

Appendices

Appendix A: Elements of CF and forest management in Nepal

Appendix A-1: Basic elements of Community forestry (CF)

The basic elements of CF can be discussed in three key concepts, namely community, forest and forestry.

a) What is a community?

The word 'community' is a basic concept in CF, but defining it has never been unproblematic (Colchester et al. 2003). Community is often viewed as a distinct form of social organisation, which has certain characteristics seen as compatible with furthering the goals of a particular group of people (Race et al. 2003). Lfe (2002) gives an account of the characteristics of a community, which can be summarised as:

- Community occurs on a human (local) scale which is accessible to all.
- Community members have stronger and broader interpersonal relationships than those built on contractual relationships or stereotyping.
- Community gives a sense of identity and stability, and as essential to the continuation of locally specific cultures.

The above view is similar to the conventional view of community as a bundle of concepts related to space, size and composition. Conventionally, it is defined "as a small spatial unit, as a homogenous social structure, and as shared norms" (Agrawal & Gibson 1999, p.630). A similar definition is that community is "a group of people, often living in the same geographical area [territory], who identify themselves as belonging to the same group" (Sproule 1998, p.235), or "a matter of custom and share mode of thought or expression or particular types of social networks or ethnic group" (Johnston et al. 2000a, p.101). Since these notions refer to some level of static commonality among the individual members, these are attractive in natural resource management because they permit easy contestation of dominant narratives that favour state control or privatisation of resources and their management (Li 1996).

This conventional view of community is problematic. Communities are not always small, homogenous and comprise of shared norms. They do not always share customs or ethnicity. Instead, the members may have different interests, problems and needs, which vary according to wealth, occupation, culture, religion, gender, class, caste and age (Agrawal & Gibson 1999). As heterogeneity exists across the community members, individuals often choose to forfeit certain social or economic privileges or suppress what they value in the world in return for retaining a

sense of belonging within a specific group (Race et al. 2003). In this context, achieving equitable solutions or social justice may be at odds with the needs of the community to which individuals belong (Furze 1994, cited in Race et al. 2003). Local empowerment can often serve to reinforce existing social structure and entrench inequity (Mowbray 1985). These simplified conceptions of community offer a weak foundation on which to base policy or operational programs (Agrawal & Gibson 1999). Since the conventional notion ignores how differences affect resource management outcomes, local politics and strategic interactions within communities, between communities and other social actors (Agrawal & Gibson 1999), it is of little use in implementing CF.

Duinker (1994, p.712), on the other hand, reviewed many definitions of community and classified them into five broad types:

Community as a way of life - defined by a set of common values and interests around which institutions are developed and with which residents identify themselves (cultural approach);

Community as a geographical location – a human settlement with a fixed and bounded territory; sometimes referred to by economists as a functional economic area (economic approach);

Community as a social system – involving interrelationships between and among people living in the same geographic location (sociological approach);

Community as a type of relationship – pertaining to a sense of shared identity (psychological approach); and

Community as a source of energy – a place from which a human population obtains the energy it needs to live and survive (ecological approach).

The review shows that a community is not a summation of a part but must be seen as “a complex system of interaction among cultural, economic, social, psychological, ecological and political elements” (Campfens 1983 cited in Duinker et al. 1994, p.712). This holistic view of community, however, offers little practical guidelines for implementing CF.

An alternative to the above notions that is particularly useful for implementing CF is the notion of social networks and interests groups. Race et al (2003) defines community as shifting and dynamic social entities, which are composed of multiple networks of social relations that reach across small localities. In this sense, community is the network of people in which the multiplicity of networks means individuals may belong to more than one overlapping community. Since it is rare to find such a community with common interests, Gilmour and Fisher (1991) argue for a concept of ‘interest group’ that acknowledges the heterogeneous nature of the community. By interest group, they mean “a group of people who have similar sets of interests in respect to the particular situations” (Gilmour & Fisher 1991, p.69). They emphasise the specific interest groups within broader groups. However, it is problematic when individuals have diverse interests, which shift from one to another depending on the opportunities and situations. Identifying a particular interest

group in such situations is no more than prioritising individuals' needs, and incorporating individuals into certain interest groups, often by the outsiders.

Despite many ways of defining the term, the role of community in bringing about positive social change has been increasingly highlighted for decentralization, meaningful participation, cultural autonomy and conservation (Chambers & McBeth 1992). In the context of my thesis, I define community as a setting, in which people have some sense of place, have multiple interests and actors who are willing to and capable of working together to achieve these goals. I believe that this definition captures the complex system of CF in which a wide range of communities are involved in forest management.

b) What is a forest?

There are hundreds of definitions of the term 'forest' in use throughout the world (Lund 2002). The definition of forest is important because it controls the scope of forest science, forestry and foresters (Helms 2002). Broadly, the definition of forest can be divided into three categories. First, a forest is purely a distribution of trees. It is "an extensive plant community of shrubs and trees in all stages of growth and decay with a closed canopy having the quality of self-perpetuation or development into an ecological climax" (Webster 1967, cited in Duinker et al. 1994, p.712). Second, a forest is "an ecosystem dominated by trees" (Hunter 1990, p.370). It is defined as:

"an ecosystem characterized by more or less dense and extensive tree cover usually consisting of stands varying in characteristics such as species, structure, composition, age class, and commonly including streams, fish, and wildlife ... they are commonly managed to sustain single purpose or diverse products or special values" (SAF 1998, cited in Helms 2002, p.16).

While this definition implies that the forest includes more than the collection of trees, it emphasises natural system and denies the importance of people in shaping a forest. Third, a forest is more than trees and natural ecosystems; it is a complex and interdependent system of natural and social elements. While the definitions based on ecosystem approach imply that humans as individuals and communities are part of the ecosystem, they emphasise the professional and technical elements of forest and are silent on social aspects. The definitions emphasise the interrelationships and development of trees into forest, but fail to appreciate the human aspects associated with the management and ownership issues.

While the above definitions place a high emphasis on the forest in the expense of the communities, I follow the third approach and define a forest as a complex system of interdependent natural and social elements. This definition is deliberately broad in order to appreciate the broader institutional and ownership issues apparent to the community forests. A community forest for this thesis is the

interdependent system of natural and social systems controlled by groups of people legally sharing the control over resources and who have mutual use-rights to use specified forest products.

c) What is forestry?

Forestry is a conventional profession that is largely based on knowledge generated from forest science to understand forest processes and its functions. This conventional understanding is however changing. Forestry is becoming a multidisciplinary science incorporating both “hard” and “soft” sciences, such as anthropology and social sciences. Forestry is becoming a multidimensional “profession dealing with understanding, managing and conserving forests – for whatever purposes” (Helms 2002, p.16). The Society of American Foresters (1998) defines forestry as “the science, art and business of creating, managing and conserving forests and associated resources in a sustainable manner to meet desired goals, needs, and values” (cited in Helms 2002, p.17).

The emergence of CF can be seen as a response to a crisis in the forestry profession. The practice of conventional industrial forestry has been questioned on the grounds of efficiency, equity and sustainability of forest resources and the acceptability, nature and locus of decision making (Beckley 1998). According to Beckley (1998, p.736), the legitimacy crisis comprises two parts. First, “the general public is demanding greater accountability of forest managers and calling into question the efficacy of the current institutional mechanisms for forest management”. Second, “there is a growing preference for ecosystem-based forest management that balances a broad range of benefits derived from the forest” (ibid). These crises, along with changing local, national and international development thinking that places the emphasis on the role of civil society, has forced the forestry profession to rethink its conventional industrial models. There is also an increasing demand for the democratisation of forest management. These factors have produced new models in forestry such as CF, co-management and non-industrial private forestry, which primarily to maximise benefits to a range of stakeholders, while simultaneously serving as mechanism to reduce conflicts between stakeholders (Beckley 1998).

Appendix A-2: Forest management in the hills and the Terai during the Ranas regime

a) Forest management in the Hills

In the hills, the *Talukdari* system and *Kipat* system in the Eastern Nepal were employed by the Ranas in conjunction with the Birta systems for controlling and regulating the land tenure and collecting the tax from people (Fisher 1989; Barlett & Malla 1992). The *Talukdari* system was used for the management of communally used forests through the chief, called *Talukdars*¹. The forests under the charge of the *Talukdars* were used only for fuelwood, small timber, grazing, collection of leaf litter and other such activities without paying any fees. However some sort of gift (*Theki*) in return to the functionary had become customary (Mahat et al. 1986a). For the first time in 1907, an official document, *lalmohar* was issued to provide guidelines for the local use and management of forests through the *Talukdars* (Hobley 1996). The special decrees called *Sanads* were issued to particular landlords whose responsibility was to manage the forests and organize their protection. *Chitadars*, forest watchers were appointed and paid through *mana-pathi*² system in kind by villagers across Nepal (Fisher 1989; Barlett & Malla 1992; Adhikari 1990).

In the *Kipat* system, *Jimmawals*, the village headmen who were recognised as the tax collectors and a de facto owners of forest lands (Loughhead et al. 1994), had significant control over resources and local people. It was very strong that the role of *Jimmawals* continued until the early 1970s and still they have large amount of influence over local matters (Hobley 1996). Apart from the above systems, there was a *Rakam*³ system in which the tenants were obliged to supply forest products to landowners free of charge (Hobley 1996).

These systems controlled resources and oppressed local people. Despite various oppressive systems employed, there were signs that people resisted the feudal systems. A significant resistance emerged in terms of the religious belief of the local people in which many local communities controlled forests around temples through religious institutions, called *Guthi* (Regmi 1984). The strong resistant was expressed through the practice of *Khoria* or shifting cultivation, in which people were involved in cultivation of subsistence agricultural products in temporary plots within forests. Since the *Khoria* did not attract any rents and taxations and peasant farmers did not have choice to manage their livelihoods, it became popular to resist the Ranas forest ownership

¹ Talukdar is a generic name for the local officials or functionary employed by the Ranas at the local level. This term is also used interchangeably with the term Mukhiya.

² In *Mana-pathi* system, users of the forest decide to appoint forest watchers and each household contributes a certain amount of grain to pay the watcher as *Salary* (Mana and Pathi are Nepali traditional unit of volume in which 1 mana equals 0.31 to .44 kilogram and one Pathi equals 2.5 to 3.5 kilogram depending on the nature of the grains).

³ Rakam system is a compulsory labour obligation, which a farmer rendered to government and later to the Birta owners on a regular and inheritable basis (Regmi 1978).

and revenue collection tactics. Although this practice led to the eventual degradation of large areas of forests (Hobley 1996), it was ultimately the Ranas forest policy that forced people adopt this practice.

b) Forest Management in the Terai

In Terai, the forest was managed for commercial purposes. Since most of the forests and lands of Terai were owned by three Rana Families (English 1985), apart from *Birta* and *Jagir*, they established *Banjanch Goswara*⁴ (Forest survey office) to oversee the commercially valuable forest exploitation during the second half of the nineteenth century (Mahat et al. 1986a, Bajracharya 1983). This system generated a significant amount of money for the Ranas. However there was a dilemma for the Ranas whether to maintain the forest or to exploit it. With a constant fear of invasion from the colonial power, the government of Nepal in one hand, had to maintain the border line forest as a physical barrier against possible invasion from the south by the British empire, on the other had to exploit the forest to generate income (Regmi 1984).

Although Nepal was never colonised, the presence of the British-East India Company influenced the forest use and management in Nepal. British occupation in India created a conflict over the use of commercially valuable forest bordering to India. The forests of Nepal played a central role in providing raw materials for infrastructure development within India (Guha 1989). According to Regmi (1978a), in the first half of the twentieth century, Rana rulers employed British forestry experts, J. V. Collier (1925 – 1930) from the Indian Forest Service to supervise felling and export of timber for the construction of Indian Railway. The Nepalese government supplied timbers to British India free of charge as part of Nepal's contribution to the First World War (Collier 1976). In 1942, a forest service was created within Nepal structured in line with that of India by British Advisor, E. A. Symthies for exploitation of forest in the Terai (ibid). Many Nepalese were sent to Oxford Imperial (Indian) Forestry School in Dehra Dun to study forest management (Hobley 1996). The newly graduated foresters became either commercially oriented foresters or total custodians of the forest. Since the needs of the primary users were largely disregarded (Roche 1990), this led to further marginalisation of the forest dependent people in accessing and using the forest resources.

The feudal system under the Ranas regime oppressed Nepalese people. The Ranas used the free labour and tax accrued from the peasant farmers to build palaces and maintain luxury of the ruling families (Regmi 1978b). The local functionaries fully supported and implemented Ranas' policies so that they could receive as much as land and forest as possible through *Jagir* and *Birta*. They

⁴ *Banjanch Goswara* was a forest inspection office that had a number of check posts to regulate the *Sale* of forests and hunting of game. *Dittha* was employed for guarding the forests.

became local landlords and used local peasants as tenants to cultivate their land and extract rents (Malla 1999). As a few people captured almost all the land, there was increasing competition for the land to cultivate. The local landlords later introduced kut (contract) systems, in which the opportunity to cultivate the land went to the highest bidders (ibid). In this system, whatever the harvest, the tenants were forced to return the bid quantity. There was a strained relationships developed between the local functionaries and the peasant farmers. This transformed the peasant farmers into slave labourers for the jagir and Birta holders (Stiller 1975; Regmi 1978b). Some oppressed farmers engaged in illicit cutting and shifting cultivation. The forests under these arrangements subsequently declined (English 1982).

Appendix A-3: Population size, growth rate and doubling time in Nepal, 1911–2001

Census year	Total population	Annual growth rate	Doubling time
1911	5,638,749	-	-
1920	5,573,788	-0.13	-
1930	5,532,574	-0.07	-
1941	6,283,649	1.16	60
1952-54	8,256,625	2.3	31
1961	9,412,996	1.65	42
1971	11,555,983	2.07	34
1981	15,022,839	2.66	26
1991	18,491,097	2.08	33
2001	23,151,423	2.25	31

(Source: CBS 2002b)

Appendix A-4: Traditional caste hierarchy in Nepalese societies

Nepali Caste Group	Sanskrit Varna equivalent	Ritual Category and social status	Caste or Jaat and traditional work allocation
Brahmin	Brahmin	Pure, and highest social status	Brahmin (priests and government administrators)
Chhetri	Kshatriya	Less pure and high social status	Chhetri (defence jobs)
Matwali	Vaisa	Less pure but water accepted by all groups and medium social status	Newar (traditional Kathmandu residents and business-owner), Gurung, <i>Tamang</i> , <i>Magar</i> , Rai and Limbu (Foreign services), Sherpa (Tourism), Bhujel (slaves)
Sano Jaat or untouchables	Sudra	Impure, water not accepted by other groups and lowest social category	Sarki (Cobbler), Sunuwar (Goldsmith), Damai (Tailor), Kami (Blacksmith), Satar and Pode (Cleaner)

(Source: Bennett 1983 - modified)

Appendix B: Background information on case study sites

Appendix B-1: Characteristics of three case study districts

Districts	Kathmandu	Tanahun	Kaski
Socio-economic			
Population	6,75,348	326398	316127
Population growth	4.8	2.85	1.79
Total households	1,27,196	72532	63318
Total area (ha)	41,202	213168	156877
Land ha/hh	0.32	2.93	2.48
Land use pattern (%)			
Agriculture	59.7	42	24
Forest	23.41	48	44
Shrubland	10.69	5	20
Others	6.2	5	12
Community Forestry			
Total CF area (ha)	4,421	19,152	12,796
CF (%) of total forest area	46	19	19
No. of FUG	139	289	381
No. of HHs benefited	16,022	29,045	30,462
No. HHs/ha	4	2	2
Average no. of FUGC	13	13	11
Women in FUGC	Max. (15) - Min (0)	Max. (15) - Min (0)	Max. (11) - Min. (0)
Average income (NRs/yr)	12,509	16,154	9,925
Average expense (NRs/yr)	9,908	7,733	5,356

(Source - DFO Kaski 2000; DFO Kathmandu 2001; DFO Tanahun 2001; CPF 2001)

Appendix B-2: Indicators of wealth ranks as commonly cited by villagers

Wealth rank	Food security	Land Ownership	Occupation
Poor	< 6 months food security per year	Landless, or little land (< 3 ropanis);	Dependent on agricultural labouring, portering, carpentry which not require formal training
Medium	6 – 12 months food security; just or almost sufficient food per year	Sufficient land to feed the family, (3-6 ropanis of land)	Minor services – primary school teacher, seasonal worker outside the villages
Rich	Sufficient food security and surplus for sale	Large khet and bari, often rent out lands; (>6 ropanis of land),	Services in government, school teacher, private jobs, army etc.

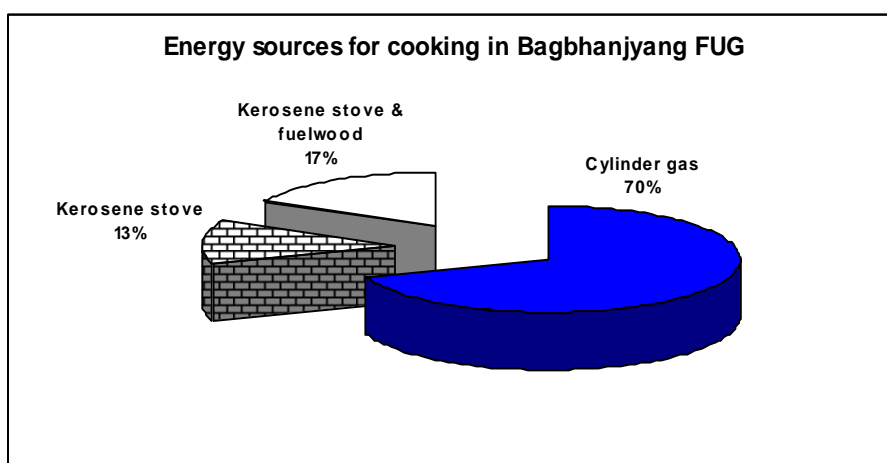
Appendix B-3: Socio-economic characteristics of sample households in case study FUGs

Socioeconomic factors	Laglage Pakha FUG	Bagbhanjyang FUG	Pragatisil FUG
	n=20 (N=61)	n=23 (N=170)	n=29 (N=290)
Wealth Ranks	No. of households	No. of households	No. of households
Poor	13	4 (17%)	16 (55%)
Middle	6	4 (17%)	8 (28%)
Rich	1	15 (66%)	5 (17%)
Gender			
Female-headed HHs	6	5 (22%)	12 (41%)
Male-headed HHs	14	18 (78%)	17 (59%)
Ethnicity			
Lower case	1	1 (4%)	5 (17%)
Middle caste	17	16 (70%)	14 (48%)
Higher caste	2	6 (26%)	10 (35%)
Land Ownership			
Landless (no/or only one hhland)	3	11 (48%)	3 (10%)
0 - 3 Ropanis (3 inclusive)	11	6 (26%)	13 (45%)
3 - 6 Ropanis	1	3 (13%)	6 (21%)
>6 ropanis	5	3 (13%)	7 (24%)
Occupation			
Farmer + unemployed	12	2 (9%)	19 (66%0
Service	4	7 (30%)	3 (10%)
Retired	2	8 (35%)	2 (7%)
Business	0	2 (9%)	5 (17%)
Others (students, housewife)	2	4 (17%)	0
Education			
Illiterate	9	5 (22%)	10 (35%)
<SLC	10	12 (52%)	18 (62%)
>SLC	1	6 (26%)	1 (3%)
Family Size			
Small (1-3)	1	4 (17.5%)	4 (14%)
Medium (4-6)	14	15 (65%)	15 (52%)
Big (>6)	5	4 (17.5%)	10 (34%)
Age			
<25 (25 inclusive)	1	0	1 (3%)
25 - 35	3	5 (22%)	3 (10%)
35 - 45	4	4 (18%)	11 (38%)
45 - 55	5	7 (30%)	8 (28%)
>55 (55 exclusive)	7	7 (30%)	6 (21%)

Appendix B-4: Livestock holding in the sample households of Bagbhanjyang FUG

Livestock holding/ HHs		By wealth ranks			By gender		By ethnicity/Caste		
Average		Poor	Medium	Rich	Female	Male	Lower Caste	Middle Caste	Higher Caste
Oxen/Cow (no.)	0.26	0	0	0.4	0	0.33	0	0.13	0.67
Goats (no.)	0.39	0	1	0.33	0	0.50	2	0.25	0.50
Poultry (no.)	0.33	0	0	0.36	0	0.29	0	0.33	0.00

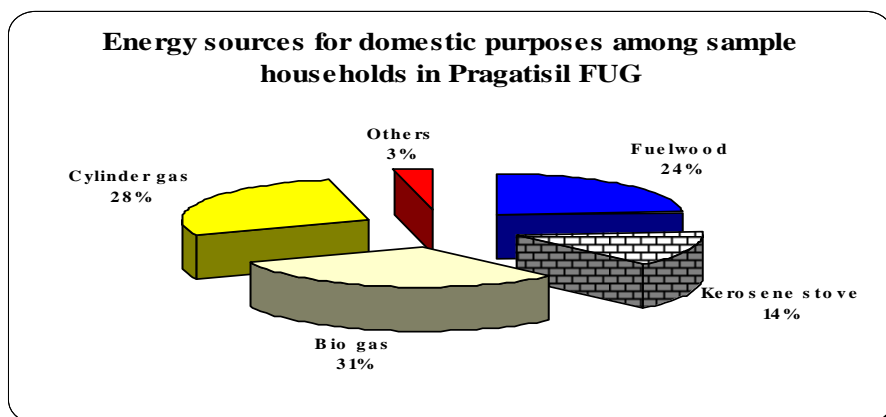
Appendix B-5: Energy sources for cooking in sampled households in Bagbhanjyang FUG



Appendix B- 6: Livestock holding in the sample households of Pragatisil FUG

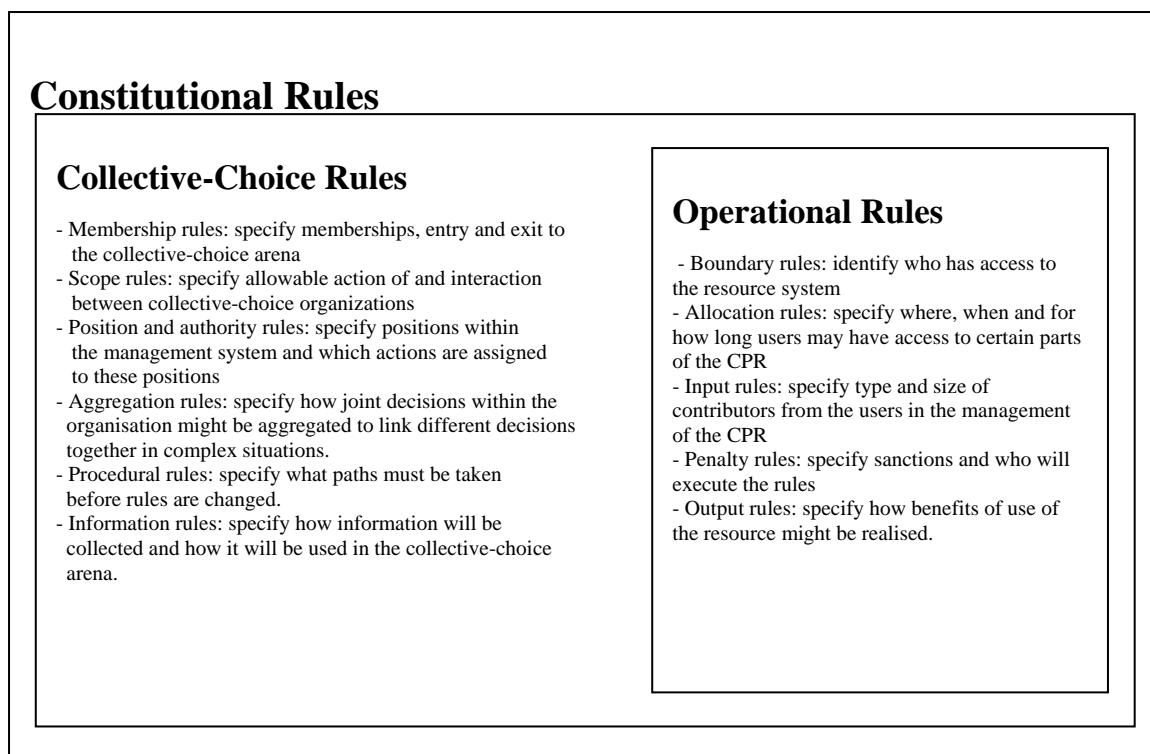
	No. of livestock/hh	Wealth Ranking			Gender		Ethnicity/Caste		
		Poor	Medium	Rich	Female	Male	Lower Caste	Middle Caste	Higher Caste
Oxen/Cow (no.)	1.6	1.44	1.5	2.4	1.08	2.00	2.6	1.07	1.90
Goats (no.)	0.8	0.88	0.9	0.4	0.92	0.71	0.4	1.14	0.50
Poultry (no.)	0.8	0.75	0.6	1.4	0.67	0.94	0.4	0.71	1.20
Total	3.2	3.06	3.00	4.20	2.67	3.65	3.40	2.93	3.60

Appendix B-7: Energy sources for cooking for the sample households in Pragatisil FUG



Appendix C: Rules, rights and roles

Appendix C-1: Rules occurring at operational, collective choice and constitutional level



(Source: Ostrom et al. 1994, p.53)

Appendix C-2: Roles, responsibilities and authorities in Laglage Pakha FUG

Key institutions	Roles, responsibilities and authorities/rights
Users' assembly	To actively participate in general assemblies and meetings to devise rules and regulations; To select and supervise FUGC members, specify their authorities and to replace or dismiss them; To protect forest from all kinds of harm and to improve forest through plantations and other operations; To receive forest products equally.
FUGC	To implement and enforce the constitution and OP, and to penalise the wrongdoers; To communicate with DFO, request support from DFO to devise and amend rules; To hold regular meetings at least once in two months; inform users and DFO about the decisions; To maintain records of decisions, income and expenditure; To dismiss FUG member; To supervise and manage extraction, distribution, pricing and <i>Sale</i> of forest products.
DFO	To direct the activities, roles and responsibilities of FUG; To provide regular technical and forest management support; training and study tours to FUG/FUGC; To inform the FUG/FUGC about the change of forestry legislation; To approve the amendments in OP endorsed by the general assembly; To take legal action against individuals/institutions sent by the FUGC for punishment

(Source: Laglage Pakha FUG 1999, pp. 11-15)

Appendix C-3: Penalty rules in Laglage Pakha FUG

Illegal activities	Penalty	
	Minimum	Maximum
Ground grass cutting, and collection of leaf litter	Rs. 25 and warning	Rs 75 and confiscation of instruments
Green fuelwood cutting	Rs 100 per bhari	Rs 300 per bhari and other punishments as decided by FUGC
Tree cut/ forest fires	Fine according to the quantity	Fine according to the amount of cut and send to DFO for further action
Charcoal production	Rs 500	Rs 2000
Destroying the seedling and saplings	Rs 50 per seedling/ sapling	Rs 200 per plant and asked to plant five plants for each destroyed.
Grazing	Rs 10	Rs 20
Forest encroachment	Rs 200	Rs 2000 and send to DFO for further actions

(Source: Laglage Pakha FUG 1999)

Appendix C-4: Roles, responsibilities and authorities of key actors in Bagbhanjyang FUG

Key actors	Roles, responsibilities and authorities/rights
Users' assembly	Prepare, amend and dissolve the constitution and OP of the FUG Participate in general assemblies and meetings, and also in forest protection, management and utilisation activities as requested by the FUGC; Form and supervise FUGC members, if found guilty; punish them; replace or dismiss them and approve the resignation of the chairman and other members; Expel the members from the FUG for valid reasons. Assist the FUGC to punish rule breakers; Receive information and direction of DFO through the FUGC Recruit accountant and approve the annual audit and report
FUGC	To manage and inform the FUG about forest development activities; To manage the Sale and distribution of forest products; Meet at least once a month to discuss forest management issues; and call two general assemblies every year; Devise rules according to the constitution and OP (do not need to inform the DFO); Punish and fine individuals who do not comply with the constitution and OP of the FUG To communicate the FUG decisions to DFO; send a annual financial report to DFO within the end of financial year; Recruit FUGC staff and fix their Salaries;
DFO	NOTE: Nothing written about the DFO roles, responsibilities and authorities in the constitution

(Source: Bagbhanjyang FUG 1998)

Appendix C-5: Fines for the FUG members in case of non-compliance to the OP

Illegal use of forest	First time fines (Rs)	Second time fines (Rs)	Third time fines (Rs)	Fourth time fines (Rs)
1. Timber (<i>Sal</i>)/ cu ft.	600.00	800.00	1200.00	Exclusion from the FUG
2. Fuelwood/bhari	400.00	600.00	800.00	„
3. Tree fodder/bhari	25.00	35.00	50.00	„
4. Ground grass/bhari	15.00	20.00	30.00	Auction of cattle if not claim within 7 days
5. Grazing (big)/unit	10.00	20.00	30.00	Not listed
6. Charcoal production	100.00	200.00	400.00	

(Source: Bagbhanjyang FUG 1998)

Appendix D: RFA background and data

Appendix D-1: Notes for RFA in all case study sites

Cover Type	Crown Density	Maturity Class
C - Coniferous (>75% conifer spp.)	1 : 1-10 % (Shrub)	M - Mature (Spps are of timber size or reached rotational age)
H - Hardwood (> Hardwood spp.)	2 : 10-30 % (Very Sparse)	I - Immature (Spps are of small timber size or pole size)
M - Mixed (Combination of many species)	3 : 30-50 % (Sparse)	R - Species are regenerating
S - Shrub (1-10% crown cover)	4 : 50-70 % (Moderate)	Plant diversity Index (PDI) = Total number of spp/ Total no. of plants (Max = 1 & Min = 0)
	5 : 70-100 % (Dense)	Source: Land Resource Mapping Project (LRMP, 1986)

Appendix D-2: RFA in Laglage Community Forest, Kathmandu

a. General characteristics of the forest

Plant Diversity Index (PDI) [0-1]	0.07
Crown Cover %	71.7
Crown Density	Dense
Maturity Class	I
Cover type	H
Physical Condition	Good
Overall forest condition	Good

b. Variability of Laglage Pakha Community Forest

Develop- ment class	DBH (cm)		Height (m)		Biomass (kg)	
	Mean	Range	Mean	Range	Mean	Range
Sapling	5.1	4 - 8	6.9	3-11	10.55	0.2 - 40.9
Poles	14.8	10 - 18	15.7	10-20	104.01	16.8 - 195.5
Trees	30	30 - 32	33.5	31-36	254.32	277.1 -277.1

c. Basis for calculation of MAI and AAH in Laglage Pakha FUG

Estimation of age is done in a participatory manner as DoF (2000), Guideline for Inventory of Community Forests, recommend the estimation of age of forests in a participatory manners

MAI (Mean Annual Increment) equal Biomass divided by age. This is the biomass yield/year

AAA is recommended by the DoF (2000, p.9) guideline as: for *Katus-Chilaune* (60 %) of MAI. These are the main species at Laglage.

Extensive discussion with villagers as well as forestry staff suggested that:

*Sapling - Foliage i.e. leaves (35%) and fuelwood (65%), no timber

*Poles - Foliage (15%), Fuelwood (55%) and timber (30%)

*Trees - Foliage (15%), Fuelwood (30%) and timber (55%)

A rough generalisation from the DoF's guideline also indicates this.

*Foliage does not include the foliage biomass of regeneration and grasses

1 bhari = approx. 30kg (e.g. Malla et al 2003), *Katus-Chilaune* one cum = 695 kg based on Jackson (1994) who suggests that one cum of *Katus* = 700kg and 1 cum of *Chilaune* = 690, Therefore the average is 695kg per cum)

Then, 1 cum = 35.3145 cu ft. means 1 cu ft. = 19.68 kg

d. Total and per capita HH forest products availability in Laglage (/ha/yr)

Forest products	Per ha	Whole forest (x 13.5 ha)	Avg/ hh
Timber (cu ft.)	63	851	14
Fuelwood (bhari)	174	2349	39
Foliage (bhari)	77	1040	17

e. Under-utilisation in Laglage Pakha Community forest

Main products (per yr/ha)	Actual extraction	Availability	% under-utilisation
Timber (Cu ft.)	8	63	87
Fuelwood (bhari)	68	174	61
Foliage (bhari)	90	77	-17

Appendix D-3: RFA in Bagbhanjyang Community Forest, Tanahun

a. General characteristics of Bagbhanjyang Forest

Plant Diversity Index (PDI) [0-1]	0.04
Crown Cover %	60
Crown Density	Dense
Maturity Class	I
Cover type	H
Physical Condition	Excellent

b. Variability of Bagbhanjyang Community Forest

Develop- ment class	DBH (cm)		Height (m)		Biomass (kg)	
	Mean	Range	Mean	Range	Mean	Range
Sapling	7.9	4 - 9	9.3	5 - 15	30.9	11.8 - 46.6
Poles	13.8	10 - 26	12.9	9 - 18	137.6	47.3 - 467.5
Trees	32	32 - 32	18	18 - 16	737.3	737.3 - 737.3

c. The basis for calculation of MAI and AAH for Bagbhanjyang forest

<p>Estimation of age is done in a participatory manner as recommended by DoF (2000), Guideline for Inventory of Community Forests.</p> <p>MAI (Mean Annual Increment) equal Biomass divided by age. This is the biomass yield/year</p> <p>AAH is recommended by the DoF (2000, p.9) guideline as: for <i>Sal</i> (30%) and for <i>Chilaune</i> (60 %) of MAI. These are the main species at Bagbhanjyang. Then, $AAH = 30+60/2 = 45\%$</p> <p>Extensive discussion with villagers as well as forestry staff suggested that:</p> <ul style="list-style-type: none"> *Sapling - Foliage i.e. leaves (35%) and fuelwood (65%), no timber *Poles - Foliage (15%), Fuelwood (55%) and timber (30%) *Trees - Foliage (15%), Fuelwood (30%) and timber (55%) <p>A rough generalisation from the DoF's guideline also indicates this.</p> <p>*Foliage does not include the foliage biomass of regeneration and grasses</p> <p>1 bhari = aprox. 30kg (e.g. Malla et al 2003), <i>Sal-Chilaune</i> one cu ft. = 22.27 kg. This is calculated based on Jackson (1994) who suggests that one cum of <i>Chilaune</i> = 690, then 1 cu ft. <i>Chilaune</i> = 19.54 kg (1 cum = 35.3145cu ft.) Then, Maharjan (2001) suggests 1 cu ft. of <i>Sal</i> = 25kg. Therefore the average 1 cu ft. <i>Sal-Chilaune</i> = $25 + 19.54/2 = 22.27$ kg.</p>
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d. Total and per capita household per year forest products availability in Bagbhanjyang

Forest products	Per ha	Whole forest	Avg/ hh
Timber (cu ft.)	105	3194	18.8
Fuelwood (bhari)	184	5597	32.9
Foliage (bhari)	64	1947	11.5
Forest area/hh = $30.42/170 = 0.18$ ha/hh			

Appendix D- 4: RFA in Pragatisil Community Forest, Kaski

a. General characteristics of the forest

Plant Diversity Index (PDI) [0-1]	0.03
Crown Cover %	55
Crown Density	Dense
Maturity Class	I
Cover type	H
Physical Condition	Moderate

b. Variability of DBH, Height and Biomass in Pragatisil Forests

Development class	DBH (cm)		Height (m)		Biomass (kg)	
	Mean	Range	Mean	Range	Mean	Range
Sapling	5.3	4 - 8	6.1	3.5 - 7.5	9.63	4.4 - 19.6
Poles	15.7	10 - 22	15.3	12 - 18	162.37	47.34 - 389.5
Trees	32	32 - 32	21	21 - 21	737.3	737.3 - 737.3

c. The basis for calculation of MAI and AAH in Pragatisil community forest

<p>Estimation of age is done in a participatory manner as recommended by DoF (2000), Guideline for Inventory of Community Forests.</p> <p>MAI (Mean Annual Increment) equals biomass divided by age. This is the biomass yield/year</p> <p>AAH is recommended by the DoF (2000, p.9) guideline. For <i>Sal</i>, which is the main species here, AAH is recommended as 30% of the MAI.</p> <p>Extensive discussions with villagers as well as forestry staff suggested that:</p> <ul style="list-style-type: none"> *Sapling - Foliage i.e. leaves (35%) and fuelwood (65%), no timber *Poles - Foliage (15%), Fuelwood (55%) and timber (30%) *Trees - Foliage (15%), Fuelwood (30%) and timber (55%) <p>A rough generalisation from the DoF's guideline also indicates this.</p> <p>*Foliage does not include the foliage biomass of regeneration and grasses</p> <p>1 bhari = aprox. 30kg (e.g. Malla et al 2003), <i>Sal</i> one cu ft. = 25 kg as estimated by Maharjan (2001).</p>
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d. Total and per capita hh per year forest products availability in Pragatisil

Forest products	Per ha	Whole forest	Avg/ hh
Timber (cu ft.)	56.1	3239	11.2
Fuelwood (bhari)	83.2	4804	16.7
Foliage (bhari)	24.1	1392	4.8

Appendix D-5: Local and scientific names of the main species found by RFA

Nepali local name	Scientific name
Aiselu	<i>Rubus ellipticus</i>
Amla	<i>Phyllanthus emblica</i>
Amriso	<i>Thysanolaena maxima</i>
Angeri	<i>Lyonia ovalifolia</i>
Bamboo	<i>Dendrocalamus strictus</i>
Boddheiro	<i>Larerstroemia parviflora</i>
Chilaune	<i>Schima wallichii</i>
Daphne	<i>Daphne species</i>
Jamun	<i>Syzygium cumuni</i>
Jhingane	<i>Eurya acuminata</i>
Kaphal	<i>Myrica esculenta</i>
Katus	<i>Castanopsis indica</i>
Khair	<i>Acacia catechu</i>
Kyamun	<i>Cleistocalyx operculatus</i>
Mayal	<i>Pyrus pashia</i>
Nigalo	<i>Arundinaria falcata</i>
Sal	<i>Shorea robusta</i>
Salla	<i>Pinus species</i>
Simal	<i>Bombax ceiba</i>
Sissoo	<i>Dalbergia sissoo</i>

(Source for scientific names: Tamrakar 2000; Dangol 2002; Bhatta 1999)

Appendix E: Household Questionnaire Interview (HQI) data

Appendix E- 1: HQI data from Laglage Pakha FUG, Kathmandu

a. FUG Formation processes

HQI respondents' views on FUG formation processes in Laglage Pakha FUG											
Statements	Total (n=20)			Wealth Ranking (Yes)			Gender (Yes)		Ethnicity (Yes)		
	Yes	No	No idea	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)
Awareness of CF	9	11	0	5	3	1	4	5	1	7	1
All actual users identified	18	2	0	12	6	0	4	14	0	16	2
Participation in meetings and assembly	18	2	0	12	5	1	6	14	1	15	2
Views expressed in meetings and assembly	3	7	10	1	2	0	0	3	0	3	0
Elites dominated in final decisions	14	6	0	10	3	1	5	9	1	11	2
OP recognised the local system	12	0	8	8	4	0	3	9	0	11	1
DFO controlled the formation process	14	1	5	10	4	0	4	10	0	13	1
I/NGOs/VDCs influenced FUG formation	0	11	9	0	0	0	0	0	0	0	0

b. Forest management processes

HQI respondents' views on forest management processes in Laglage Pakha FUG											
Statements	Total (n=20)			Wealth Ranking (Yes)			Gender (Yes)		Ethnicity (Yes)		
	Yes	No	No idea	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)
Participation in protection and godmel	20	0	0	13	6	1	6	14	1	17	2
Forest protection according to OP	8	12	0	6	2	0	3	5	0	7	1
Clear boundary of the forest	18	2	0	12	6	0	4	14	0	16	2
Plantation of income generating species	18	2	0	12	6	0	4	14	0	16	2
Need for hiring forest watchers	9	11	0	6	2	1	5	4	1	8	0
Need for increased support from DFO	15	5	0	9	5	1	5	10	1	14	0
Conflicts in forest protection	9	11	0	7	2	0	1	8	0	8	1
Forest improved after CF	20	0	0	13	6	1	6	14	1	17	2
Product flows increased in CF	16	4	0	10	6	0	3	13	0	14	2

c. Overall product needs and products received from CF

Forest products needs per household per year in Laglage Pakha FUG (as estimated by respondent household members through household discussion)									
Main products (Per yr/hh)	Wealth Ranking (Average)			Gender (Average)		Ethnicity/Caste (Average)			Overall avg./hh/yr
	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)	
Timber (Cu ft.)	7.8	16.7	25.0	10.8	11.6	25.0	11.0	7.5	11.4
Fuelwood (bhari)	55.0	41.7	25.0	47.5	50.4	25.0	50.6	52.5	49.5
Fodder (bhari)	89.2	41.7	0.0	51.7	78.6	0.0	64.7	155.0	70.5
Lear litter (bhari)	12.5	6.7	0.0	6.2	11.8	0.0	10.1	15.0	10.1

Forest products received by each household per year in Laglage Pakha (as estimated by respondent household members through household discussion)									
Main products (Per yr/hh)	Wealth Ranking (Average)			Gender (Average)		Ethnicity/Caste (Average)			Overall avg./hh/yr
	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)	
Timber (Cu ft.)	1	2.5	6	1	2	3.5	1.5	2.5	1.7
Fuelwood (bhari)	14	17	18	13	16	13	15	17	15.1
Fodder (bhari)	13	19	0	12	15	0	14	22	14.1
Lear litter (bhari)	7	5	0	6	6	0	6	9	6.1

d. Demand versus supply of forest products

Forest product demand versus supply/distribution in Laglage Pakha by WEALTH RANKS (per household per year)															
Wealth ranks	Timber (Cu ft./hh)			Fuelwood (bhari)*			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	Demand (D)	Supply (S)	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Poor (n=13)	7.8	1	87	55.0	14	75	89.2	13	85	12.5	7	44	4855	1040	79
Medium (n=6)	16.7	2.5	85	41.7	17	59	41.7	19	54	6.7	5	25	3032	1279	58
Rich (n=1)	25.0	6	76	25.0	18	28	0	0	0	0	0	0	1242	658	47

Forest product demand versus supply/distribution in Laglage Pakha by GENDER (per household per year)															
By gender	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	D	S	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Female (n=6)	10.8	1	91	47.5	13	73	51.7	12	77	6.2	6	2	3375	950	72
Male (n=14)	11.6	2	83	50.4	16	68	78.6	15	81	11.8	6	49	4452	1149	74

Forest product demand versus supply/distribution in Laglage Pakha by CASTE/ETHNICITY (per household per year)															
Caste/ ethnicity	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	D	S	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Lower caste (n=1)	25	3.5	86	25	13	48	0	0	0	0	0	0	1242	459	63
Middle caste (n=17)	11	1.5	86	50.6	15	70	64.7	14	78	10.1	6	41	3978	1080	73
Higher caste (n=2)	7.5	2.5	67	52.5	17	68	155	22	86	15	9	40	6823	1489	78

1 cu ft. = 19.68 kg & 1 bhari = 30kg, *11 bhari of fuelwood distributed equally in 2000/2001

e. Distribution processes

HQI respondents' views on product distribution processes in Laglage Pakha FUG											
Statements	Total (n=20)			Wealth Ranking (Yes)			Gender (Yes)		Ethnicity (Yes)		
	Yes	No	No idea	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)
Awareness of distribution system	7	13	0	5	2	0	2	5	0	7	0
Participation in distribution process	3	7	10	1	2	0	0	3	0	3	0
Distribution of products by FUGC	19	1	0	13	5	1	6	13	1	16	2
Separate arrangements for poor and rich	0	20	0	0	0	0	0	0	0	0	0
Equal distribution of products	11	9	0	7	4	0	5	6	0	10	1
Forest product needs fulfilled from CF	7	13	0	5	2	0	3	4	0	6	1
DFO controls product distribution	14	1	5	10	4	0	4	10	0	13	1
Satisfied with the existing distribution system	14	7	0	9	5	0	4	10	0	12	2
Need for equity as the basis for distribution	14	6	0	10	4	0	3	11	0	14	0
I/NGO/VDC influencing product distribution	0	11	9	0	0	0	0	0	0	0	0

f. Income generation and community development processes

Respondents' views on income generation and community development processes in Laglage Pakha FUG											
Statements	Total (n=20)			Wealth Ranking (Yes)			Gender (Yes)		Ethnicity (Yes)		
	Yes	No	No idea	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)
Income from the sale of products	0	16	4	0	0	0	0	0	0	0	0
Income only from fees and fines	20	0	0	13	6	1	6	14	1	17	2
Income be generated from CF	16	1	3	11	5	0	5	11	0	14	2
Possibility for selective logging	12	8	0	6	5	1	2	10	1	10	1
Joint venture with industry	2	3	15	0	1	1	1	1	1	0	1
Awareness of FUGs' fund	0	0	20	0	0	0	0	0	0	0	0
Fund loaned to users	0	20	0	0	0	0	0	0	0	0	0
Fund used for community dev.	6	1	13	4	2	0	2	4	0	6	0
Need for financial support from DFO	15	5	0	9	5	1	5	10	1	14	0
DFO controls income gen. and mob.	14	1	5	10	4	0	4	10	0	13	1
I/NGO influencing income gen. and mob.	0	11	9	0	0	0	0	0	0	0	0

g. Decision making and implementation processes

Respondents' views on decision making and implementation processes in Laglage Pakha FUG											
Statements	Total (n=20)			Wealth Ranking (Yes)			Gender (Yes)		Ethnicity (Yes)		
	Yes	No	No idea	Poor (n=13)	Medium (n=6)	Rich (n=1)	Female (n=6)	Male (n=14)	Lower Caste (n=1)	Middle Caste (n=17)	Higher Caste (n=2)
Participation in assembly and meetings	18	2	0	12	5	1	6	12	1	15	2
Needs of disadvantaged users raised in meetings	17	2	1	12	5	0	4	13	0	15	2
Regular discussions in small groups	15	2	3	11	4	0	5	10	0	13	2
Final decisions taken by FUGC	19	1	0	13	5	1	6	13	1	16	2
All users' needs addressed in final decisions	3	7	10	1	2	0	0	3	0	3	0
Previous experience in collective decision making	0	10	10	0	0	0	0	0	0	0	0
Assembly decisions implemented by FUGC	8	0	12	6	2	0	3	5	0	7	1
Political influence in decision making and imple.	0	18	2	0	0	0	0	0	0	0	0
DFO controls FUGs' decisions and imple.	14	1	5	10	4	0	4	10	0	13	1
I/NGO, VDC influence decision making & imple.	0	11	9	0	0	0	0	0	0	0	0

Appendix E-2: HQI data for Bagbhanjyang FUG, Tanahun

a. FUG formation processes

Respondents' views on FUG formation processes in Bagbhanjyang FUG, Tanahun district											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Awareness of CF	15	4	4	2	2	11	3	12	0	10	5
All actual users identified	4	0	19	0	1	3	2	2	0	2	2
Participation in meetings and assembly	12	11	0	3	4	5	3	9	1	9	2
Views expressed in meetings and discussions	7	16	0	1	1	5	3	4	0	4	3
Elites dominated final decisions	14	5	4	3	2	9	1	13	1	10	3
OP recognised the local system	17	2	4	2	2	13	4	13	1	11	5
DFO controls the formation process	17	6	0	3	3	11	4	13	1	11	5
Other actors influencing the formation	4	14	5	1	0	3	1	3	0	3	1

b. Forest management processes

Respondents' views on forest management processes in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Participation in forest mgmt	12	11	0	3	4	5	3	9	1	9	2
Protection according to OP	12	2	9	0	2	10	5	7	0	8	4
Clear boundary of the forest	16	0	7	1	3	12	4	12	1	10	5
Plantation of income species	0	9	14	0	0	0	0	0	0	0	0
Need for hiring forest watchers	23	0	0	4	4	15	5	18	1	16	6
Need for more training and support	18	5	0	3	3	12	5	13	0	12	6
Conflicts in forest protection	8	15	0	1	1	6	0	8	0	6	2
Product flows increased	12	0	11	1	3	8	2	10	1	6	5
Forest improved after CF	23	0	0	4	4	15	5	18	1	16	6

c. Overall product needs and products received from CF

Forest products NEEDS per household per year in Bagbhanjyang FUG (as estimated by respondent household members through hh discussion)									
Main products (per yr/hh)	Wealth Ranking (Avg.)			Gender (Avg.)		Ethnicity/Caste (Avg.)			Overall avg./hh/yr
	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle Caste (n=16)	Higher Caste (n=6)	
Timber (Cu ft.)	7.5	17.5	24	22	19.4	15	20	20.8	20
Fuelwood (bhari)*	31.3	17.5	14	12	19.2	30	17.5	15.8	17.6
Fodder (bhari)	0	10	54.7	0	47.8	20	10.6	111.7	37.4
Sal leaf (Muttha)**	0.5	1.75	2	1	1.9	0	1.3	3.0	1.7
Forest products RECEIVED by each household per year in Bagbhanjyang FUG (as estimated by respondent household members through hh discussion)									
Main products (Per yr/hh)	Wealth Ranking (Avg.)			Gender (Avg.)		Ethnicity/Caste (Avg.)			Overall avg./hh/yr
	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle Caste (n=16)	Higher Caste (n=6)	
Timber (Cu ft.)	1	2.5	3.8	2	3.4	2	2.7	4.4	3.1
Fuelwood (bhari)	3	4	7	2.5	6.7	3.4	5.4	7.2	5.8
Fodder (bhari)	0	0	0	0	0	0	0	0	0
Sal leaf (Muttha)	0.5	1.8	2	1	1.9	0	1.3	3	1.7

*1 bhari = approx 30 kg, **1 Sal leaves' muttha = approx 5 kg., 1 cu ft. = 22.27kg for Bagbhanjyang forest.

d. Demand versus supply of forest products

Forest product demand versus supply/distribution in Bagbhanjyang by WEALTH RANKS (per household per year)															
Wealth ranks	Timber (Cu ft.)/hh			Fuelwood (bhari)			Fodder (bhari)			Sal leaves (muttha)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	Demand (D)	Supply (S)	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Poor (n=4)	7.5	1.0	87.0	31.3	3.0	90.0	0.0	0.0	0	0.5	0.5	0.0	1109	115	90
Medium (n=4)	17.5	2.5	86.0	17.5	4.0	77.0	10.0	0.0	100	1.8	1.8	0.0	1224	192	84
Rich (n=15)	24.0	3.8	84.0	14.0	7.0	50.0	54.7	0.0	100	2.0	2.0	0.0	2605	320	88
Forest product demand versus supply/distribution in Bagbhanjyang by GENDER (per household per year)															
Gender	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Sal leaves (muttha)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	D	S	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Female (n=5)	22.0	2.0	91.0	12.0	2.5	79.0	0.0	0.0	100	1.0	1.0	0.0	855	130	85
Male (n=18)	19.4	3.4	82.0	19.2	6.7	65.0	47.8	0.0	100	1.9	1.9	0.0	2452	296	88
Forest product demand versus supply/distribution in Bagbhanjyang by CASTE/ETHNICITY (per household per year)															
Caste/ ethnicity	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Sal leaves (muttha)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	D	S	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Lower caste (n=1)	15.0	2.0	87.0	30.0	3.4	89.0	20.0	0.0	100	0.0	0.0	0.0	1834	147	92
Middle caste (n=16)	20.0	2.7	86.0	17.5	5.4	69.0	10.6	0.0	100	1.3	1.3	0.0	1295	236	82
Higher caste (n=6)	20.8	4.4	79.0	15.8	7.2	54.0	111.7	0.0	100	3.0	3.0	0.0	4303	341	92

e. Product distribution process

Respondents' views on product distribution processes in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Awareness of distribution system	7	9	7	0	2	5	4	3	0	6	1
Participation in distribution process	21	2	0	4	3	14	5	16	0	15	6
Distribution by the FUGC	21	0	2	4	4	13	4	17	1	15	5
Separate provisions for poor & rich	0	23	0	0	0	0	0	0	0	0	0
Equal distribution of products	18	2	3	4	4	10	4	14	1	13	4
Distribution acc. to OP	12	2	9	0	2	10	5	7	0	8	4
Products needs fulfilled	0	23	0	0	0	0	0	0	0	0	0
Satisfied with the distribution	11	12	0	0	2	9	3	8	0	7	4
Need equity for distribution	15	8	0	4	4	7	1	14	1	10	4
DFO controls distribution	21	0	2	4	4	13	5	16	1	15	5
I/NGO/VDC influence distribution	3	14	6	1	0	2	1	2	0	3	0

f. Income generation and community development processes

Respondents' views on income generation and community development processes in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Income from sale of forest products	16	1	6	2	4	10	3	13	1	10	5
Income also from fees and fines	15	6	2	2	4	9	3	12	1	9	5
More income be generated from CF	19	4	0	3	4	12	5	14	1	13	5
Possibility for selective logging	12	11	0	3	2	7	1	11	1	9	2
Joint venture with industry	12	11	0	2	3	7	1	11	1	8	3
Need to increase fees	22	1	0	4	4	14	5	17	1	16	5
Awareness of the funds	0	1	22	0	0	0	0	0	0	0	0
Fund loaned to individual users	0	14	9	0	0	0	0	0	0	0	0
Fund used for community dev.	12	0	11	0	3	9	3	9	1	7	4
Need for financial support from DFO	17	1	5	3	3	11	4	13	1	11	83
DFO controls income gen. & mob.	17	6	0	4	3	10	4	13	1	11	5
I/NGO influence income gen. & mob.	3	14	6	1	0	2	1	2	0	3	0

g. Decision making and implementation processes

Respondents' views on decision making and implementation processes in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Invitation in meetings by FUGC	21	2	0	4	3	14	5	16	0	15	6
Participation in meetings and assembly	12	11	0	3	4	5	3	9	1	9	2
CF as like own land	16	7	0	3	3	10	3	13	1	10	5
Poor's views discussed in meetings	17	6	0	2	2	13	2	15	0	12	5
Experience in collective decision-making	8	9	6	0	1	7	2	6	0	7	1
FUGC dominates decision-making	14	9	0	3	2	9	1	13	1	10	3
Decisions implemented by FUGC	12	2	9	0	2	10	5	7	0	8	4
Political influence in decision making	2	18	3	0	0	2	0	2	0	1	1
Need support from DFO in decision & impl.	17	1	5	3	3	11	4	13	1	11	5
DFO controls FUGs' decisions and impl.	21	0	2	4	4	13	5	16	1	15	5
INGO influence decision making & impl.	3	14	6	1	0	2	1	2	0	3	0

h. Relationship between FUG members and FUGC

Respondents' views on the relations between FUG members and FUGC in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
FUGC controls forest use and mgmt	21	0	2	4	4	13	4	17	1	15	5
FUGC dominates the decision making	14	5	4	3	2	9	1	13	1	10	3
FUGC very strong and capable	18	5	0	2	3	13	5	13	1	11	6
FUGC guided by FUG and assembly	12	2	9	0	2	10	5	7	0	8	4
Need for the extension of FUGC	15	4	4	4	3	8	3	12	1	14	0
FUGC needs to change decision making style	12	7	4	3	3	6	2	10	1	11	0
Good relationship bet. users & FUGC	20	3	0	4	4	12	4	16	1	14	6

i. Relationship between FUG members and DFO

Respondents' views on the relations between FUG members and DFO in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
DFO staff regularly visiting FUG	15	0	8	2	4	9	2	13	1	9	5
DFO staff only meet FUGC	11	12	0	3	2	6	4	7	1	10	0
Sufficient and timely DFO support	0	16	7	0	0	0	0	0	0	0	0
Need increased support from DFO	17	1	5	3	3	11	4	13	1	11	5
Happy with the DFO performance in CF	8	13	2	2	1	5	1	7	1	4	3
Happy with DFO performance before CF	0	23	0	0	0	0	0	0	0	0	0
Improved relations with DFO through CF	14	0	9	0	3	11	3	11	1	7	6
DFO powerful and controlling	18	5	0	4	3	11	4	14	1	11	6
FUG need to seek permission for forest use	21	0	2	4	4	13	5	16	1	15	5

j. Relationship between FUG members and others

Respondents' views on the relations between FUG members and other actors in Bagbhanjyang FUG											
Statements	Total (n=23)			By wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=4)	Medium (n=4)	Rich (n=15)	Female (n=5)	Male (n=18)	Lower Caste (n=1)	Middle caste (n=16)	Higher Caste (n=6)
Cooperation with other FUGs	9	10	4	2	3	4	2	7	0	6	3
FUG helping schools/temples	17	0	6	2	3	12	4	13	1	10	6
Municipality supporting the FUG	8	13	2	1	2	5	2	6	1	5	2
Awareness of the FUG the network	6	0	17	0	2	4	1	5	1	2	3
I/NGOs supporting the FUG	4	19	0	1	0	3	1	3	0	3	1
Political parties helping the FUG	3	18	2	0	0	3	0	3	0	2	1
Help from other institutions needed for FUGs	19	4	0	3	4	12	4	15	1	13	5
Other government agencies supporting FUG	9	7	7	0	1	8	1	8	0	7	2

Appendix E- 3: HQI data for Pragatisil FUG, Kaski

a. FUG formation processes

Respondents' views on FUG formation processes in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Awareness of CF	13	6	10	4	5	4	5	8	1	5	7
All actual users identified	12	6	11	3	4	5	5	7	1	3	8
Participation in meetings and assembly	18	11	0	11	3	4	7	11	3	9	6
Views expressed in meetings and discussions	13	15	1	4	5	4	4	9	2	5	6
Elites dominated final decisions	24	5	0	14	6	4	11	13	5	13	6
OP recognised the local system	16	3	10	10	4	2	9	7	3	7	6
DFO controls the formation process	22	5	2	14	6	2	9	13	5	13	4
External institutions influence the formation	4	16	9	2	2	0	2	2	1	3	0

b. Forest management processes

Respondents' views on forest management processes in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Forest improved after CF	29	0	0	16	8	5	12	17	5	14	10
Product flows increased	21	4	4	10	6	5	11	10	1	11	9
Participation in protection & godmel	18	11	0	11	3	4	7	11	3	9	6
Protection acc. to OP	6	1	22	2	2	2	4	0	0	2	4
Clear boundary of forest	12	5	12	6	3	3	5	7	1	7	4
Plantation of income species	0	21	8	0	0	0	0	0	0	0	0
Need for hiring forest watchers	22	7	0	11	6	5	9	13	3	10	9
Need for mgmt. training & support	19	10	0	11	5	3	7	12	3	9	7
Conflicts in forest protection	18	10	1	9	5	4	7	11	2	10	6

c. Overall product needs versus product received from CF, and the gap between them

Forest products NEED per household per year in Pragatisil FUG (as estimated by respondent household members through hh discussion)										Gap between demand and supply?			
Main products (Per hh/yr)	Wealth ranks (avg.)			Gender (avg.)		Ethnicity/caste (avg.)			Total avg./hh/ yr	Overall gap (%) between need vs. supply of forest products in Pragatisil (/hh/yr)			
	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle Caste (n=14)	Higher Caste (n=10)		Main products (Per hh/yr)	Demand	Supply	% gap
Timber (Cu ft.)	15.6	13.8	21.4	15.1	16.8	17.4	14.5	17.7	16.1	Timber (Cu ft.)	16.1	3.60	78
Fuelwood (bhari)	51.8	25.9	42.0	48.5	39.0	77.4	34.5	37.5	42.9	Fuelwood (bhari)	42.9	10.3	76
Fodder (bhari)	453.1	212.5	294.0	279.6	415.6	743.0	262.1	303.5	359.3	Fodder (bhari)	359.3	14.3	96
Leaf litter (bhari)	15.8	15.0	22.0	14.0	18.5	29.0	8.1	22.5	16.7	Leaf litter (bhari)	16.7	7.3	56
Forest products RECEIVED by each household per year in Pragatisil FUG (as estimated by respondent household members through hh discussion)										1 bhari = approx. 30 kg. Avg of 8 bhari of fuelwood distributed equally last year in Pragatisil.			
Main products (Per hh/yr)	Wealth ranks (avg.)			Gender (avg.)		Ethnicity/caste (avg.)			Total avg./hh /yr				
	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle Caste (n=14)	Higher Caste (n=10)					
Timber (Cu ft.)	2.5	3.2	7.9	2.1	4.7	1.7	2.7	5.9	3.60				
Fuelwood (bhari)	9.0	10.0	15.0	9.0	11.2	9.2	9.5	12.0	10.3				
Fodder (bhari)	15.0	13.0	14.0	15.0	14.0	16.0	14.0	14.0	14.3				
Leaf litter (bhari)	8.0	6.0	7.0	9.0	6.0	10.8	5.5	8.0	7.3				

d. Demand versus supply

Forest product demand versus supply/distribution in Pragatisil by WEALTH RANKS (per household per year)															
Wealth ranks	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	Demand (D)	Supply (S)	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Poor (n=16)	15.6	2.5	84	52	9	83	453	15	97	15.8	8	49	16011	1023	94
Medium (n=8)	13.8	3.2	77	26	10	61	213	13	94	15	6	60	7947	950	88
Rich (n=5)	21.4	7.9	63	42	15	64	294	14	95	22	7	68	11275	1278	89
Forest product demand versus supply/distribution in Pragatisil by GENDER (per household per year)															
By gender	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	Demand	Supply	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Female (n=12)	15.1	2.1	86	49	9	81	280	15	95	14	9	36	10641	1043	90
Male (n=17)	16.8	4.7	72	39	11	71	416	14	97	18.5	6	68	14613	1054	93
Forest product demand versus supply/distribution in Pragatisil by CASTE/ETHNICITY (per household per year)															
Caste/ ethnicity	Timber (Cu ft.)			Fuelwood (bhari)			Fodder (bhari)			Leaf litter (bhari)			Total demand (in kg)	Total supply (in kg)	Overall Gap %
	Demand	Supply	% gap	D	S	% gap	D	S	% gap	D	S	% gap			
Lower caste (n=5)	17.4	1.7	90	77	9.2	88	743	16	98	29	10.8	63	25917	1123	96
Middle caste (n=14)	14.5	2.7	81	35	9.5	72	262	14	95	8.1	5.5	32	9504	938	90
Higher caste (n=10)	17.7	5.9	67	38	12	68	304	14	95	22.5	8	64	11348	1168	90

e. Distribution processes

Respondents' views on product distribution processes in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Awareness of distribution system	8	6	15	3	3	2	3	5	3	4	1
Participation in distribution process	18	11	0	11	3	4	7	11	3	9	6
Distribution of by FUGC	27	2	0	14	8	5	10	17	5	13	9
Separate distribution for poor & rich	0	20	9	0	0	0	0	0	0	0	0
Equal distribution of products	17	11	1	9	5	3	9	8	2	7	8
Distribution acc. to OP	5	2	22	2	1	2	2	3	0	1	4
Products needs fulfilled	0	29	0	0	0	0	0	0	0	0	0
Satisfied with the distribution	17	11	1	9	5	3	9	8	2	7	8
Need equity for distribution	16	10	3	10	3	3	7	9	4	8	4
DFO controls distribution	22	5	2	14	6	2	9	13	5	13	4
I/NGO/VDC influence distribution	4	16	9	2	2	0	2	2	1	3	0

f. Income generation and community development processes

Respondents' views on income generation and community development processes in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Plantation of income gen. spp	0	21	8	0	0	0	0	0	0	0	0
Fees and fines as source of income	12	13	4	7	2	3	2	10	4	5	3
Income from the sale of products	18	6	5	7	7	4	7	11	1	8	9
More income be generated from CF	24	0	5	13	7	4	12	12	3	13	8
Possibility for selective logging	13	16	0	6	5	2	6	7	4	6	3
Joint venture with industry	5	24	0	4	1	0	1	4	1	4	0
To increase fees to users	7	22	0	4	2	1	2	5	1	3	3
Awareness of the funds	0	2	27	0	0	0	0	0	0	0	0
Fund loaned to individual user	0	27	2	0	0	0	0	0	0	0	0
Fund used for comm. dev	13	5	11	7	4	2	2	11	1	7	5
DFO controls income gen. and mob.	22	5	2	14	6	2	9	13	5	13	4
Need for financial support from outside	26	1	2	16	5	5	12	14	5	12	9

g. Decision making and implementation processes

Respondents' views on decision making and implementation processes in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Invitation in meetings by FUGC	19	10	0	11	4	4	7	12	3	9	7
Participation in meetings and assembly	16	5	8	11	3	2	7	9	2	9	5
CF as like own land	27	1	1	15	7	5	11	17	5	13	9
Poor's views in decisions	15	9	5	5	6	4	6	9	0	6	9
Experience in collective decision making	16	6	7	9	4	3	6	10	3	7	6
FUGC dominance in decisions	18	8	3	9	5	4	6	12	4	9	5
Decisions implemented by FUGC	6	1	22	2	2	2	2	4	0	2	4
Political influence in decision making	0	28	1	0	0	0	0	0	0	0	0
Need support in decision and impl.	26	1	2	16	5	5	12	14	5	12	9
DFO controls decisions and impl.	22	5	2	14	6	2	9	13	5	13	4
I/NGO influence decisions & impl.	4	16	9	2	2	0	2	2	1	3	0

h. Relationship between users and FUGC

Respondents' views on the relations between users and FUGC in Pragatisil FUG											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
FUGC controls forest use and mgmt	27	2	0	14	8	5	10	17	5	13	9
FUGC strong and capable	17	4	8	9	4	4	6	11	4	5	8
FUGC dominates decision making	18	6	3	9	5	4	6	12	4	9	5
FUGC guided by assembly and OP	6	1	22	2	2	2	2	4	0	2	4
Need for changing the existing FUGC	27	2	0	16	7	4	12	15	5	13	9
Need for changing decision making style	16	11	2	10	3	3	7	9	4	8	4
Good relationship bet. users & FUGC	25	4	0	13	7	5	8	17	4	12	9

i. Relationship between users and DFO

Respondents' views on the relations between Pragatisil FUG members and DFO Kaski											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
DFO controls FUG	22	5	2	14	6	2	9	13	5	13	4
FUG required permission for use	25	5	2	16	6	3	12	13	5	13	7
Staff regularly visiting FUG	13	5	11	4	5	4	4	9	3	5	5
DFO staff only meet the FUGC	13	10	6	8	3	2	7	6	3	5	5
Sufficient and timely DFO support	9	11	9	5	3	1	3	6	0	5	4
Need for increased support from DFO	26	1	2	16	5	5	12	14	5	12	9
Happy with the role of DFO before CF	0	29	0	0	0	0	0	0	0	0	0
Happy with the DFO performance in CF	7	9	13	5	1	1	5	2	2	2	3
Improved relations with DFO through CF	18	0	11	7	6	5	7	11	1	9	8
Need for change of CF legislation	20	0	9	12	5	3	7	13	4	10	6

j. Relationship between users and others

Respondents' views on the relations between Pragatisil FUG and external stakeholders											
Statements	Total (n=29)			Wealth ranking (Yes)			Gender (Yes)		Ethnicity/Caste (Yes)		
	Yes	No	No idea	Poor (n=16)	Medium (n=8)	Rich (n=5)	Female (n=12)	Male (n=17)	Lower Caste (n=5)	Middle caste (n=14)	Higher Caste (n=10)
Cooperation with other FUGs	10	16	3	2	4	4	5	5	1	3	6
FUG helping schools, temples etc.	13	5	11	7	4	2	2	11	1	7	5
Awareness of FUG networks	12	17	0	3	6	3	5	7	0	4	8
FUG needs help for outsiders	23	5	1	15	6	2	11	12	4	12	7
Municipality supporting the FUG	5	22	2	3	1	1	3	2	1	2	2
I/NGO helping the FUG	4	16	9	2	2	0	2	2	1	3	0
Political parties influencing the FUG	0	28	1	0	0	0	0	0	0	0	0
Other govt. agencies helping the FUG	6	18	5	3	1	2	3	3	1	3	2

Appendix F: Interviewees' codes, HQI and RFA data sheet

Appendix F-1: Respondents for SSI, their codes and key characteristics

Forest users selected in this study and their socio-economic and other attributes (N=18)		
Local level	CODES	Key attributes of the respondents
Disadvantaged members	DISV/Ktm	Blacksmith, low caste, landless poor, charcoal maker
	DISV/Tan	Indigenous people (<i>Daraii</i>), FUGC member, member of the district disadvantaged group
	DISV/Kas	Female, low caste, folk dancer and singer, FUGC secretary, NGO worker
Forest User Groups Committee members	FUGC/Ktm.1	FUGC chairman, small family, work in the city, low landholding
	FUGC/Ktm.2	FUGC secretary, FECOFUN district advisor, teacher, active contact with DFO
	FUGC/Tan.1	FUGC chairman, retired British army (captain), migrated from village
	FUGC/Tan.2	FUGC secretary, small businessman, poor
	FUGC/Kas	FUGC chairman for 10 years, higher caste, good connection with DFO
Local government members	LG/Ktm	Chairman for ward no 2, ex-FUGC chairman, plumber, work in the city and good income
	LG/Tan	Chairman for ward no 11, higher caste, work in the government service
	LG/Kas	Chairman for ward no 15, educated (fluent English), good contact with FUGC
Forest-dependent local business	LOBUS/Tan	Furniture businessman, lower caste, poor relation with FUGC, low contact with FUGC
	LOBUS/Kas	Mixed businessman and farmer, good relationship with FUGC
NGO workers from FUGs	NGO/Ktm	Women motivator in NGO, female, good contact with the central level DoF staff
	NGO/Tan	Local NGO (non-forestry) director, politically active, good contact with politicians, rich
	NGO/Kas	Casual NGO worker, teacher, poor contact with forest users
National level		
User's federations	USFED.1	View from national executive committee (not individual), good contact with some Donors and NGOs; but poor relationship with the forest department
	USFED.2	Central committee member of the recently formed users' federation, ex-district member of FECOFUN, ex-FUGC chairman, retired army

State forestry officials selected in the study and their key attributes (N=9)		
Levels	Codes	Attributes of the respondents
Local level	RAN/Tan	Old, more than 20 years with the forest department, Terai residence,
	RAN/Kas	Young, recent B.Sc. forestry graduate, poor
District level	DFOf/Ktm	Assistant forest officer, master degree from Germany, good contact with department officials
	DFOf/Tan	Long service in the department, Terai residence, poor contact with central officials
	DFOf/Kas	Master degree from UK, City resident, wife highly educated
National level	NFOf.1	Chief of community forestry division for the last 7 years, 36 years service in forestry, City resident, 15 years as plantation officer, 2 years as regional director, popular DFO, good contact with Donors, many publications in community forestry, recently retired
	NFOf.2	Ex-chief planning officer at the Ministry of Forest and Soil Conservation in Nepal (now retired), 27 years of service in forestry, worked in FAO Rome, city resident, now technical advisor in an INGO in Nepal, one of the DFOs extensively supported community forestry in the beginning
	NFOf.3	Director of the Forest Research and Survey Centre, PhD, now promoted as First Class Officer
	NFOf.4	Forest research officer, Master degree, good relations with other officers, editor of forestry journal

Other stakeholders studied at the national level and their key attributes (N=5)	
Codes	Key attributes of the respondents
UNL.1	University student, farming background, never worked in CF
UNL.2	University academics, active researcher in CF, good relationship with forestry officials and Donors
NGO	Team leader of an active CF research NGO in Nepal, Master degree from India, editor of a forestry journal in Nepal, many publications on community forestry, good contact with Donors
NABUS.1	Logging contractor, saw mill owner in Kathmandu, own construction company, branches in the major cities
NABUS.2	Saw mill owner and furniture businessman, shops in the Terai, supplies raw materials to Kathha factory

Professionals from International agencies and bilateral projects selected in this study and their key attributes (International level: N=5)	
Codes	Key attributes of the respondents
IABP.1	Head (common property resource management section) of the major international research institution headquarter in Kathmandu, policy analyst, Indian citizen, speak Nepali fluently, many publications on community forestry policy, good contact with the national policy makers in many Himalayan countries and universities
IABP.2	Natural Resource Management Specialist in an AUSAID funded CF project, Ex-government Ranger, Master degree from India, 17 years experience in CF, rural background
IABP.3	CF Advisor in an Catchment Management Project (European Union); Government officer on leave, almost 20 years experience in forestry, good relationship with and many friends in the forest department, family clan of the Rana dynasty
IABP.4	FAO program officer for Nepal, Ex-forester and conservator (retired after 30 years service in the government), worked in Planning Commission of Nepal, City resident, Newar, old (over 60 years), sadly died late last year, poor contact with central level forest officials
IABP.5	CF officer with the Danish project working in Nepalese CF, Young women grown up in the capital, Worked in the remote village of Nepal for about 3 years, Left job to study master degree overseas

Appendix F-2: Group discussions participants and codes

Codes of the participants	Descriptions of the participants
Ktm/LP.1	FUGC member from Laglage Pakha FUG, Kathmandu
Ktm/LP.2	Female from Laglage Pakha FUG, Kathmandu
Ktm/LP.3	Forest dependent farmer from Laglage Pakha FUG, Kathmandu
Ktm/LP.4	Lower caste/rich female from Laglage Pakha FUG, Kathmandu
Ktm/LP.5	Unemployed male from Laglage Pakha FUG, Kathmandu
Tan/B1	Politician businessman from Bagbhanjyang FUG, Tanahun
Tan/B2	FUGC member from Bagbhanjyang FUG, Tanahun
Tan/B3	Ex-FUGC, female member from Bagbhanjyang FUG, Tanahun
Tan/B4	Disadvantaged group member from Bagbhanjyang FUG, Tanahun
Tan/B5	Forest dependent business owner from Bagbhanjyang FUG, Tanahun
Kas/P1	FUGC member from Pragatisil FUG, Kaski
Kas/P2	Unemployed university graduate from Pragatisil FUG, Kaski
Kas/P3	School teacher from Pragatisil FUG, Kaski
Kas/P4	Lower caste female from Pragatisil FUG, Kaski
Kas/P5	Poor farmer from Pragatisil FUG, Kaski

Appendix F-3: Household (HH) Survey Questionnaire

My name is Krishna Kumar Shrestha, a Ph.D. student from The University of Sydney, Australia. This questionnaire survey is a part of my research, being conducted to fulfil my Ph.D. degree. You are invited to take part in this research study. The purpose of this survey questionnaire is to investigate the local perspectives of community forestry viewed as a means for sustainable rural development in Nepal. The participation is completely voluntary in the study and you may remain anonymous and therefore you will not be identified as a respondent. The information supplied by you will remain strictly confidential. This research is not for any development project and that the only obvious benefit to come from this research is that it will contribute to a greater understanding of knowledge related to community forestry, which may be of benefit to your user group, if the research outcome is adopted.

1. Household Information

Name of VDC:....., Ward No:....., Village:.....,
District:....., Altitude:....., Latitude:....., Date:.....

2. Respondent's Information

Name of respondent (optional):.....

Gender: Male Female

Marital Status: Married Unmarried Divorced

Age: 18- 18-24 25-34, 35-44 45-54 55+

Education: Illiterate Under SLC Intermediate Bachelor Post-Graduate

Occupation: Farmer Teacher Business Service Other.....

Caste/ ethnic group: Brahmin Chhetri Newar Magar Other.....

How long have you been here? Since birth Last 10-20 yrs 1-10 yrs New

Where did you come from and why?

3. Household Size and composition

S. No.	Name	R'ship to respondent	Age	Primary Occupation	Remarks
1					
2					
3					
4					
5					
6					

4. Landholding, Agriculture & Livestock

Do you or your HH own land?

Yes

No

If YES, please provide the following information:

Type of Land	Owned & Operated by HH (Ropani)	Given on Lease (Ropani)	Taken on Lease (Ropani)	Contract Basis (Ropani)	Remarks
Irrigated					
Non-irrigated					
Grazing Land					
Private Forest					

Are you self sufficient in food production for your own HH needs? Yes No

If NO, How many months do you depend on food from outside? 1-3 4-6 7-9 10-12

How much do you normally spend for buying food for the rest of the year (NRS)?

< 1000 1000 – 5000 5000 – 10000 10,000+

If YES, do you also produce surplus for sale? If so, how much in a year?

< 1000 1000 – 5000 5000 – 10000 10,000+

Number of livestock and poultry, their feeding practices and annual income from them:

Types of livestock & poultry	Feeding practice*	Quantity produced (Annual and in no.)	Quantity Consumed	Quantity Sold	Total annual income (NRS)	Remarks
Buffaloes						
Cows and Oxen						
Goat						
Sheep						
Pigs						
Poultry (Chicken, Pigeon, Duck etc.)						

* Stall-feeding (1), Crop residues (2), Tree Fodder (3), Grazing (4), other (5).

5. Sources of HH income:

On-Farm Income:

Income source	Indicate the income for the last five years (NRS)					Buyer*	Remarks
	4yrs before	3 yrs before	2 yrs before	1yr before	This year		
A.1. Agriculture:							
- Food crops	-----	-----	-----	-----	-----	-----	
- Fruits & Vegetables	-----	-----	-----	-----	-----	-----	
A.2. Livestock							
- Big (Buffalo etc.)	-----	-----	-----	-----	-----	-----	
- Medium (goats etc.)	-----	-----	-----	-----	-----	-----	
- Small (Duck etc.)	-----	-----	-----	-----	-----	-----	
A.3 Others	-----	-----	-----	-----	-----	-----	
B. Tree products:							
- Timber	-----	-----	-----	-----	-----	-----	
- Fuelwood & Fodder	-----	-----	-----	-----	-----	-----	
- Fruits & Nuts	-----	-----	-----	-----	-----	-----	
- Litter & Leaves	-----	-----	-----	-----	-----	-----	
- Medicines & Others	-----	-----	-----	-----	-----	-----	

*Local Villagers (1), People from nearby villages (2), Local retailers (3), Business people from town (4), Saw millers (5), Others (6)

Off- Farm Income:

Sources of Income	No. of HH's members involved	Total annual income (NRS)	Remarks
Regular Job			
Business			
Labour			
Industry (Forest based or other)			
Others			

*Level of importance: 1 = very high; 2 = High; 3 = Medium; 4 = Low; 5 = Very low

6. Community Forestry (CF)

Do you like community forestry? Yes No
 If YES, why do you like it?.....

 If NO, why?

Status of CF: Before hand over: Very good Good Bad
 After hand over: Very good Good Bad

What is the present condition of your Community Forest?

- Young planted forest about 10 yrs old.
- Young naturally regenerated forest less than 15 yrs old with no economically valuable trees.
- Natural forest with only a few economically valuable trees.
- Natural old growth forest with many economically valuable trees
- Others; please specify.....

How far is your community forest from the nearest road and township?

- < 2 hrs walking distance 2 – 4 hrs walking distance > 4 hrs walking distance

What are the income sources of your community forestry?

- Selling of major forest products Selling NTFP Membership & fines Others.....

Who collects the funds?

- Chairman of committee Secretary Treasures Members DFO Others.....

Where the fund is deposited?

- Bank Community Funds With persons Co-operatives Others..... No idea

How the collected funds are utilized?

- Distributed amongst the members according to their contribution in work
- Community development activities
- Plantation and forest management and development activities
- Salary to forest guards
- Deposited and never used in any activities
- Others; please specify.....

Do you think the funds collected from the sale of forest products and other activities (membership, fines etc) are enough for forest protection? (Please choose one)

- More than enough Enough Not enough Little No fund No idea

What types of training do you have? (Can choose more than one)

- Nursery raising Tree Felling Thinning & Pruning Shrubland Management
- Forest inventory Accounting & Book-keeping Development planning Others

Do you require any training? If yes, what type (s) of training do you need? Please list major three:

- 1.....
- 2.....
- 3.....

8. Income generation (IG) and rural development (RD)

Community forestry can generate income while maintaining the status of the forest. The income can be used to maintain the forest as well as to support for rural development activities.

[Please indicate to what extent you agree or disagree with the following statements:

(0 = don't know, 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)]

- a) Community feels that community forest is their own asset -----
- b) Community is keen to generate more economic benefits from the forest in future -----
- c) Community often discusses how community forestry can be made sustainable -----
- e) FUG is able to manage forest and able to mobilize fund for rural development activities -----
- f) Outsiders (DOF, NGO, VDC) should help FUG to carry out development activities -----
- g) Some development activities are already completed by the local people -----

In community forestry, income generation is important to support forest management and other rural development activities. However, the quality of forest is important to make any income from the forest continued. In order to increase funds, some investment must be made in the following sectors. To what extent do you support or oppose the following investment in your CF?

(0 = don't know, 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

- Agro-forestry development (tangya etc.) -----
- Institutional development (e.g. improvement of rules..) -----
- Users training & capacity building -----
- Planting NTFP (including cash crops) in the forest -----
- Establishment of forest based industry (saw mill etc.) -----
- Eco-tourism development -----
- Government should invest regularly forever -----
- Others, please specify..... -----

9. Institutional arrangement (IA)

Which of the following product(s) does your family collect from the forest?

- Fuelwood
- Fodder
- Timber & Pole wood
- Animal bedding
- Others.....

Does your family sell or buy any forest products?

- Yes
- No

(Please provide the details)

Products	Quantity collected	Sold		Bought		Remarks
		Quantity	Price	Quantity	Price	
Fuelwood						
Fodder						
Timber & S. Poles						
Animal bedding & others						

How FUG Committee is doing?

- Local users included in decision-making: Yes No
- Relationship between users and the Committee Good Bad

Control the distribution of products by FUGC

- Yes No

If YES, do you think the distribution has been fair and equitable? Yes No

If NO, what may be the reasons for this?

Do you know about the money your FUG hold? Yes No

Do you think the money is being spent for the good purpose? Yes No

Do you think the money can be better spent? Yes No

If YES, where can it be? Development activities Forestry Others.....

How do you rate the work of DOF staff is doing in your area? Very good Good Satisfactory Poor No idea

Do you think the forest has been better conserved than before? Yes No

If YES, why is it? Please give main 3 reasons:.....

If NO, what should be done? Please give main 3 points.....

Do you think that forest is better utilized by the community? Yes No

Is forest being managed according to the Community forestry Operational Plan? Yes No

Are there any conflicts in the implementation of OP? Yes No

If YES, what are those?

Are there problems in forest protection? Yes No

If YES, what are those?

Do you think that your committee has to be extended? Yes No

Do you think that some rules and regulations are to be added, or changed? Yes No

If YES, can you list three most important rules and regulations?.....

.....

Do you think that your FUG can work together for other rural development activities? Yes No

If YES, what are its 3 main strengths?

.....

.....

If NO, what are the main 3 arrangements to be changed to make it able to?

1.....

2.....

3.....

10. Resource politics and policy issues

Management of community forest is considered to be the job of the local people to utilize it instead. But the state, political parties, and NGOs/ INGOs often make decisions. If the locals make decisions, are mainly by the local elites. It is often argued that decisions on benefit distribution and products utilization have been the key aspect almost totally controlled by the state. In this scenario, please indicate to what extent you agree or disagree with the following statements:

(0 = don't know, 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

FUG can harvest minor forest products from the CF		----
Major forest products (e.g. timber) can be cut by the FUGs decision		---
Local elites are more active in meeting and decision-making		----
FUG has to seek permission for any decision on product (major and minor) extraction		----
VDC people influence in the management and utilization of forest		----
NGO/INGO are active in decision-making about the product distribution and use		----
Women and disadvantaged people are passive in meeting and discussion		----
FUG is controlled by the state (DOF)		----
VDC controls FUG		----
Do you think, there are some critical issues on your community forestry?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If YES, what do you know?.....		
Do you think that the state is more powerful in CF than FUG (DFO)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does your FUG have supports from any NGO/INGO?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If YES, what are they and from where?.....		
Do political parties help in your CF management?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If YES, how?.....		
If NO, why?.....		

11. Capital formation and mobilization from CF: "Sustainable Community Forestry"

How can your FUG generate more income in the future? (You can choose more than one)

- Selective logging (Cutting selected dead, damaged and deceased (3D) trees and selling those to the business people
- Establishing saw mill and furniture industry owned and operated by the FUG
- Promoting tourism (hotels, trekking, foot trails, picnic spot etc.) in the forest
- Nursery establishment and selling seeds and seedlings
- Dividing forest into small workable plots for rotational clear cutting
- Increasing fees and donation from the members in the future
- Asking for help from the state (DOF) and other agencies
- Others, please specify.....

How do you like your FUG mobilize fund collected from the above activities in the future?

- Distributed amongst the members according to their contribution in work
- Community development activities (Roads, Schools etc.)
- Plantation and forest management and development activities
- Salary to forest guards
- Deposit and never use in any activities
- No idea
- Others; please specify.....

Sustainability of CF means the conservation, utilization, and development of forest resources for gradually improving living conditions of the local people. How often do you think about the sustainability of community forestry?

- Never
- Occasionally (once/mon)
- Frequently (once/ week)

How would you feel, if someone suggests you to hand over management responsibility of your community forest to a company for joint venture?

- Strongly like
- Like
- Don't know
- Dislike
- Strongly dislike

What does sustainable community forestry mean to you? Please explain briefly.

.....

.....

12. Sustainable Rural development (SRD)

Please rank the following statements in the priority basis with reference to your CF, where; 0 = not needed at all, 1 = Not really needed, 2 = Needed, 3 = Neutral, 4 = Essential, 5= Very essential

- Rural development activities (e.g. road, water supply, health centre, schools etc.)
- Community Forest Management and development activities
- Poverty alleviation programs (e.g. food distribution, employment etc.)
- Good governance and honest government staff to work in the village
- Industries development in the locality
- Do nothing

What does sustainable rural development mean to you? Please explain:

.....
.....

13. Other

If you had NRS 1000 to donate to FUG, how would you like to divide it among the following activities? (in NRs)

- a) Forest management -----
- b) Training & Capacity building of FUG -----
- c) Rural development activities (e.g. roads) -----
- d) Others, please specify..... -----

Are there any comments about forest and community issues you would like to add?

.....
.....
.....

..... Thank you for your help in completing this questionnaire.....

Appendix F – 4: Semi Structured Interview (SSI): General themes

Interview conducted by:

Interviewee's name (optional):

Position & Organisation:

Date, time and location:

Introduction of the research: Briefing about research, its objectives and confidentiality.

1. Community forestry: definition, emergence and evolution in Nepal
2. Major issues of CF in Nepal
3. Decision making processes and implementation at different levels
4. Outcomes of community forestry: forest conservation and livelihood benefits
5. Collective action in community forestry: equity, power and sustainability
6. Equity and quality in community forestry
7. Politics in CF – intra-group, inter group and the FUG vs. the state
8. Socio-cultural, political and economic factors at different scales
9. The role of the state, users, civil society and donors in community forestry
10. Future of community forestry in Nepal and beyond: any suggestions?

Thank you for your help and co-operation in this interview

Appendix F – 5: Rapid Vegetation Assessment (RVA): Field Data Collection Sheet

CF name:.....

Address:.....

Name of the recorder:.....

Date of recording:.....

Time of recording:.....

Size of the plot: 10m x 10m

Plot No: One (1) Two (2) Three (3)

General information on the forest:

Vegetation type: Broad-leaved Conifer Mixed

Regeneration: Natural Artificial Both

Dominant species:.....

Age of the forest: <10 yrs 10 –20 yrs 20 –30 yrs > 30 yrs

Condition of the forest: Very good Good Poor Bad

Aspect: East West South North

Topography/slope Very steep Steep Medium Gentle

Erosion: Presence Absence

S. No.	Species	Seedlings (< 4 cm DBH: OB) – No.	Saplings (4 - 10cm DBH: OB)		Poles (10 - 30cm DBH:OB)		Trees (> 30cm DBH: OB)		Remarks
			DBH (cm)	Estimated height (m.)	DBH (cm.)	Estimated Height (m)	DBH (cm.)	Estimated Height (m.)	
A	B	C	D	E	F	G	H	I	J
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									