to five years. Per capita forest area is only 0.04 ha which is far below the corresponding national figure of 0.27 ha.

Table: District-wise User Group Profile- 1998/ 99

S. N.	Description	Dhading	Kaski	Parbat/ Baglung	Total
1	No. of FUG	13	10	8	31
2	No. of Settlement	60	23	59	142
3	Population:				
	a) No. of Houscholds	2231	1214	1710	5155
	b) No. of Individuals	13011	7487	10588	31086
4	Average Age of FUG (yrs)	10	15.2	11.5	12.06
5	No. of Formal FUC	8	10	3	21
6	FUC Size (nos)	12.86	11.3	13	12.14
7	Women in FUC (nos)	3.25	1.5	3.67	2.48
8	FUC term (yrs)	3.5	4.1	3	3.71
9	FOP Revised	2	3	0	5
10	FOP Revision Due	1	2	0	3

Source: AFORDA/ Field Survey-1998/1999

CONSTRAINTS AND OPPORTUNITIES

However, a number of second generation problems are emerging more clearly:

- **Technical management problems**

a) **Over harvesting: In** absence of accurate inventory of trees, there is no clear-cut guidance as to how and when trees can be allowed to harvest. Such confusing situation coupled with lax monitoring and manipulating tendency of village elite led to making decision to allow selective harvesting of trees without giving due consideration to standing tree population in Okhale CF (AF_ID No 4011361) in Kaski. Realisation of such short comings and a move to take ameliorative action on part of the government has

reflected in issuance of an administrative order regarding allowing selective harvesting NOT EXCEEDING ANNUAL INCREMENT RATE (DoF 2000). This has necessitated preparing and updating forest resource inventory for proper implementation of forest operational plan as per the community forestry guidelines 2052 BS

b) **Lack of regeneration**: As mentioned above in over emphasis placed on planting *Alnus nepalensis* in fragile slopes for conservation in areas such as Andherikhola CF, Kaski district in the early 1980s has resulted in emergence of new problem.

Social management problems

Evidence of recent illegal cuttings: More than seven out of ten forests studied showed evidence of fresh tree cutting with an average of 11.1 stumps per forest (Appendix-4). Fresh tree cutting was noticed in all except two sites namely, Naubise and Jivanpur sites in Dhading district. (11 to 25 stumps per forest) in all but two sites. Maximum number of 29 fresh cut stumps were found in the Kayemara CF, Singana, in Baglung district while only one fresh cut stump was observed in Kalsing GF-2, in Dhading, Bhimara ko pakho CF, Singana, in Baglung district, LBGJLKP CF, Dhikurpokhari, in Kaski district. Species-wise stumps of as many as 25 different species were recorded. Among them *Shorea robusta* is the main species being widely cut (in 57 instances) while one case each of *Viburnum pulcherrima*, *Osbekia stellata*, *Semecarpus anacardium* and *Trichilia coonaroides* were recorded.

- **evidence of non-economic incentive (concern)**

a) **For protection of forests** in 3 out of 17 cases e.g.: religious (in Machhindranath CF, Dhading district),

b) **Clan ownership and development** (in Jaykot CF, Kaski district- the Karki family clan claims to have received this forest under grant- *"sanad"* from then rulers). This small patch of forest is located at the edge of Pokhara municipality and as such cannot meet daily household requirements of the users. It seems that owing to sentimental attachment of the Karkis to this clan forest, they have not allowed entry of potentially eligible residents of the area as new users of the forest. However, the users for whatever the reason may be, have allowed to co-existence of ancestral Hindu temple, a Muslim mosque and a Buddhist monastery all in this forest exhibiting an example of religious harmony. Further, to take advantage of its strategic location, the FUC is trying to develop the forest recreational purpose seeking assistance from potential agencies such as Municipal authorities.

c). **For protection of village against potential landslide**. Owing to location of the forests in Dhampus (Dhampus is located at south western edge of the ACAP area) and Andherikhola (Andherikhola CF is located at north-western corner of the Fewatal watershed, and is source of Andherikhola- one of the two major rivers feeding Fewatal lake), conservation of the forest is of utmost importance to the residents of Dhampus and Andhrikhola both in Kaski district. Dhampus site is inhabited by the Gurungs- mostly army pensioners. The residents seem to be less dependent on this forest for meeting their Fuelwood and other daily requirements. But still the residents seem to be determined to keep the forest intact for (I) protection of village against potential erosion, and (ii) to develop trekking route that leads to the ACAP area.

* **Economic issues and management issues** e.g.:

a). **Protection and development** The FUGS of Machhindranath CF and Jaykot CF are actively protecting their forests, (I) for maintaining their temple and its aesthetic values, (ii) development of access road and the site.

b). **Emerging forest-based economic activities** Nursery for multiplication of forest plants of economic importance such as Rhododendron, Cinamomum; promotion of cultivation of, large cardamom and bamboo-cane –nigalo in Andherikhola CF. These activities seem to be contributing positively for the development of the area (For instance the FUG is recycling forest revenue for operation of one school in the community.

* **Entrepreneurship**: Activities such as nursery activities where they are producing plants of Rhodedendron, Cinnamomum, bamboo cane, large cardamom in Anderikhola CF, and **Sal leaf-plate making: Disposable** plate made of sal leaf (*Shorea robusta*) is widely used in ceremonial as well as religious functions in Nepalese homes since hundreds of years. Because of proximity to the road and nearby market in Kathmandu valley, considerable number of 18 households in Torikhet and 28 households in Machhindranath sites in Dhading collect sal leaves for sale in the market. These leaves are either marketed un-prepared, tied in bundles (each bundle fetches about NRs.1.50-2.00) or sold to entrepreneurs who make various types of leaf plates (Nepali: *Tapari*) and saucers (Nepali: *Duna*), etc. Need to be explored and encouraged to accrue economic benefits.

Detailed analysis of data will hopefully provide more insight into strengths and weaknesses of the emerging CF management systems, which may provide directions for streamlining functional operational (management) plan for FUGs to meet challenges of the new millennium.

ACRONYMS

ACAP	Annapurna Conservation Area Project
AF_ID_NO	Unique AFORDA identification number used for case study, e.g. in the 'AF_ID_NO' 4011371, 40 = Kaski district; 11 = Dhikurpokhari VDC; 37 = Site ID number and 1 = Forest ID number
CDR	Central Development Region
CF	Community Forest
CFUG	Community Forest User Group
CFUC	Community Forest User Committee
DANIDA	Danish Development Agency
DDC	District Development Committee
DoF	Department of Forest, HMG-Nepal
DOF CODE	Unique Code number adopted by the Department of Forest, HMG/ Nepal. E. g. DHA/NA/46/01, in which DHA = Dhading district; NA = Naubise Range Post; 46 = VDC Code for Jivanpur VDC and 01 = CFUG ID (It is different for all the Community Forests of Nepal)
DFO	District Forest Office
DRMP	Dhading Resource Management Project
EDR	Eastern Development Region
FECOFUN	Federation of Community Forest Users of Nepal
FUG	Forest User Group
FUC	Forest User Committee
GF	Government/ National Forest
ICIMOD	International Centre for Integrated Mountain Development
KMTNC	King Mahendra Trust for Nature Conservation
MDO	Machhapuchhre Development Organization
Mha	Million Hectare
NRMP	Nepal Resource Management Project
NUKCFP	Nepal-UK Community Forestry Project
VDC	Village Development Committee
WDR	Western Development Region

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APPENDICES

1. Profile of the forest user groups by district and VDCs, 1998/99
2. Density and DBH / Collar diameter of tree species
3. Measures of biodiversity of trees
4. Species wise count of stump cutting in the sample plots, 1998/99

Appendix-1

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Profile of the Forest User Groups by District and VDCs, 1998-99

May 24, 2000

S. N.	SID	AF_ID_ NO	DOF CODE	Name of the FUG	FAREA	ELEMIN	ELEMA
1	9	3008091	N/A	Ale Kukhurechaur FUG	15-20 *	1000	1120
2	11	3016111	DHA/NA/46/01	Torikhet CFUG	82	800	1100
3	13	3023131	DHA/NA/45/11	Simpani CFUG	36	900	1250
4	13	3023132	DHA/NA/45/10	Paharepani CFUG	11	1110	1250
5	20	3032201	DHA/NI/23/02	Sasaha-Jyamire CFUG	78	630	840
6	21	3034211	DHA/NA/50/01	Machhindra Nath CFUG	19	900	1030
7	23	3035231	DHA/NI/28/05	Dundepakha CFUG	15	740	1225
8	23	3035232	DHA/NI/28/09	Gairi khola women CFUG	45	740	1225
9	27	3041271	DHA/SA/16/02	Padke Ghari Palelo Ban CFUG	55	650	800
10	27	3041272	N/A	Kaldhunga-Hyapung Khola FUG	25 a	650	800
11	28	3043281	N/A	Kalsing-1 FUG	40-45*	680	930
12	28	3043282	N/A	Kalsing-2 FUG	20-25*	690	820
13	28	3043283	N/A	Kalsing-3 FUG	18-20*	690	820
		Kaski	40 KASKI				
14	35	4010351	N/A	Rayanpakha FUG	28	1400	1835
15	36	4011361	KAS/DH/11/03	Okhle CFUG	35	1200	1550
16	36	4011362	KAS/DH/11/08	BLGL CFUG	10	1500	1550
17	37	4011371	KAS/DH/11/01	Andherikhola CFUG	104	1100	1860
18	37	4011372	KAS/DH/11/14	Damthi CFUG	70	1100	1650
19	37	4011373	KAS/DH/11/13	Ramche Ko Pakha CFUG	5.13	1350	1560
20	38	4015381	KAS/HA/15/12	Baghe Danda CFUG	90	750	1215
21	38	4015382	KAS/HA/15/20	Deurali CFUG	70	830	1175
22	38	4015383	KAS/HA/15/07	HPGG CFUG	21	935	1215
23	44	4034441	KAS/LA/17/03	Jaykot CFUG	25	930	990
		Parbat	PARBAT(44)				
24	46	4420461	PBT/ST/15/04	Jhankrisalla CFUG	80	1390	1680
		Baglung					
25	48	4502481	BAGLUNG	Hushekanle FUG	10-12*	960	1500
26	50	4556501	M/D	Kayemare CFUG	35	1050	1765
27	50	4556502	BGL/DO/41/01	Bhimara Ko Pakho CFUG	5	1000	1350
28	50	4556503	N/A	Buchhung Salleri FUG	70-80*	1200	1765
29	52	4562521	N/A	Kachhar-Patal FUG	200*	1300	2300
30	52	4562522	BGL/BA/42/09	Bhagawati Chisapani FUG	10*	1470	2050
31	52	4562523	BGL/BA/42/10	Dadro-Shibalaya FUG		1370	1750
Total							

Appendix-1

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Profile of Forest User Groups by District and VDCs, 1998-99

May 24, 2000

AF_ID_NO	Group Size		Group Formed (Yr)	FUC Type	FUC Size	Main Ethnic Group	Women in FUC	FUC Term (Yr)	Year Handed over	PROXDFO (hr+km)	PROXROAD (hr)
	Hhs	Inds									
Dhading District											
3008091	144	824	1984	Non-formal	N/A	BTCR	N/A	N/A	N/A	2 + 62	2
3016111	284	1675	1990	Formal	13	BCG	2	5	1997	1 + 59	1
3023131	347	2022	1991	Formal	19	BCSD	3	5	1997	1 + 59	1
3023132	119	669	1991	Formal	9	BCSD	2	5	1997	1 + 59	1
3032201	188	1074	1989	Formal	12	BCNK	4	2	1997	0 + 6	0
3034211	286	1568	1990	Formal	13	BCDNKa	4	N/A	1992	0.5 + 62	0.5
3035231	75	403	1983	Formal	11	BCMD	4	2	1992	1.5 +0	1.5
3035232	75	403	1990	Formal	11	BCMD	4	2	1994	1.5 + 0	1.5
3041271	249	1588	1980	Formal	15	NBKuS	4	N/A	1992	0.5 + 22	0.5
3041272	249	1588	1990	Non-formal		NBKuS			N/A	0.5 + 22	0.5
3043281	86	472	1993	Non-formal		BCND			N/A	0.5 + 0	0.5
3043282	60	326	1993	Non-formal		KuN			N/A	0.5 + 0	0.5
3043283	69	399	1993	Non-formal		BCN			N/A	0.5 + 0	0.5
Kaski District											
4010351	47	274	1961	Formal	15	GK	4	5	1992	0.5 + 18	0.5
4011361	224	1539	1984	Formal	11	BCKDN	4	3	1984	0 + 23	0
4011362	31	210	1991	Formal	11	BG	1	2	1994	0 + 23	0
4011371	111	670	1979	Formal	8	BGKN	3	N/A	1992	0.5 + 25	0.5
4011372	111	670	1979	Formal	11	BGKN	3	5	1996	0.5 + 25	0.5
4011373	127	772	1995	Formal	7	BGKN	4	5	1995	0.5 + 25	0.5
4015381	142	864	1989	Formal	13	BMGK	4	5	1997	1 + 20	1
4015382	142	864	1983	Formal	13	BMGK	4	5	1996	1 + 20	1
4015383	142	864	1989	Formal	13	BMGK	4	5	1993	1 + 20	1
4034441	137	760	1978	Formal	11	CB	2	2	1998	0 + 0	0
Parbat											
4420461	64	386	1978	Formal	9	CB	4	1	1995	1 + 0	1
Baglung											
4502481	185	1190	1990	Non-formal		BCKDG			N/A	1.5 + 15	1.5
4556501	541	3328	1986	Formal	19	CMBKDT	4	3	1998	2 + 0	2
4556502	58	353	1992	Formal	11	CMB	4	5	1995	2 + 0	2
4556503	272	1708	1996	Non-formal		CMKDBT			N/A	2 + 0	2
4562521	348	2149	1976	Non-formal		CMS			N/A	2 + 0	2
4562522	119	742	1991	Non-formal		CMS			N/A	2 + 0	2
4562523	123	732	1991	Non-formal		CMS			N/A	2 + 0	2
Total	5155	31086									

Ethnic Group: - C=Chettri, B = Brahmin, N = Newar, T = Tamang, D = Damai, S = Sarki, K = Kami, G = Gurung, Ku = Kumal, Ka = Kamar (Jogi), etc.
Area:- * = Approximate
AF_ID_NO = 30 - District: Dhading; 08 = Village Development Committee(VDC): Chhatre Deurali; 09 = Site: Kukhurechaure; 1 = Forest: Ale Kukhurechaur
Walking Distance: 1 hr = 4 km

Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density and DBH of Tree Species in Canopy Layer: (ALL FORESTS)

05/24/2000

S.N.	PBOTNAME	PLOCNAME	P TYPE	Sum of DBH (cm)	No. of stem	Density (Pl/ha)	Avg dbh (cm)
1	Acacia catechu	Khayer	T	1142.00	34	1.22	33.59
2	Adina cordifolia	Karma	T	308.00	10	0.36	30.80
3	Aegle marmelos	Bel	T	279.00	15	0.54	18.60
4	Aesculus indica	Simal pate	T	40.00	1	0.04	40.00
5	Albizia julibrissin	Siris	T	89.00	4	0.14	22.25
6	Albizia sp.	Ghokro	T	22.00	1	0.04	22.00
7	Alnus nepalensis	Uttis	T	11753.50	511	18.31	23.00
8	Benthamidia capitata	Damaura	T	195.00	7	0.25	27.86
9	Betula alnoides	Chamlaye (Saur)	T	258.00	10	0.36	25.80
10	Bombax ceiba	Semal	T	536.50	12	0.43	44.71
11	Callicarpa macrophylla	Guyclo	T	86.50	3	0.11	28.83
12	Castanopsis indica	Katus	T	12882.00	669	23.97	19.26
13	Castanopsis tribuloides	Musure katus	T	148.00	6	0.21	24.67
81	Celastrus sp.	Joge	T	20.00	1	0.04	20.00
14	Choerospondias axillaris	Lapsi	T	201.00	12	0.43	16.75
15	Comellia kissi	Hieuwa	T	48.00	2	0.07	24.00
16	Cythea spinulosa	Tree fern	T	13.00	1	0.04	13.00
17	Daphniphyllum himalense	Chandan (Rakta chandan)	T	5444.00	230	8.24	23.67
18	Diospyros montana	Tindu	T	795.50	27	0.97	29.46
19	Engelhardia spicata	Mahuwa	T	4035.00	147	5.27	27.45
20	Erythrina stricta	Phaledo	T	150.00	4	0.14	37.50
21	Eurya acuminata	Jhyanu (Jhinganc)	T	510.50	28	1.00	18.23
22	Eurya cerasifolia	Pate	T	2517.50	119	4.26	21.16
23	Ficus glaberrima Blume	Pakhuri	T	24.00	1	0.04	24.00
24	Ficus neriifolia	Dudhilo	T	30.00	2	0.07	15.00
25	Fraxinus floribunda	Lankuri	T	86.00	6	0.21	14.33
26	Gmelina arborea	Khamari	T	29.00	2	0.07	14.50
27	Holarrhena pubescens	Gai khirro	T	36.00	2	0.07	18.00
28	Lagerstroemia parviflora	Bot dhayero	T	195.50	10	0.36	19.55
29	Lindera pulcherrima	Okhryang	T	940.50	41	1.47	22.94
30	Lindera sp.	Chaulane	T	34.00	2	0.07	17.00
31	Lithocarpus elegans	Arkhalo	T	47.00	2	0.07	23.50
32	Litsea cubeba	Ratpate	T	345.50	14	0.50	24.68
33	Lyonia ovalifolia	Angeri	T	2343.00	106	3.80	22.10
34	Macaranga postulata	Mallato	T	2495.50	112	4.01	22.28
35	Macropenax undulatus	Chinne	T	25.00	1	0.04	25.00
36	Mallotus philippensis	Sindure	T	79.00	4	0.14	19.75
37	Mangifera indica	Anp	T	104.00	3	0.11	34.67
38	Michelia champaca	Chanp	T	838.00	55	1.97	15.24
39	Michelia kisopa	Sirum	T	96.00	3	0.11	32.00

40	Myrica esculenta	Kaphal	T	619.00	30	1.07	20.63
41	Myrsine capitellata	Setikath	T	447.50	25	0.90	17.90
42	Myrsine semiserrata	Kalikath	T	104.50	3	0.11	34.83
43	Neolitsea umbrosa	Putali kath	T	26.00	2	0.07	13.00
44	Pandanus nepalensis	Ban tari	T	25.00	2	0.07	12.50
45	Persea gamblei	Kathe kaulo	T	36.00	1	0.04	36.00
46	Persea odoratissima	Kaulo	T	120.50	5	0.18	24.10
47	Phyllanthus emblica	Amala	T	76.50	4	0.14	19.13
48	Pinus patula	Salla (Pate)	T	305.00	16	0.57	19.06
49	Pinus roxburghii	Salla	T	19218.20	817	29.27	23.52
50	Pinus wallichiana	Salla (Wallichina)	T	1186.50	63	2.26	18.83
51	Podocarpus neriifolia	Dhyangre (a)	T	21.00	1	0.04	21.00
52	Prunus cerasoides	Painyu	T	662.50	40	1.43	16.56
53	Prunus nepalensis	Are	T	116.00	4	0.14	29.00
54	Pyrularia edulis	Amphi	T	44.00	3	0.11	14.67
55	Pyrus pashia	Mayel	T	40.00	3	0.11	13.33
56	Quercus glauca	Phalant	T	48.00	3	0.11	16.00
57	Quercus lamellosa	Thinke	T	205.00	6	0.21	34.17
58	Quercus leucotricophora	Banjh	T	26.00	2	0.07	13.00
59	Quercus semicarpifolia	Khasru	T	355.50	13	0.47	27.35
60	Rhododendron arboreum	Laligurans	T	2639.50	117	4.19	22.56
61	Sapium insigne	Khirro	T	287.00	15	0.54	19.13
62	Schima wallichii	Chilaune	T	34652.00	1452	52.03	23.87
63	Semecarpus anacardium	Bhalayo	T	656.00	40	1.43	16.40
64	Shorea robusta	Sal	T	32255.50	1711	61.31	18.85
65	Spilanthes sp.	Pipiri	T	65.00	1	0.04	65.00
66	Stereospermum personatum	Padari	T	84.50	3	0.11	28.17
67	Symplocos pyriflora	Dabdabe (Sano)	T	262.50	17	0.61	15.44
68	Symplocos ramosissima	Dabdabe (Thulo)	T	35.00	2	0.07	17.50
69	Symplocos sp.	Badkaule	T	36.00	2	0.07	18.00
70	Syzygium cumini	Jamun	T	1020.00	37	1.33	27.57
71	Syzygium operculata	Kyamun	T	729.50	39	1.40	18.71
72	Syzygium sp.	Phalint	T	135.50	6	0.21	22.58
73	Terminalia alata	Saj	T	1119.50	38	1.36	29.46
74	Terminalia bellirica	Barro	T	74.00	3	0.11	24.67
75	Terminalia chebula	Harro	T	13.00	1	0.04	13.00
76	Toddalia asiatica	Saniphal	T	18.00	1	0.04	18.00
77	Toona serrata	Tooni	T	32.50	2	0.07	16.25
78	Trichilia connaroides	Ankhitare	T	29.00	2	0.07	14.50
79	Unt26	Kamali kath	T	56.00	3	0.11	18.67
80	Unt44	Tilchaunde	T	58.00	4	0.14	14.50
84	Wendlandia coriacea	Kangiyo	T	17.00	1	0.04	17.00
85	Wendlandia exserta	Rato kangiyo	T	171.50	10	0.36	17.15
86	Wrightia sp.	Gopale	T	35.00	2	0.07	17.50
87	Xylosma Controversum	Phalamkande	T	61.00	3	0.11	20.33
Total				147447.20	6775	242.76	21.76
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Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density and Colar Diameter Tree Species in Sub-canopy Layer: ALL FORESTS

05/24/2000

S. N.	PBOTNAME	PLOCNAME	P TYPE	Sum of Colar Diameter(cm)	No. of Stem	Density (Pl/ha)	AVG_D BH (cm)
1	Abutilon sp.	Dhyabre	P	6.00	1	0.40	6.00
2	Acacia catechu	Khayer	P	16.00	3	1.19	5.33
3	Adina cordifolia	Karma	P	11.00	1	0.40	11.00
4	Aegle marmelos	Bel	P	26.50	3	1.19	8.83
5	Aesculus indica	Simal pate	P	3.50	1	0.40	3.50
6	Albizia julibrissin	Siris	P	15.00	3	1.19	5.00
7	Alnus nepalensis	Uttis	P	263.50	42	16.72	6.27
8	Bassia butyracea	Chiuri	P	3.00	1	0.40	3.00
9	Bauhinia purpurea	Tanki	P	78.50	21	8.36	3.74
10	Benthamidia capitata	Damaura	P	4.00	1	0.40	4.00
11	Betula alnoides	Chamlaye (Saur)	P	102.00	20	7.96	5.10
12	Callicarpa macrophylla	Guyelo	P	11.00	2	0.80	5.50
13	Castanopsis indica	Katus	P	4245.10	812	323.34	5.23
14	Castanopsis tribuloides	Musure katus	P	37.00	9	3.58	4.11
15	Celastrus sp.	Joge	P	37.00	5	1.99	7.40
16	Choerospondias axillaris	Lapsi	P	19.00	2	0.80	9.50
17	Comellia kissi	Hieuwa	P	81.00	16	6.37	5.06
18	Cornus oblonga	Latikath	P	141.00	35	13.94	4.03
19	Daphniphyllum himalense	Chandan (Rakta chandan)	P	480.50	89	35.44	5.40
20	Diospyros montana	Tindu	P	238.50	49	19.51	4.87
21	Engelhardia spicata	Mahuwa	P	694.50	118	46.99	5.89
22	Eucalyptus sp.	Masala	P	7.50	2	0.80	3.75
23	Euonymus sp.	Bhole	P	8.00	1	0.40	8.00
24	Eurya acuminata	Jhyanu (Jhingane)	P	148.50	39	15.53	3.81
25	Eurya cerasifolia	Pate	P	667.00	131	52.16	5.09
26	Eurya sp.	Lato jhyanu	P	12.00	3	1.19	4.00
27	Ficus neriifolia	Dudhilo	P	15.50	5	1.99	3.10
28	Ficus racemosa	Dumri	P	84.50	17	6.77	4.97
29	Ficus sarmentosa	Bedulo	P	14.50	4	1.59	3.63
30	Ficus semicordata	Khanayo	P	11.00	1	0.40	11.00
31	Fraxinus floribunda	Lankuri	P	33.50	8	3.19	4.19
32	Gmelina arborea	Khamari	P	5.00	1	0.40	5.00
33	Holarrhena pubescens	Gai khirro	P	19.00	2	0.80	9.50
34	Lagerstroemia parviflora	Bot dhavero	P	162.50	35	13.94	4.64
35	Lindera pulcherrima	Okhryang	P	26.00	5	1.99	5.20
36	Lindera sp.	Chaulane	P	354.00	90	35.84	3.93
37	Lithocarpus elegans	Arkhalo	P	5.00	1	0.40	5.00
38	Litsea monopetala	Kutmiro	P	6.50	2	0.80	3.25
39	Lyonia ovalifolia	Angeri	P	1061.40	225	89.60	4.72

40	Macaranga indica	Bahakan	P	2.50	1	0.40	2.50
41	Macaranga postulata	Mallato	P	151.00	24	9.56	6.29
42	Maclura cochinchinensis	Dhamphar	P	22.00	5	1.99	4.40
43	Macropenax undulatus	Chinne	P	6.50	1	0.40	6.50
44	Mallotus philippensis	Sindure	P	20.50	6	2.39	3.42
45	Mangifera indica	Anp	P	54.50	11	4.38	4.95
46	Maytenus sp.	Hieukanda	P	5.50	2	0.80	2.75
47	Melia azedarach	Bakaino	P	11.00	2	0.80	5.50
48	Michelia champaca	Chanp	P	125.00	19	7.57	6.58
49	Myrica esculenta	Kaphal	P	134.00	23	9.16	5.83
50	Myrsine capitellata	Setikath	P	425.50	104	41.41	4.09
51	Myrsine semiserrata	Kalikath	P	28.00	8	3.19	3.50
52	Neolitsea umbrosa	Putali kath	P	32.50	5	1.99	6.50
53	Persea odoratissima	Kaulo	P	15.00	4	1.59	3.75
54	Phyllanthus emblica	Amala	P	406.50	88	35.04	4.62
55	Pinus roxburghii	Salla	P	1176.40	185	73.67	6.36
56	Pinus wallichiana	Salla (Wallichina)	P	28.50	3	1.19	9.50
57	Premna barbata	Gineri	P	3.00	1	0.40	3.00
58	Prunus cerasoides	Painyu	P	131.00	25	9.96	5.24
59	Psidium guajava	Amba	P	43.00	10	3.98	4.30
60	Pyrularia edulis	Amphi	P	11.00	3	1.19	3.67
61	Pyrus pashia	Mayel	P	60.00	14	5.57	4.29
62	Quercus glauca	Phalant	P	174.80	35	13.94	4.99
63	Quercus lamellosa	Thinke	P	6.00	1	0.40	6.00
64	Quercus leucotricophora	Banjh	P	59.50	13	5.18	4.58
65	Quercus semicarpifolia	Khasru	P	22.00	5	1.99	4.40
66	Rhododendron arborcum	Laligurans	P	499.00	87	34.64	5.74
67	Rhus javanica	Bhakemlo	P	102.00	27	10.75	3.78
68	Sapium insigne	Khirro	P	117.00	23	9.16	5.09
69	Schima wallichii	Chilaune	P	3291.30	505	201.09	6.52
70	Semecarpus anacardium	Bhalayo	P	260.00	40	15.93	6.50
71	Shorea robusta	Sal	P	10573.00	1793	713.98	5.90
72	Spilanthes sp.	Pipiri	P	44.00	10	3.98	4.40
73	Stranvaesia nussia	Jure Mayel	P	23.00	3	1.19	7.67
74	Symplocos pyrifolia	Dabdabe (Sano)	P	355.00	73	29.07	4.86
75	Symplocos ramosissima	Dabdabe (Thulo)	P	3.50	1	0.40	3.50
76	Symplocos sp.	Badkaule	P	139.50	31	12.34	4.50
77	Syzygium cumini	Jamun	P	272.50	54	21.50	5.05
78	Syzygium operculata	Kyamun	P	445.90	81	32.25	5.50
79	Syzygium sp.	Phalint	P	265.90	49	19.51	5.43
80	Terminalia alata	Saj	P	117.50	21	8.36	5.60
81	Terminalia bellirica	Barro	P	12.00	1	0.40	12.00
82	Terminalia chebula	Harro	P	31.00	4	1.59	7.75
83	Trichilia connaroides	Ankhitare	P	118.50	30	11.95	3.95
84	Trichilia sp.	Sanoankhitare	P	7.00	2	0.80	3.50
85	Un1	b	P	10.00	2	0.80	5.00
86	Unt15	Daidalo	P	4.50	1	0.40	4.50
87	Unt22	Gobre	P	2.50	1	0.40	2.50

88	Unt27	Kande ghans	P	7.50	2	0.80	3.75
89	Unt34	Peuri	P	4.50	1	0.40	4.50
90	Unt44	Tilchaunde	P	109.90	18	7.17	6.11
91	Unt6	Bhalo	P	11.50	2	0.80	5.75
92	Unt7	Bhalu archal	P	67.00	19	7.57	3.53
93	Wendlandia coriacca	Kangiyo	P	207.00	39	15.53	5.31
94	Wendlandia exserta	Rato kangiyo	P	104.50	23	9.16	4.54
95	Wendlandia puberula	Seto kangiyo	P	174.00	41	16.33	4.24
96	Xeromphis spinosa	Maidel	P	41.00	10	3.98	4.10
97	Xylosma Controversum	Phalamkande	P	70.00	11	4.38	6.36
98	Zanthoxylum oxyphyllum	Siltumur	P	3.00	1	0.40	3.00
Total				29804.70	5410	2154.29	5.51

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Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density and Colar Diameter of Shrub Species in Sub-canopy Layer: ALL FORESTS

05/24/2000

S. N.	PBOTNAME	PLOCNAME	PTYPE	Count of PTYPE	Sum of PCIRCUM (cm)	Avg.of PCIRCUM (cm)	Density (Pl/ha)
1	Antidesma bunius	Archale (Archal)	B	4	14.5	3.63	1.59
2	Ardisia solanacea	Lampate (Damai phul)	B	5	18.5	3.70	1.99
3	Ardisia thyrsiflora	Damaigede	B	2	5	2.50	0.80
4	Barleria cristata	Phultiso	B	36	147.5	4.10	14.33
5	Berberis aristata	Chutro	B	13	41	3.15	5.18
6	Cacsalpinia decapetala	Arelikanda	B	10	34	3.40	3.98
7	Caryopteris odorata	Ghayero	B	1	4	4.00	0.40
8	Cipadessa baccifera	Kailikath	B	8	21	2.63	3.19
9	Clerodendron viscosum	Ghatu	B	3	15	5.00	1.19
10	Colebrookea oppositifolia	Dhursul	B	3	9	3.00	1.19
11	Daphne bholua	Sct baruwa (lokta)	B	1	2.5	2.50	0.40
12	Dichroa febrifusa	Shyal kainchi	B	31	101.5	3.27	12.34
13	Duranta repens	Nilkanda	B	10	32.5	3.25	3.98
14	Ficus sp.	Panipothro	B	4	16	4.00	1.59
15	Flacourtia jangomas	Goldarim	B	4	13	3.25	1.59
16	Gaultheria fragrantissima	Dhasingare (Patpate)	B	2	9.5	4.75	0.80
17	Homalium nepalense	Kori	B	5	34	6.80	1.99
18	Jatropha curcas	Sajiwan	B	5	28	5.60	1.99
19	Macsa chisia	Bilaune	B	70	295	4.21	27.87
20	Macsa macrophylla	Bhogate	B	25	103	4.12	9.95
21	Mussaenda roxburghii	Dhobini	B	4	10.5	2.63	1.59
22	Osbekia stellata	Kali angeri	B	83	264	3.18	33.05
23	Osyris wightiana	Nundhiki	B	3	10.5	3.50	1.19
24	Pyracantha crenulata	Ghangaru	B	5	18.5	3.70	1.99
25	Rhus parviflora	Satibayer	B	2	6	3.00	0.80
26	Rosa macrophylla	Jangali gulaf	B	1	4	4.00	0.40
27	Rubus ellipticus	Ainselu	B	18	47	2.61	7.17
28	Uns1	Ampate	B	1	3	3.00	0.40
29	Uns14	Kukurpaile	B	3	13.5	4.50	1.19
30	Uns15	Kumale	B	2	8	4.00	0.80
31	Uns17	Mohane	B	4	11.5	2.88	1.59
32	Uns21	Sagino	B	1	2.5	2.50	0.40
33	Viburnum sp.	Nachinne	B	1	2.5	2.50	0.40
34	Woodfordia fruticosa	Dhayero	B	19	69	3.63	7.56
Grand Total				389	1415	3.64	154.87

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Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density of Tree Seedlings in Ground Cover Layer: ALL FORESTS

May 24, 2000

S. N.	PBOTNAME	PLOCNAME	PTYPE	No. of Seedlings	Density (pl/ha)
1	Abutilon sp.	Dhyabre	S	4	14.33
2	Acacia catechu	Khayer	S	2	7.17
3	Acacia pinnata	Arkhu	S	2	7.17
4	Adina cordifolia	Karma	S	8	28.67
5	Aegle marmelos	Bel	S	5	17.92
6	Albizia julibrissin	Siris	S	10	35.83
7	Alnus nepalensis	Uttis	S	9	32.25
8	Alstonia scholaris	Chhatiwan	S	2	7.17
9	Bauhinia purpurea	Tanki	S	4	14.33
10	Bauhinia variegata	Koiralo	S	1	3.58
11	Benthamidia capitata	Damaura	S	19	68.08
12	Betula alnoides	Chamlaye (Saur)	S	16	57.33
13	Bombax ceiba	Semal	S	1	3.58
14	Bridelia retusa	Gayo	S	1	3.58
15	Callicarpa macrophylla	Guyelo	S	1	3.58
16	Castanopsis indica	Katus	S	883	3163.96
17	Castanopsis tribuloides	Musure katus	S	143	512.40
18	Celastrus sp.	Joge	S	2	7.17
19	Choerospondias axillaris	Lapsi	S	1	3.58
20	Cornus oblonga	Latikath	S	527	1888.34
21	Cythea spinulosa	Tree fern	S	1	3.58
22	Daphniphyllum himalense	Chandan (Rakta chandan)	S	69	247.24
23	Diospyros montana	Tindu	S	60	214.99
24	Engelhardia spicata	Mahuwa	S	68	243.66
25	Eurya acuminata	Jhyanu (Jhingane)	S	92	329.65
26	Eurya cerasifolia	Pate	S	127	455.07
27	Eurya sp.	Lato jhyanu	S	1	3.58
28	Ficus benghalensis	Bar	S	1	3.58
29	Ficus hispida	Thotne like (Khasreto)	S	3	10.75
30	Ficus neriifolia	Dudhilo	S	18	64.50
31	Ficus racemosa	Dumri	S	38	136.16
32	Ficus sarmentosa	Bedulo	S	15	53.75
33	Ficus semicordata	Khanayo	S	1	3.58
34	Ficus sp.	Bakkal	S	2	7.17
35	Flacourtia jangomas	Goldarim	S	24	86.00
36	Fraxinus floribunda	Lankuri	S	8	28.67
37	Grewia optiva	Bhati ghans	S	3	10.75
38	Holarrhena pubescens	Gai khirro	S	17	60.91
39	Ilex dipyrena	Kande	S	4	14.33

40	Lagerstroemia parviflora	Bot dhayero	S	27	96.75
41	Lindera pulcherrima	Okhryang	S	9	32.25
42	Lindera sp.	Chaulane	S	97	347.57
43	Lithocarpus elegans	Arkhalo	S	1	3.58
44	Litsea monopetala	Kutmiro	S	19	68.08
45	Lyonia ovalifolia	Angeri	S	492	1762.93
46	Macaranga indica	Bahakan	S	2	7.17
47	Macaranga postulata	Mallato	S	13	46.58
48	Maclura cochinchinensis	Dhamphar	S	2	7.17
49	Mallotus philippinensis	Sindure	S	39	139.74
50	Mangifera indica	Anp	S	4	14.33
51	Maytenus sp.	Hieukanda	S	2	7.17
52	Melia azedarach	Bakaino	S	13	46.58
53	Michelia champaca	Chanp	S	3	10.75
54	Milletia extensa	Gaujo	S	4	14.33
55	Myrica esculenta	Kaphal	S	30	107.50
56	Myrsine capitellata	Setikath	S	206	738.14
57	Myrsine semiserrata	Kalikath	S	43	154.08
58	Neolitsea umbrosa	Putali kath	S	3	10.75
59	Persea odoratissima	Kaulo	S	23	82.41
60	Phyllanthus emblica	Amala	S	210	752.47
61	Pilea sp.	Dhakemli	S	4	14.33
62	Pinus roxburghii	Salla	S	69	247.24
63	Podocarpus neriifolia	Dhyangre (a)	S	2	7.17
64	Premna barbata	Gineri	S	2	7.17
65	Prunus cerasoides	Painyu	S	16	57.33
66	Psidium guajava	Amba	S	7	25.08
67	Pyrus pashia	Mayel	S	32	114.66
68	Quercus glauca	Phalant	S	38	136.16
69	Quercus lamellosa	Thinke	S	9	32.25
70	Quercus leucotricophora	Banjh	S	75	268.74
71	Quercus semicarpifolia	Khasru	S	8	28.67
72	Rhododendron arboreum	Laligurans	S	54	193.49
73	Rhus javanica	Bhakemlo	S	60	214.99
74	Sapindus mukorossi	Ritha	S	1	3.58
75	Sapium insigne	Khirro	S	3	10.75
77	Saurauia nepaulensis (DC)	Gogan	S	5	17.92
78	Schima wallichii	Chilaune	S	317	1135.87
79	Semecarpus anacardium	Bhalayo	S	14	50.16
80	Shorea robusta	Sal	S	3139	11247.65
81	Spilanthes sp.	Pipiri	S	6	21.50
82	Stereospermum personatum	Padari	S	4	14.33
83	Symplocos pyrifolia	Dabdabe (Sano)	S	93	333.24
84	Symplocos sp.	Badkaule	S	164	587.64
85	Syzygium cumini	Jamun	S	131	469.40
86	Syzygium operculata	Kyamun	S	261	935.21
87	Syzygium sp.	Phalint	S	70	250.82

88	Terminalia alata	Saj	S	157	562.56
89	Toona serrata	Tooni	S	5	17.92
90	Trichilia connaroides	Ankhitare	S	26	93.16
91	Trichilia sp.	Sanoankhitare	S	4	14.33
92	Unt22	Gobre	S	5	17.92
93	Unt26	Kamali kath	S	1	3.58
94	Unt44	Tilchaunde	S	5	17.92
95	Unt7	Bhalu archal	S	45	161.24
96	Wendlandia coriacea	Kangiyo	S	50	179.16
97	Wendlandia exserta	Rato kangiyo	S	115	412.07
98	Wendlandia puberela	Seto kangiyo	S	118	422.82
99	Wrightia sp.	Bagale	S	5	17.92
100	Xeromphis spinosa	Maidel	S	138	494.48
101	Xylosma Controversum	Phalamkande	S	27	96.75
102	Zanthoxylum oxyphyllum	Siltumur	S	1	3.58
Grand Total				8740	31249.03

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Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density of Shrub Seedlings in Ground Cover Layer: ALL FORESTS

May 24, 2000

S. N.	PBOTNAME	PLOCNAME	PTYPE	No. of Seedlings	Density (pl/ha)
1	Antidesma bunius	Archale (Archal)	Sh	118	422.82
2	Ardisia solanacea	Lampate (Damai phul)	Sh	107	383.40
3	Ardisia thyrsiflora	Damaigede	Sh	56	200.66
4	Barleria cristata	Phultiso	Sh	45	161.24
5	Berberis aristata	Chutro	Sh	67	240.07
6	Boehmeria sp.	Bigar ko ausadhi	Sh	42	150.49
7	Caesalpinia decapetala	Arelikanda	Sh	93	333.24
8	Caryopteris odorata	Ghayero	Sh	2	7.17
9	Cipadessa baccifera	Kailikath	Sh	188	673.64
10	Clerodendron viscosum	Ghatu	Sh	291	1042.71
11	Colebrookea oppositifolia	Dhursul	Sh	71	254.41
12	Daphne bholua	Set baruwa (lokta)	Sh	24	86.00
13	Desmodium microphyllum	Bakhre	Sh	13	46.58
14	Desmodium multiflorum	Bhatte	Sh	434	1555.11
15	Dichroa febrifusa	Shyal kainchi	Sh	95	340.40
16	Duranta repens	Nilkanda	Sh	134	480.15
17	Elaeagnus infundibularis	Muse lendi	Sh	4	14.33
18	Ficus sp.	Panipothro	Sh	9	32.25
19	Gaultheria fragrantissima	Dhasingare (Patpate)	Sh	22	78.83
20	Homalium nepalense	Kori	Sh	3	10.75
21	Hypericum uralum	Sunpati	Sh	136	487.31
22	Justicia adhatoda	Asuro	Sh	22	78.83
23	Maesa chisia	Bilaune	Sh	205	734.55
24	Maesa macrophylla	Bhogate	Sh	15	53.75
25	Mussaenda roxburghii	Dhobini	Sh	37	132.58
26	Osbekia stellata	Kali angeri	Sh	763	2733.98
27	Osyris sp.	Hade	Sh	7	25.08
28	Osyris wightiana	Nundhiki	Sh	61	218.57
29	Pyracantha crenulata	Ghangaru	Sh	6	21.50
30	Rosa macrophylla	Jangali gulaf	Sh	16	57.33
31	Rubus ellipticus	Ainselu	Sh	123	440.73
32	Sarcococca hookeriana	Gaulato	Sh	17	60.91
33	Solanum surattense	Kanthakari	Sh	1	3.58
34	Uns1	Ampate	Sh	18	64.50
35	Uns7	Boke archal	Sh	6	2.39
36	Uns15	Kumale	Sh	21	75.25
37	Uns16	Madane	Sh	51	182.74
38	Uns17	Mohane	Sh	28	100.33
39	Uns2	Aputo	Sh	48	171.99
40	Uns21	Sagino	Sh	356	1275.62
41	Uns23	Urlo	Sh	24	86.00

42	Uns5	Ban kapas	Sh	13	46.58
43	Viburnum mullaha	Malow	Sh	5	17.92
44	Viburnum nervosum	Silam karthe	Sh	35	125.41
45	Viburnum sp.	Nachinne	Sh	4	14.33
46	Woodfordia fruticosa	Dhayero	Sh	748	2680.23
47	Zizyphus mauritiana	Bayer	Sh	2	7.17
Grand Total				4580	16411.03

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Appendix-2

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA PVT. LTD
Density of Ground Cover Layer: ALL FORESTS

May 24, 2000

S.N.	Botanical Name	Local Name	Ptype	Cover (sq.m.)	Cover (%)
1	Achyranthes bidentata	Dattiwan	H	0.79	0.03
2	Adiantum caudatum	Sinke uneu	H	0.60	0.02
3	Aechmanthera gossypina	Kalo ankhle	H	0.97	0.03
4	Ageratum conyzoides	Gandhe	H	4.87	0.17
5	Ainsliaea latifolia	Buti jhar (Sahadeva/Sahadevi)	H	1.48	0.05
6	Ainsliaea sp.	Phusre	H	0.19	0.01
7	Anaphalis busuwa	Booki phool	H	3.43	0.12
8	Arisaema sp.	Sarpa makai	H	0.28	0.01
9	Artemisia vulgaris	Titepati	H	9.24	0.33
10	Arundinella nepalensis	Phurke Khar	H	30.23	1.08
11	Asparagus racemosus	Kurilo	H	0.57	0.02
12	Aster sp.	Pahelo phool	H	0.03	0.00
13	Athyrium pectinatum	Fern-3	H	11.82	0.42
14	Atylosia volubilis	Cs	H	0.03	0.00
15	Begonia picta	Magar kanche	H	0.50	0.02
16	Bidens bipinnata.	Ban tori	H	0.16	0.01
17	Blumea sp.	Herb-3	H	0.13	0.00
18	Boehmeria platyphylla	Khasro pat	H	1.38	0.05
19	Boenninghausenia albiflora	Abhi (Sulsule bikh, Karna)	H	3.17	0.11
20	Calenthe trichirinata	Shyal dhoti	H	0.09	0.00
21	Campylandra aurantiaca	Lasune	H	1.85	0.07
22	Carex cruciata	Mothe	H	12.57	0.45
23	Cassia tora	Tapre	H	2.92	0.10
24	Centella asiatica	Ghortapre	H	2.45	0.09
25	Cheilanthes albomarginata	Kan Chhedne uneu	H	13.61	0.49
26	Chlorophytum nepalense	Chamsure	H	2.61	0.09
27	Chrysopogon aciculatus	Sinke kuro	H	0.44	0.02
28	Cissampelos pareira	Batulopate	H	3.49	0.13
29	Cissus repens	Charchare lahara	H	0.31	0.01
30	Clematis buchananiana	Chaute (Chauta jor)	H	0.41	0.01
31	Coccinia grandis	Golkakri	H	0.03	0.00
32	Colocasia sp.	Jaluko (Thakse)	H	0.25	0.01
33	Commelina sp.	Kane	H	2.55	0.09
34	Coniogramme scrrulata	Fern-4 (Ghanse uneu)	H	0.79	0.03
35	Crotalaria ferruginea	Hallane	H	2.67	0.10
36	Curculigo sp.	Monocot-1	H	3.61	0.13
37	Curcuma aromatica	Ban besar	H	0.97	0.03
38	Cymbopogon sp.	Dhadi (Ipru)	H	0.69	0.02

39	Cyrtococcum accrescens	Banse Bunso	H	0.79	0.03
40	Dactyloctenium aegypticum	Ghode dubo	H	7.92	0.28
41	Dendrocalamus hamiltonil	Bamboo	H	7.95	0.28
42	Desmodium triflorum	Sano legume	H	1.10	0.04
43	Digitaria ciliaris	Chitre bunso	H	43.72	1.57
44	Dioscorea alata	Ban tarul	H	2.20	0.08
45	Dioscorea bulbifera	Githa	H	4.59	0.16
46	Drepanostachym intermedium	Nigalo	H	0.72	0.03
47	Dryopteris sparsa	Kalo uneu (P)	H	1.45	0.05
48	Dumasia sp.	Mase lahara	H	1.16	0.04
49	Elastotema sp.	Lahare jhar	H	0.06	0.00
50	Elephantopus scaber	HSB-1 (Gomukhi)	H	3.96	0.14
51	Elsholtzia eriostachya	Khoria sinki	H	0.06	0.00
52	Eragrostic sp.	Kukur bunso	H	1.13	0.04
53	Eragrostic tenella	Bunso jhar	H	5.69	0.20
54	Eranthemum pulchellum	Angare	H	0.16	0.01
55	Eulaliopsis binata	Babiyo	H	0.25	0.01
56	Eupatorium adenophorum	Banmara (Sano)	H	38.53	1.38
57	Eupatorium odoratum	Banmara (Thulo)	H	12.23	0.44
58	Euphorbia hirta	Dudhe Jhar	H	0.50	0.02
59	Flemengia strobilifera	Phallene	H	9.65	0.35
60	Fragaria nubicola	Bhui kaphal	H	0.19	0.01
61	Gleichenia glauca	Hande uneu	H	88.34	3.17
62	Gnaphalium ageratum	Herb-4	H	0.66	0.02
63	Gnaphalium sp.	Juke pat	H	0.06	0.00
64	Gonostegia sp.	Litc	H	1.41	0.05
65	Hedera helix	Mewa pate	H	1.73	0.06
66	Hedyotis scandens	Tite	H	2.99	0.11
67	Hedyotis sp	Herb-1	H	3.71	0.13
68	Heteropogon contortus	Arthunge	H	16.12	0.58
69	Imperata cylindrica	Siru	H	63.64	2.28
70	Inula capa	Gaitihare	H	5.63	0.20
71	Jasminum sp.	Charpate lahara	H	0.06	0.00
72	Justicia procumbens	Ban babari	H	0.53	0.02
73	Justicia sp.	Budhe	H	0.03	0.00
74	Laggera sp.	u-four flower	H	0.06	0.00
75	Lcca macrophylla	Galeni	H	6.35	0.23
76	Lindenbergia grandiflora	Phusre raulo	H	3.30	0.12
77	Lindernia oppositifolia	Ganj jhar	H	0.06	0.00
78	Lucas cephalotes	Banlatte	H	0.22	0.01
79	Lycopodium clavatum	Nagbeli	H	14.39	0.52
80	Lygodium japonicum	Janai laharo	H	2.55	0.09
81	Micromeria nepalensis	Unknown	H	2.80	0.10
82	Microsorium phyllomanes	Net fern	H	2.07	0.07
83	Microsorum cuspidatum	Fern-1	H	0.97	0.03
84	Milletia extensa	Gaujo	H	0.06	0.00
85	Mimosa pudica	Lazzabati	H	0.19	0.01

86	Momordica dioica	Ban karela	H	0.03	0.00
87	Nephrolepsis cordifolia	Pani amala	H	48.78	1.75
88	Oenanthe sp.	Ban dhaniya	H	0.06	0.00
89	Oxalis corniculata	Chari amilo	H	0.72	0.03
90	Paspalum scrobiculatum	Mane ghans	H	0.09	0.00
91	Persea duthiei	Ban kaulo	H	0.16	0.01
92	Persicaria hydropiper	Polygonacae-1 (Ratnaulo)	H	2.42	0.09
93	Phoenix humilis	Thakal	H	1.19	0.04
94	Phyllanthus parviflolius	Khareto	H	1.01	0.04
95	Phyllanthus parvifolius	Khareto	H	16.09	0.58
96	Pilea sp.	Rablo	H	18.73	0.67
97	Pilea wightii	Rato kamle	H	1.63	0.06
98	Piper sp.	Pipla lahara	H	0.44	0.02
99	Plectranthes sp.	Labiatae-1	H	0.13	0.00
100	Pogonatherum crinitum	Muse kharki	H	173.17	6.20
101	Pogostemon benghalensis	Langate	H	3.83	0.14
102	Polygonatum verticillatum	Chiple juro	H	0.03	0.00
103	Polystichum lentum	Fern-2	H	44.22	1.58
104	Polystichum lentum	Fern-2	H	0.16	0.01
105	Porana racemosa	Rani phool	H	0.06	0.00
106	Potentilla fulgens	Bajradanti	H	0.50	0.02
107	Pteris wallichiana	Mauro	H	4.15	0.15
108	Pueraria tuberosa	Bhatte lahara	H	0.22	0.01
109	Reinwardtia indica	Pyauli	H	13.89	0.50
110	Rubia majith	Majitho	H	1.13	0.04
111	Rubus acuminatus	Phusre kanda	H	0.19	0.01
112	Rubus rugosus	Seto kanda	H	2.70	0.10
113	Saccharum spontaneum	Kans	H	0.06	0.00
114	Sarcococca coriacea	Teltapre	H	2.48	0.09
115	Scutellaria discolor	Bitter	H	2.23	0.08
116	Scutellaria repens	Suke phool	H	1.92	0.07
117	Selaginella sp.	Bhuilahara	H	6.41	0.23
118	Senecio sp.	Ban pati	H	0.63	0.02
119	Smilax aspera	Kukurdaino	H	5.91	0.21
120	Strobilanthes atropurpures	Seto potar	H	1.13	0.04
121	Tectaria macrodonta	Kali neuro	H	0.06	0.00
122	Tectaria sp.	Anp leaf like	H	0.09	0.00
123	Tetrastigma serrulatum	Lahare ghans	H	2.64	0.09
124	Thysanolaena maxima	Amliso	H	0.28	0.01
125	Trachelospermum lucidum	Dudhe lahara	H	1.76	0.06
126	Trichodesma indicum	Kanike kuro	H	0.44	0.02
127	Tridex procumbes	Kane Ghans	H	0.22	0.01
128	Trifolium rapens	Tinpate jhar	H	0.28	0.01
129	Un13	Rato gaulato	H	0.03	0.00
130	Un8	L	H	0.79	0.03
131	Unh1	Aduwa pate	H	0.06	0.00
132	Unh11	Bhui uneu	H	1.89	0.07

133	Unh12	Birali lahara	H	0.03	0.00
134	Unh21	Chirchire	H	12.32	0.44
135	Unh22	Churchure	H	17.91	0.64
136	Unh33	Harchur	H	0.16	0.01
137	Unh39	Iru ko lahara	H	0.60	0.02
138	Unh43	Kalo uneu	H	0.03	0.00
139	Unh46	Karna phooli	H	0.06	0.00
140	Unh47	Khar	H	1.23	0.04
141	Unh65	Pirre	H	0.47	0.02
142	Unh69	Rato phool	H	0.53	0.02
143	Unh76	Sps-1	H	0.06	0.00
144	Unh85	Ulleri phool	H	0.03	0.00
145	Urena lobata	Dalle kuro	H	4.90	0.18
146	Urtica dioica	Sisno	H	0.47	0.02
147	Valeriana hardwickii	Jatamansi	H	0.16	0.01
148	Valeriana wallichina	Thinchire	H	0.72	0.03
149	Vernonia sp.	Ct	H	0.03	0.00
Grand Total				889.19	31.86
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Appendix-3

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Measures of Biodiversity (All Forests) :Trees, 1998/1999

May 24, 2000

S.N.	SID NO.	Plant Species	No. of Stem	Density (Pl./ha)	Rel. Density (%)	Frequency (%)	Rel. Frequency (%)	Dominence (sq.m/ha)	Rel. Dominence (%)	IVI
1	3008091	Total: All Plant Species	243	257.73	100.00	180.00	100.00	5.36	100.00	300.00
2	3016111	Total: All Plant Species	639	508.30	100.00	147.50	100.00	7.38	100.00	300.00
3	3023131	Total: All Plant Species	281	298.04	100.00	203.33	100.00	4.59	100.00	300.00
4	3023132	Total: All Plant Species	123	326.14	100.00	116.67	100.00	5.58	100.00	300.00
5	3032201	Total: All Plant Species	179	138.92	100.00	209.76	100.00	4.17	100.00	300.00
6	3034211	Total: All Plant Species	111	117.73	100.00	153.33	100.00	3.37	100.00	300.00
7	3035231	Total: All Plant Species	293	310.76	100.00	230.00	100.00	5.11	100.00	300.00
8	3035232	Total: All Plant Species	228	241.82	100.00	300.00	100.00	6.09	100.00	300.00
9	3041271	Total: All Plant Species	142	150.61	100.00	173.33	100.00	6.50	100.00	300.00
10	3041272	Total: All Plant Species	140	148.49	100.00	140.00	100.00	6.32	100.00	300.00
11	3043281	Total: All Plant Species	190	201.52	100.00	170.00	100.00	5.81	100.00	300.00
12	3043282	Total: All Plant Species	88	93.34	100.00	120.00	100.00	2.95	100.00	300.00
13	3043283	Total: All Plant Species	47	49.85	100.00	100.00	100.00	1.58	100.00	300.00
14	4010351	Total: All Plant Species	406	322.96	100.00	255.00	100.00	6.95	100.00	300.00
15	4011361	Total: All Plant Species	288	305.46	100.00	276.67	100.00	6.23	100.00	300.00
16	4011362	Total: All Plant Species	55	175.00	100.00	200.00	100.00	766.01	100.00	300.00
17	4011371	Total: All Plant Species	407	287.78	100.00	231.11	100.00	10.24	100.00	300.00
18	4011372	Total: All Plant Species	270	286.37	100.00	416.67	100.00	17.91	100.00	300.00
19	4011373	Total: All Plant Species	6	38.18	100.00	80.00	100.00	1.65	100.00	300.00
20	4015381	Total: All Plant Species	341	361.67	100.00	303.33	100.00	12.53	100.00	300.00
21	4015382	Total: All Plant Species	206	218.49	100.00	286.67	100.00	7.96	100.00	300.00
22	4015383	Total: All Plant	292	309.70	100.00	253.33	100.00	5.78	100.00	300.00

		Species								
23	4034441	Total: All Plant Species	249	264.10	100.00	156.67	100.00	5.44	100.00	300.00
24	4420461	Total: All Plant Species	269	213.98	100.00	175.00	100.00	8.70	100.00	300.00
25	4502481	Total: All Plant Species	239	253.49	100.00	173.33	100.00	6.69	100.00	300.00
26	4556501	Total: All Plant Species	226	239.70	100.00	303.33	100.00	6.23	100.00	300.00
27	4556502	Total: All Plant Species	27	171.82	100.00	180.00	100.00	0.98	100.00	300.00
28	4556503	Total: All Plant Species	129	136.82	100.00	120.00	100.00	7.57	100.00	300.00
29	4562521	Total: All Plant Species	569	278.54	100.00	338.46	100.00	8.55	100.00	300.00
30	4562522	Total: All Plant Species	61	194.09	100.00	70.00	100.00	3.96	100.00	300.00
31	4562523	Total: All Plant Species	32	203.64	100.00	120.00	100.00	3.52	100.00	300.00
Total			6776	7105.05						

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Appendix-3

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Measures of Biodiversity (All Forests) :Trees, 1998/1999

May 24, 2000

S.N.	SID NO.	No. of Stem	Average DBH (cm)	Average Height (m)	Basal Area (sq.m)	Cover (%)	Relative Cover (%)	Volume (cu.m/ha)
1	3008091	243	15.95	7.02	5.05	17.46	100.00	19.87
2	3016111	639	13.56	7.63	9.28	26.91	100.00	28.31
3	3023131	281	13.84	7.48	4.33	34.96	100.00	17.59
4	3023132	123	14.74	5.80	2.10	13.23	100.00	16.26
5	3032201	179	18.31	7.39	5.38	14.45	100.00	17.28
6	3034211	111	18.67	8.29	3.18	15.68	100.00	15.32
7	3035231	293	14.12	7.58	4.82	20.33	100.00	20.45
8	3035232	228	17.67	7.31	5.75	24.01	100.00	22.48
9	3041271	142	22.98	8.22	6.13	17.00	100.00	27.33
10	3041272	140	21.64	6.88	5.96	11.84	100.00	27.82
11	3043281	190	18.99	7.63	5.47	12.61	100.00	22.44
12	3043282	88	19.67	6.97	2.78	6.00	100.00	10.48
13	3043283	47	19.50	6.82	1.49	2.74	100.00	5.47
14	4010351	406	16.39	8.78	8.73	30.86	100.00	31.53
15	4011361	288	15.99	8.16	5.87	28.49	100.00	25.71
16	4011362	55	22.93	8.13	2.41	19.30	100.00	33.91
17	4011371	407	20.89	9.99	14.48	40.55	100.00	56.07
18	4011372	270	26.59	8.95	16.88	54.14	100.00	92.13
19	4011373	6	22.17	4.50	0.26	3.88	100.00	4.02
20	4015381	341	20.79	8.31	11.81	35.92	100.00	53.06
21	4015382	206	21.16	6.85	7.50	22.93	100.00	28.37
22	4015383	292	15.25	8.50	5.45	24.47	100.00	25.06
23	4034441	249	16.13	7.40	5.13	25.33	100.00	20.67
24	4420461	269	22.44	9.18	10.94	25.97	100.00	41.63
25	4502481	239	18.15	9.05	6.30	20.87	100.00	30.91
26	4556501	226	18.06	7.30	5.88	20.55	100.00	23.08
27	4556502	27	16.78	6.70	0.15	11.09	100.00	3.38
28	4556503	129	26.14	10.40	7.14	4.30	100.00	41.78
29	4562521	569	19.52	7.11	17.46	28.64	100.00	31.32
30	4562522	61	16.07	8.00	1.24	21.07	100.00	16.05
31	4562523	32	14.81	6.28	0.55	22.81	100.00	11.09

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Appendix-3

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Measures of Biodiversity (All Forests): Saplings

May 24, 2000

S. N.	AF_ID_NO	Plant Species	No. of Stem	Density (Pl./ha)	Relative Density (%)	Frequency (%)	Relative Frequency (%)	Dominence (sq.m/ha)	Relative Dominence (%)	IVI
1	3008091	All Species	178	2098.81	100.00	190.00	100.00	6.66	100.00	300.00
2	3016111	All Species	313	2767.95	100.00	260.00	100.00	9.13	100.00	300.00
3	3023131	All Species	229	2700.15	100.00	296.67	100.00	7.91	100.00	300.00
4	3023132	All Species	22	648.51	100.00	108.33	100.00	2.28	100.00	300.00
5	3032201	All Species	315	2717.70	100.00	239.02	100.00	6.22	100.00	300.00
6	3034211	All Species	364	4291.95	100.00	390.00	100.00	11.01	100.00	300.00
7	3035231	All Species	186	2193.14	100.00	266.67	100.00	7.72	100.00	300.00
8	3035232	All Species	169	1992.69	100.00	233.33	100.00	5.11	100.00	300.00
9	3041271	All Species	54	636.72	100.00	83.33	100.00	2.67	100.00	300.00
10	3041272	All Species	59	695.67	100.00	70.00	100.00	1.84	100.00	300.00
11	3043281	All Species	212	2499.71	100.00	253.33	100.00	6.14	100.00	300.00
12	3043282	All Species	378	4457.02	100.00	266.67	100.00	10.93	100.00	300.00
13	3043283	All Species	338	3985.38	100.00	236.67	100.00	9.19	100.00	300.00
14	4010351	All Species	171	1512.20	100.00	205.00	100.00	4.86	100.00	300.00
15	4011361	All Species	170	2004.48	100.00	253.33	100.00	4.17	100.00	300.00
16	4011362	All Species	40	1414.93	100.00	190.00	100.00	3.47	100.00	300.00
17	4011371	All Species	220	1729.36	100.00	186.67	100.00	4.02	100.00	300.00
18	4011372	All Species	147	1733.29	100.00	213.33	100.00	2.87	100.00	300.00
19	4011373	All Species	19	1344.18	100.00	180.00	100.00	2.14	100.00	300.00
20	4015381	All Species	173	2039.85	100.00	260.00	100.00	4.46	100.00	300.00
21	4015382	All Species	122	1438.51	100.00	166.67	100.00	2.41	100.00	300.00
22	4015383	All Species	114	1344.18	100.00	210.00	100.00	3.19	100.00	300.00
23	4034441	All Species	187	2204.93	100.00	163.33	100.00	4.11	100.00	300.00
24	4420461	All Species	277	2449.59	100.00	255.00	100.00	5.47	100.00	300.00
25	4502481	All Species	228	2688.36	100.00	243.33	100.00	6.22	100.00	300.00
26	4556501	All Species	128	1509.26	100.00	230.00	100.00	4.24	100.00	300.00
27	4556502	All Species	29	2051.64	100.00	200.00	100.00	3.39	100.00	300.00
28	4556503	All Species	156	1839.41	100.00	266.67	100.00	4.42	100.00	300.00
29	4562521	All Species	389	2116.95	100.00	280.00	100.00	3.98	100.00	300.00
30	4562522	All Species	33	1167.32	100.00	150.00	100.00	2.43	100.00	300.00
31	4562523	All Species	11	778.21	100.00	120.00	100.00	2.57	100.00	300.00

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Appendix-3

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.
Measures of Biodiversity (All the Forests)
Saplings

May 24, 2000

S.N.	Plant Species	No. of Stem	Average Colar Diameter (cm)	Average Height (m)	Basal Area (sq.m)	Cover (%)	Relative Cover (%)
1	All Species	178	2.06	6.28	0.564	14.13	100
2	All Species	313	6.36	2.47	1.032	10.63	100
3	All Species	229	5.96	3.04	0.671	36.43	100
4	All Species	22	6.47	2.16	0.077	3.69	100
5	All Species	315	5.35	3.05	0.721	12.31	100
6	All Species	364	5.63	3.54	0.934	57.56	100
7	All Species	186	6.66	3.61	0.655	21.72	100
8	All Species	169	5.61	3.46	0.433	18.11	100
9	All Species	54	7.13	3.89	0.226	4.91	100
10	All Species	59	5.58	2.86	0.156	4.05	100
11	All Species	212	5.53	2.58	0.521	7.77	100
12	All Species	378	5.56	2.95	0.927	14.99	100
13	All Species	338	5.38	2.87	0.779	9.187	100
14	All Species	171	6.27	3.76	0.549	17.8	100
15	All Species	170	5.041	2.667	0.354	20.42	100
16	All Species	40	5.46	2.78	0.1	17.04	100
17	All Species	220	5.31	3.21	0.512	14.28	100
18	All Species	147	4.53	3.28	0.244	17.88	100
19	All Species	19	4.37	2.13	0.03	12.47	100
20	All Species	173	5.18	2.68	0.3781	20.31	100
21	All Species	122	4.55	2.64	0.2044	13.32	100
22	All Species	114	5.22	2.9	0.2704	14.267	100
23	All Species	187	4.77	2.63	0.348	23.327	100
24	All Species	277	5.17	2.2	0.6186	14.97	100
25	All Species	228	5.41	2.74	0.5278	14.59	100
26	All Species	128	5.85	3.41	0.3598	14.14	100
27	All Species	29	4.48	2.28	0.0479	9.74	100
28	All Species	156	5.37	2.22	0.3747	10.3	100
29	All Species	389	4.83	2.89	0.731	15.61	100
30	All Species	33	4.94	2.07	0.0687	8.3	100
31	All Species	11	6.27	2.75	0.0363	6.13	100

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Appendix-4

Follow-up Study of the Community Forests in the Central Himalayan Region of Nepal
AFORDA Pvt. Ltd.

May 24, 2000

Species-wise Count of Stump Cutting in the Sample Plots: All Forests- 1998/99

S. N.	Botanical Name	Local Name	Stump Cutting		Total
			New	Old	
1	Shorea robusta	Sal	54	3	57
2	Castanopsis indica	Katus	44		44
3	Schima wallichii	Chilaune	37	1	38
4	Lyonia ovalifolia	Angeri	14		14
5	Alnus nepalensis	Uttis	12	1	13
6	Macsa chisia	Bilaune	8	2	10
7	Rhododendron arboreum	Laligurans	10		10
8	Diospyros montana	Tindu	8		8
9	Eurya cerasifolia	Pate	6		6
10	Engelhardia spicata	Mahuwa	5		5
11	Pinus roxburghii	Salla	3	2	5
12	Macaranga postulata	Mallato	4		4
13	Sapium insigne	Khirro	4		4
14	Syzygium operculata	Kyamun	4		4
15	Wendlandia exserta	Rato kangiyo	4		4
16	Daphniphyllum himalense	Chandan (Rakta chandan)	3		3
17	Myrica esculenta	Kaphal	3		3
18	Lagerstroemia parviflora	Bot dhayero	2		2
19	Myrsine capitellata	Setikath	2		2
20	Syzygium cumini	Jamun	2		2
21	Viburnum mullaha	Malow	2		2
22	Lindera pulcherrima	Chaulane	1		1
23	Osbekia stellata	Kali angeri	1		1
24	Semecarpus anacardium	Bhalayo	1		1
25	Trichilia connaroides	Ankhitare	1		1
Grand Total			235	9	244
Average			9.4	0.36	9.76
Maximum Stump Cutting = 57 (Shorea robusta)					
Minimum Stump Cutting = 1 (Viburnum pulcherrima, Osbekia stellata, Semecarus anacardium and Trichilia connaroides)					

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ENDNOTES

[i] The study team wishes to acknowledge the support of the Ford Foundation, New Delhi for this study. The author acknowledges valuable comments received from Dr. J.G. Campbell in earlier draft t of this paper. Further the author wishes to record valuable assistance of the study team members (namely, Parshuram Acharya, Ms Ranju Shrestha, Bishnu Bhakta Shrestha, Santosh Sapkota, and Dhruba Timilsina in preparation of this paper.

[ii] During 1986/1987 Dr. J.G. Campbell, Rajendra P. Shrestha and Frederick D. Euphrat carried out a study of 47 forest user communities entitled "Community Management of Mountain Resources Study" in Dhading, Kaski, Parbat and Baglung districts of Nepal, which was jointly funded by ICIMOD, Nepal and University of California at Berkeley, CA, USA.

In 1998 with the funding support of the Ford Foundation, New Delhi (India) AFORDA initiated a two year follow-up study of 20 out of initial 47 case studies of the 1986-87 study sample with the same principal investigators: Dr. J.G. Campbell (Director General-ICIMOD., GPO Box 3226, Kathmandu, Nepal), Rajendra P. Shrestha (Project Co-ordinator), and Dr. Frederick D. Euphrat, Certified Forester, Forest, Soil, & Water, Inc., Box 1802, Healdsburg, California 95448 USA

[iv] As per the provision under the forest regulations of His Majesty's Government of Nepal, protection, use and management of a forest is handed-over to an organised user group. Normally the forest is managed as per the operational plan prepared under the guidance of the existing forest regulations with technical guidance and approval of the district forest officer.