

ANNEX

Table 1: List of the Forest User Groups Formed by 1992 in Palpa and Pokhara

S. No.	Reference No.	Name of the UG	Location	Forest Type	Area (ha)	Operational Plan (Y/N)	Year Comm. Formed	Current Phase	No. of heralo
PALPA									
1.	046/1	Khumdanda	Chhidipani-2	N	35.0	Y	2046	Implemented	three
2.	046/2	Kalaban	Pokharathok-4	N	9.0	Y	2046	Implemented	-
3.	046/3	Bharkesh	Telgha-1	N	62.0	Y	2046	Suspended	-
4.	046/4	Shikhar danda	Madanpokhara-5	N/P	8.0	Y	2046	Implemented	two
5.	046/5	Raniban	Darchha-7	N	60.0	Y	2046	Implemented	-
6.	046/6	Raniban	Khaliban-1	N	42.04	Y	2046	Implemented	-
7.	046/7	Ramcheban	Rampur-4	N	60.0	Y	2046	Implemented	-
8.	047/1	Raute danda	Tansen-10	N	36.5	Y	2047	Implemented	-
9.	047/2	Sanogairiban	Nayarmuntaly-3	P	4.5	Y	2047	Implemented	-
10.	047/3	Amlabas	Chhahara-5	P	15.0	Y	2047	Implemented	-
11.	047/4	Mulgaira	Madanpokhara-9	N	8.4	Y	2047	Implemented	None
12.	047/5	Khure danda	Palinmandi-7	P	9.6	Y	2047	Implemented	-
13.	047/6	Salleryban	Baughapokra-4	N	22.0	Y	2047	Implemented	-
14.	047/7	Dumrikatuwa	Pokharathok-9	P	8.4	Y	2047	Implemented	-
15.	047/8	Jagdiban	Rampur-1	P	10.0	Y	2047	Implemented	-
16.	048/1	Majhuwa	Hungi-6	N	35.0	Y	2048	Implemented	-
17.	048/2	Dhamabayadi	Humin-9	N	22.0	Y	2048	Implemented	-
18.	048/3	Bandkhola	Madanpokhara-7	N	8.12	Y	2048	Implemented	-
19.	048/4	Dharadipakha	Baughapokri-1	N	19.0	Y	2048	Implemented	-
20.	048/5	Mahajirban	Bhairabsthan-9	N	84.0	Y	2048	Implemented	-
21.	048/6	Bahundanda	Rineraha-3	N	70.4	Y	2048	Implemented	-
22.	048/7	Khairaniban	Khaliban-3	N	17.0	Y	2048	Implemented	-
23.	048/8	Khaltepani	Pipaldanda	N	17.0	Y	2048	Implemented	-
24.	048/9	Musipokhara	Baughagumaba-6	N	17.0	Y	2048	Implemented	-
25.	048/10	Voltar	Gaidakot	N	8.12	Y	2048	Implemented	-
Average					27.52 +/- 23.02				
POKHARA									
1.	1/046	Dopahare	Sarangkot-3,5	P	15.0	Y	2048	Implemented	one
2.	2/048	Turung	Sarangkot-6,7	N	30.0	Y	2048	Implemented	one
3.	3/048	Andheri Khola	Dhikur Pokhari-8	P	40.0	Y	2048	Implemented	one
4.	4/048	Salghari	Tamangi-5	N	21.0	Y	2048	Implemented	one
Average					26.5 +/- 8.5				

Source: Survey Team

Table 2: Average Number of On-farm Trees by Type in the Study Villages (Unit - No./HH)

VDC	Fodder Tree	Fuelwood	Fruit	Total
PALPA				
Mulgaira	48.60	1.4	37.5	87.5
Shikhardanda	30.3	3.8	31.8	66.0
Bharkesh	19.8	3.8	3.2	26.8
Mahajir	45.4	15.8	10.1	70.0
Khumdanda	95.4	39.3	2.6	137.2
Ramche	82.6	0.2	9.4	92.2
Hungi	15.5	7.5	3.7	26.7
PHEWA				
Dopahare	36.5	13.5	4.0	54.0
Turung	12.5	4.6	12.0	29.0
Mean	48.1	10.3	14.0	72.4
Std. Dev.	30.6	13.8	14.5	38.8

Source: Survey Team

Table 3: Fuelwood Requirement by Season in the Study Villages (Tonne/HH/Year)

Village	Summer	Monsoon	Winter	Total
Mulgaira	2.2	2.6	2.9	7.7
Shikhardanda	2.4	2.4	2.4	7.2
Barkesh, Telgha	2.2	2.2	2.3	6.7
Mahajir	2.7	2.7	3.2	8.6
Khumdanda	2.9	2.9	3.0	8.8
Ramche, Rampur	1.8	1.8	1.8	5.4
Hungi	2.4	2.5	2.5	7.4
Dopahare	2.3	2.6	3.1	8.0
Turung	3.3	3.0	4.3	10.6
Average	2.5	2.5	2.8	7.8

Source: Survey Team

Table 4: Fuelwood Supply from Different Sources in the Study Villages (Tonne/HH/yr)

Village	Farmland Trees	Community Plantation	Users' Forest	Government Forest	Market	Crop Residue	Total
PAPLA							
Mulgaira	4.62	0	2.45	0	0.08	0.95	8.1
Shikhar	4.56	0.58	1.20	0	0.15	0.90	6.8
Barkesh	3.46	0	1.46	0.33	0	0.76	6.0
Mahajir	4.56	0	2.71	0	0	1.28	8.6
Khumdanda	3.43	0	4.42	0	0	0.88	8.7
Ramche	2.58	0	0.81	0.80	0.81	0.72	4.9
Majhuwa	2.62	0	4.00	0	0	0.70	7.3
PHEWA							
Dopahare	2.67	2.5	4.6	0.0	0.07	2.2	12.04
Turung	2.30	2.3	5.1	0.0	0.03	2.3	12.03
Total	3.70	0.1	2.43	0.2	0.15	0.88	7.5
Percentage	49.3	1.3	32.4	2.7	2.0	11.7	100.0

Source: Survey Team

Table 5: Fodder Supply by Type of Source as Indicated by the Sampled Respondents of the Study Area (kg DM/HH/Day)

Amount (kg) and Source of Green and Dry fodder Requirement					
Village	Leaf Fodder	Crop Residues	Cut Grasses	Total	kg FM/HH/day
PALPA					
Mulgaira	44.75	11.50	20.00	76.25	81.9
Shikhardanda	30.53	15.27	30.50	76.30	71.6
Barkesh	12.81	23.28	36.67	72.76	83.3
Mahajir	40.51	31.76	53.22	125.03	95.3
Khumdanda	41.36	78.77	31.23	151.49	157.8
Ramche	23.20	50.30	44.86	118.36	108.8
Hungi	35.90	58.00	31.64	125.34	117.7
PHEWA					
Dopahare	18.0	17.5	32.5	68.0	83.0
Turung	15.6	16.4	39.5	71.5	87.2
Mean	32.72	38.41	38.30	106.50	102.3

Source: Survey Team

Table 6: Tree Composition by Species in the UG Forests in Palpa and Phewa

Species	Palpa		Phewa Watershed	
	No. of Spp.	Per cent	No. of spp.	Per cent
<i>Shorea robusta</i>	8290	67.89	--	--
<i>Schima wallichii</i>	880	7.21	13829	11.73
<i>Castanopsis indica</i>	870	7.13	69300	58.79
<i>Alnus nepalensis</i>	--	--	15727	13.34
<i>Pinus roxburghii</i>	850	6.96	--	--
Misc.	1320	10.81	19027	16.14
Total	12210	100.00	117883	100.00

Misc. Spp. include *Siltimbur*, *Ficus*, *Prunus*, *lakuri*, *mayal*, *jamun*, *kaymuno*, *Rhododendron*, *amla*, *phadi*, *bhalayo*, *tiju*, etc

Source: Survey Team

Table 7: Average Estimated Height, DBH, Tree Density, and Biomass of Different Tree Species in the Two Study Sites

FU Group	Av. ht. (m)	Av. dbh. (m)	Stem No. No./ha	Biomass kg/tree	Total bio. (t/ha)	Fuelwood (t/ha)
PALPA						
Mulgaira	9.02	9.42	1950	52.16	101.82	81.46
Shikhardanda	6.42	7.60	1720	51.85	68.36	54.69
Bharkesh	7.30	7.06	1900	56.15	65.11	52.09
Mahajir	16.10	24.60	450	41.30	46.60	37.30
Chidipani	4.90	6.80	1720	37.57	58.20	46.60
Ramche/Rampur	6.74	7.30	2450	53.40	87.20	69.80
Majuwa/Hungi	5.60	5.70	2020	44.90	71.20	57.00
PHEWA WATERSHED						
Turung	6.58	10.65	3235	57.08	184.60	147.68
Dopahare	7.45	21.44	1488	88.00	130.94	104.80

Source: Survey Team

Table 8: Tree Density, Tree Height, DBH, and Estimated Biomass of the User Group Forests in Palpa District

A. MULGAIRA USER GROUP FOREST, MADANPOKHARA

Species	Av. Ht.	Av.DBH	Stem #	Biomass kg/tree	Tot. Bio.t/ha	Fuelwd. t/ha
SORO	4.50	2.50	10	14.61	0.146	0.12
SORO	7.67	7.50	880	39.75	34.98	27.98
SORO	9.29	12.50	460	62.40	28.70	22.96
SORO	10.50	17.50	10	83.92	0.839	0.67
SYOP	9.24	7.50	120	41.64	4.997	4.00
SYOP	11.70	12.50	50	67.11	3.355	2.68
SYOP	12.42	17.50	10	86.22	0.862	0.69
EMOF	7.0	7.50	20	38.85	0.777	0.62
EMOF	8.0	12.50	10	60.11	0.601	0.48
SYCU	9.5	7.50	10	41.94	0.419	0.34
SYCU	10.3	12.50	10	64.04	0.640	0.51
CATR	11.85	7.50	130	44.32	5.762	4.61
CATR	11.97	12.50	190	66.50	12.64	10.11
Bhalayo	7.0	7.50	20	38.50	0.77	0.62
Tiju	12.70	7.50	10	45.10	0.45	0.36
Haderaj	7.50	7.50	10	39.52	0.395	0.32
All Spp.	9.02	9.42	1950	52.16	101.82	81.46

Source: Survey Team

B. MAJHIR USER GROUP FOREST, BHAIRABSTHAN

Species	Av.Ht. (m)	Av.DBH (cm)	Stem No./ha	Biomass kg./tree	Tot.Bio t/ha	Fuelwd t/ha
PIRO	20.12	31.41	340	130.88	44.50	35.60
SIWA	3.20	2.50	50	13.14	0.67	0.54
SIWA	4.80	5.00	30	25.66	0.77	0.62
ROAR	3.00	2.5	10	13.20	0.13	0.10
ROAR	3.40	5.0	20	23.54	0.47	0.38
All Spp	16.1	24.6	450.00	41.3	46.6	37.3

Source: Survey Team

C. SHIKHARDANDA USER GROUP FOREST, MADANPOKHARA

Species	Av. Ht.	Av.DBH	Stem #	Biomass kg/tree	Tot.Bio. t/ha	Fuelwd. t/ha
PIRO	2.50	2.50	10	12.61	0.126	0.10
PIRO	5.30	7.50	60	35.74	2.144	1.72
PIRO	10.40	17.50	40	83.78	3.351	2.68
PIRO	11.20	25.00	50	113.01	5.651	4.52
SORO	3.91	2.50	400	14.15	5.66	4.53
SORO	7.50	7.50	870	40.45	35.192	28.15
SORO	10.20	12.50	80	63.75	5.10	4.08
SIWA	2.62	2.50	10	13.72	0.137	0.11
SIWA	3.71	7.50	100	40.72	4.072	3.28
SIWA	4.17	12.50	80	64.61	5.169	4.14
SIWA	4.48	25.00	20	87.80	1.756	1.40
All Spp.	6.42	7.60	1720	51.85	68.36	54.69

Source: Survey Team

D. BHARKESH USER GROUP FOREST, TELGHA

Species	Av. Ht.	Av.DBH	Stem #	Biomass kg/tree	Tot.Bio. t/ha	Fuelwd. t/ha
SORO	4.50	2.50	580	14.60	0.847	0.68
SORO	7.95	7.50	550	40.48	22.26	17.81
SORO	9.41	17.50	240	62.58	15.02	12.02
SORO	12.60	25.00	10	116.39	1.164	0.93
PIRO	3.23	2.50	70	13.55	0.948	0.76
PIRO	6.92	7.50	120	39.11	4.693	3.75
PIRO	10.05	12.50	90	63.65	5.729	4.58
PIRO	11.15	17.50	60	84.47	5.068	4.05
PIRO	25.22	25.00	10	88.53	0.885	0.71
SIWA	4.25	2.50	20	14.41	0.288	0.23
SIWA	8.56	7.50	80	40.85	3.268	2.61
SIWA	10.32	12.50	50	64.07	3.204	2.56
SIWA	12.26	17.50	20	87.24	1.745	1.40
All Spp.	7.30	7.06	1900	56.15	65.11	52.09

Source: Survey Team

E. MAJUWA USER GROUP FOREST, HUNGI

Species	Av. Ht.	Av.DBH	Stem #	Biomass kg/tree	Tot.Bio. t/ha	Fuelwd. t/ha
SORO	4.25	2.50	220	14.41	3.17	2.54
SORO	5.25	7.50	700	36.14	25.30	20.24
SORO	8.00	12.50	40	60.11	2.40	1.92
SORO	8.15	17.50	40	78.75	3.15	2.52
SIWA	5.00	7.50	40	35.71	1.43	1.14
SIWA	6.50	12.50	100	57.06	0.57	0.46
SIWA	9.40	17.50	20	81.62	1.63	1.30
SIWA	9.25	25.00	40	107.72	4.31	3.45
CATR	4.88	2.50	80	14.91	1.19	0.95
CATR	5.95	7.50	200	37.30	7.46	5.97
MALA	2.00	2.50	20	11.93	0.24	0.19
MALA	4.85	7.50	10	31.41	0.31	0.25
MALA	8.00	12.50	20	40.17	0.80	0.64
Mayal	5.67	7.50	60	36.85	2.21	1.77
Mayal	7.50	12.50	20	59.15	1.18	0.94
Mayal	8.00	17.50	20	78.39	1.57	1.26
LAPA	4.50	2.50	20	14.61	0.29	0.23
LAPA	5.70	7.50	20	36.90	0.74	0.59
TETO	3.0	2.50	40	13.20	0.53	0.42
TETO	5.50	7.50	160	36.57	5.85	4.68
TETO	7.0	12.50	20	58.13	1.16	0.93
SYCU	4.0	2.5	20	14.19	0.28	0.22
SYCU	6.80	7.50	20	38.56	0.77	0.62
SYCU	7.0	12.50	20	58.13	1.16	0.93
SYOP	4.50	7.50	20	34.77	0.70	0.56
SYOP	7.50	17.50	20	77.13	1.54	1.23
All Spp.	5.56	5.65	2020	44.92	71.06	56.85

Source: Survey Team

F. RAMCHE USER GROUP FOREST, RAMPUR

Species	Av. Ht.	Av.DBH	Stem #	Biomass kg/tree	Tot.Bio. t/ha	Fuelwd. t/ha
SORO	4.54	2.50	620	14.28	8.85	7.10
SORO	7.05	7.50	950	38.00	34.00	27.20
SORO	9.10	12.50	250	63.11	3.16	2.53
SORO	11.56	17.50	50	85.96	4.30	3.44
SORO	14.20	25.00	10	119.93	1.20	0.96
SIWA	2.50	2.50	10	12.61	0.13	0.10
SIWA	7.00	7.50	10	38.85	0.39	0.31
SIWA	8.70	12.50	10	55.21	0.55	0.44
SIWA	10.25	17.50	20	83.41	1.67	1.34
SIWA	11.40	25.00	10	98.22	0.98	0.78
MAPH	3.88	2.50	30	14.08	0.42	0.34
MAPH	5.04	7.50	10	31.41	0.31	0.25
MAPH	8.10	12.50	20	60.30	1.21	1.40
MAPH	9.25	17.06	20	81.29	1.63	1.30
SYOP	4.00	2.50	10	14.19	0.14	0.11
SYOP	6.59	7.50	350	38.26	13.39	10.71
SYOP	7.25	12.50	20	58.64	1.17	0.94
All Spp.	6.74	7.30	2450	53.39	87.19	69.75

Source: Survey Team

G. KHUMDANDA USER GROUP FOREST, BHAIKABSTHAN

Species	Av.Ht. m)	Av.DBH (cm)	Stem No./ha	Biomass kg/tree	Tot.Bio t/ha	Fuelwd. t/ha
SORO	3.54	2.50	270	13.76	3.72	2.98
SORO	4.60	7.50	1010	34.97	35.32	28.27
SORO	8.15	12.50	10	60.39	0.604	0.48
SORO	9.04	17.50	20	115.5	2.30	1.84
SORO	10.00	25.00	10	127.26	1.3	1.04
SIWA	4.10	2.50	20	14.28	0.29	0.23
SIWA	5.07	7.50	150	35.83	5.37	4.30
CATR	6.45	2.50	40	15.99	0.64	0.51
CATR	6.72	7.50	220	38.45	8.50	6.80
CATR	4.50	2.50	10	14.61	0.15	0.12
All Spp.	4.90	6.80	1720	37.57	58.19	46.55

Source: Survey Team

Spp. Codes: SORO - *Shorea robusta*; TETO - *Terminalia tomentosa*; SYOP - *Syzygium operculata*; SYCU - *Syzygium cumini*; SIWA - *Schima wallichii*; EMOF - *Emblia officinalis*; RHNE - *Rhamnus nepalensis*; LACO - *Lannea coromandelica*; CATR - *Castanopsis tribuloides*; MALA - *Madhuca latifolia*; MAPH - *Mallotus philippinensis*.