Chapter I
Natural Resources Management

Literature collected for the purpose of this bibliography reveals that there are various types of discriminations existing in Nepali society with respect to management and utilization of natural resources. One of the reasons for the wider range of discriminations observed is the diverse forms of natural resources on which a household depends for survival and food security. One main common feature of these discriminations is that they are rooted in the existing social structure. As a result, discriminations are seen in sharing benefits according to class, caste, gender, and political power. From the collected literature, following kinds of discriminations were seen:

1. Benefit sharing is still not equitable in community forestry. Particularly *dalit* households have been denied the access to forest resources. This appears in most of the case studies.

2. Contributions to conservation of forests varied for different groups of people. Such contributions came primarily from the lower section of the society, and from women. The physical labor required came mainly from these groups. The studies clearly reveal that wealthier and powerful people did not contribute much even if they attended the community works. Similarly, the lower sections of the society are not aware of the other contributions from

wealthier and powerful sections of the society. The accounting system and other operations were also not made transparent. This has also happened because *dalit*s and women did not know the accounting principles, and thus were not able to understand what is going on around.

3. Even though poorer people derive a higher percentage of their income from the forest, in terms of absolute amount, they derive less benefit. Households with resources like animals and land derived more benefits from the forest. But for survival, landless, marginal, and small households depend more on forest resources. Accordingly, socio-economic conditions determine forest-use pattern. Distance to forest has not been found significant in determining the use of forest in the middle hills.

4. Discriminations in participation: In most cases, the poor, *dalit*s and women are not able to participate in decision-making activities. Various obstacles are placed which discourage even those who are interested in participating. Accounting skills, basic literacy, confidence, and ability to deal with government agents discourage them from being a part of decision-making bodies. On the other hand, they take part in other works (like those requiring physical labor) to a even greater extent. They also do not have enough time to give to official matters as they are continuously engaged in activities related to their daily survival.

   There is also discrimination in relation to information flow. Various case studies found that *dalit*s, the poor and women are not informed of

various official processes, meetings and dealings with government agencies or the support from external agencies. Lack of this type of transparency leads to various kinds of injustices.

5. Discriminations to Women: In general women seem to be discouraged from taking part in decision-making, and their participation in trainings and employment is very low. This exploitation comes mainly through the process of relationships involved in reproduction. As stated earlier, their lack of basic literacy also hinders them from taking part in official work.

   Women are also the ones who are often harassed by the forest guards. As women frequent forests more often than men for the collection of fodder, grass and fuelwood and other NTFPs, forest guards often see them as culprits. In irrigation also, families headed by women face hardships as they do not find time because of household work and children to be constant vigilant when they get their turn to receive water. This has happened basically due to the lack of traditional mechanisms. Similarly, while harvesting firewood in an allotted time, women are often not able to harvest as much as men. Similarly, the new enterprises initiated by external agencies increase the load of the women, while earnings invariably end in the hands of males.

6. Discriminations due to restrictions: Indigenous people depend on forest to a great extent. Accordingly, they interact with forests more closely. Their life, culture, and religion is linked with the resources. Similarly marginal farmers and the landless depend on forest for their survival necessity. But the restriction imposed by the demarcation of conservation areas has adversely affected their survival.

7. Cases of injustices in externally funded projects are still evident. For example, in one of the studies, it is reported that *dalit*s were not given water taps, and they depended on the off-flow from the taps used by the higher caste people.

8. Pesticide disposal problem affecting rural and powerless communities. Storage of pesticides in rural areas adversely affecting the health of villagers frequenting the forest and school children is also reported by a few studies.

9. In the Terai, local and traditional institutions are used to exploit indigenous (Tharu) people. For example, the system of Begari is still being used by hill Zamindars (landlords) after they purchase the land from the Tharu chiefs, but without shouldering any traditional social responsibility.

10. In various projects, the local community is simply regarded as the majority ethnic group in the area. As a result, ethnic minorities are discriminated against.

11. Injustice is also seen in reaping benefits from NTFPs, especially herbs. This is especially so in far western Nepal, where local communities receive only marginal benefit from herbs. The major benefits go to traders and middlemen of the plain area.

12. New proposed Community Forestry Act: This Act aims to transfer power and resources from the people to the bureaucracy. At present it is mandatory to invest 25% of the income from forest on forest development. But the new Act obliges the groups to give 40% of their income to the government. Further, the control of forest officials will increase as per this proposed Act.

13. Tourism: Local communities bear the brunt of tourists' negative impact in the form of depletion of forest resources and littering of garbage. Even though this problem has been reduced to a significant extent in conservation areas, local people tend to lose out. Even though some job opportunities (as tourist porters and guides) have been created from tourism, the workload on women has increased as males move away for such jobs. This is indicated by various studies. But the impact of workload on family health, sanitation, and resource conservation are not investigated. The questions have also been raised on the health and safety of the porters. Studies have reported that porters are not treated humanely, are not provided with adequate clothing, are not cared for when they are sick, and are often cheated by the trekking agencies. Demonstration impact of tourist's holiday behavior on local youth is high. Poorer families cannot meet the expectations of their youth, which sometimes leads to violence.

Forest Resources

Acharya, Mahesh Hari. 1996. "Forest User Group as a Viable Grass-roots Level Organization for Effective Local Forest Resource Management". M.Sc. thesis. University of Reading, UK.

The aim of this study was to assess whether the FUG would be a suitable unit to manage local forest resources. It looks into sustainable forest management, empowerment of local people, shifts in planning processes and the changing role of the forest department. The main ingredients of CF-people's participation and benefit- sharing are

becoming realities in Nepal. In this regard, the thesis reviews the community forestry (CF) policy and its evolution in Nepal.

Adhikari, J. 1996. *The Beginning of Agrarian Change: A Case Study in Central Nepal.* Kathmandu: TM Publication.

It covers among others, the access of different household groups to natural resources, and then demonstrates that *dalit*s are most denied access. It also outlines the historical reasons for the creation of such a situation.

Adhikari, J. and H.-G. Bohle. 2000. *Food Crisis in Nepal. How Mountain Farmers Cope.* New Delhi: Adroit Publisher.

This study shows that the use of forest products like bamboo for making mats, baskets and other products, and wild fruits and vegetables provided a large part of the overall food security of poor households. Conservation efforts, particularly those aimed at long-term benefits, restricted the collection of such products from the farmer. The study also indicated that women are responsible for food security at the household level. They conserve everything that is useful for the household to get more food, and are also frugal in their spending.

Amatya, S.M. 1992. "Problems of Raising Fodder Trees: A Study of the Farmers' Concept". *The Nepal Journal of Forestry.* 7 (2): 105-12.

Andler, Wolf; Kushal Sharma and Anne, Jansen. 1988. "Two-and-Half Years of Community Forestry in Palpa: Comments, Results, and Criticism". Tinau Watershed Project.

Aryal-Dahal, Usha. 2000. "Access to Forest and Sustainability of Livelihoods: A Case Study of Bara District, Nepal". M. Sc. thesis (Management of Natural Resources and Sustainable Agriculture). Center for International Environment and Development Studies, Agricultural University of Norway. Tivili.

People with small landholdings and the landless depend on off-farm activities. Casual labors as well as selling of forest products, even illegal trading of forest products are common among these groups. Low endowment and productivity are the main causes for food insecurity. Local people have been using the government forest informally to fulfill their timber and NTFP needs because the law does not allow them to do so formally. Legally, locals can collect one head-load of dried and dead twigs for firewood and other NTFP for domestic use. But these products are not sufficiently available in the forest. Therefore to meet their needs they collect them more than what is specified to them by forest staff. As a result conflict arises between forest staff and the locals. The locals have not benefited fully from the nearby forest because of limited access to forest and forest product. As a result, the forests as well as the livelihood of the locals are threatened. Therefore, the locals, NGOs and INGOs have begun advocating the rights of the people to manage nearby forests as a community forest projects.

Bahadur-Nepal, Ananda. 1998. "Socio-Economic Conditions Governs People's Dependency on Forests" *Banko Jankari.* 8 (1): 56.

Landless, marginal, and small farmers who are deprived of other alternatives have higher dependency on

common resources. Distance to forest does not determine the use of forest, but socio-economic conditions do. Such dependency could be minimized only through income-generating activities. The study was based on the Shivapuri forests, Kathmandu District.

Banskota, K. and B. Sharma. 1998. *Mountain Tourism for Local Community Development in Nepal: A Case Study of Phewa Lakeside.* Kathmandu: MEI discussion paper, 98/2. ICIMOD.

Barbber, C. R. 1986. *Social Problems in Technological Innovation: The Case of Sanitation in Eastern Nepal.* Nainital: Himalayan Research Group, India.

Bhatt, Nina, Laju, Shrestha, Barbara Thomas-Slayter and Indira, Koirala. 1994. *Managing Resources in a Nepalese Village: Changing Dynamics of Gender, Caste and Ethnicity.* Worcester: EcoGen, Clark University, USA.

Analyzes the dynamics of inter-household and intra-household change in the relationships between gender, caste, and ethnicity. The new enterprise of dairy farming with loan facilities from Small Farmers' Development Project (SFDP) has increased workload on women, but without any benefits accruing to them. On the other hand, Tamang households marginalized from power politics previously are becoming politically powerful and economically better off. The dairy initiatives should have enhanced women's income by organizing women in dairy groups.

Bhattarai, Bimala. 1989. "Villagers' Perception on Forest and Forestry Development: The Case Study of Chisapani Village Panchayat, Ilam District". M.A. thesis (Home Science). T.U., Kathmandu.

From the findings of the present study, it can be generalized that local people are positive towards afforestation and other forest conservation activities. Villagers are also aware of the process of excessive forest depletion in their area. The present study would go long way in comprehending the seldom understood aspects of villagers' perception of forest and forestry development in a Nepali village of central Nepal.

Bhusal, Tika Ram. 2001. "Participation and Equity in Community Forest Users' Groups: A Case Study of Five CFUGs of Tanahun Nepal". B.Sc. thesis (Forestry). IOF, T.U. Pokhara, Nepal.

This analysis shows that there was a relatively lower participation of women, *dalit*s and poor in the CFUGs studied whereas the participation was high in the output activities i.e. benefit sharing.

Bosma, W. 1996. *Benefits from Community Forestry: A Contribution to the Monitoring and Evaluation Process of Forest User Group in the Koshi Hill (Vol. 1: Benefits from Community Forestry and Benefit Sharing within Selected Forest User Groups).* Kathmandu: NUKCFP (Nepal UK Community Forestry Project), Report no. 36.

Branney, Peter. 1991. "Evaluation of the Community Forest Management Program". NUKCFP, Kathmandu.

Budhathoki, Prabhu.1991. "Deforestation in Nepal: Causes and Consequences". M.Sc. thesis. University College of North Wales, UK.

Population growth and the increasing demands of the people for forest products are not the principal

causes of deforestation in Nepal. Despite fine-sounding plans and policies there has been no proper scientific management of the forest. This lack of effective management is a serious problem which demands a committed response. The forests of Nepal can only be sustained if they are adequately protected, wisely developed, and properly utilized. Traditionally the forests have been exploited both by individuals and institutions. Evidences indicate that government policies and the politics of the past are primary causes of the large-scale deforestation. In this context silviculture alone would not save Nepal's forest.

Byers, A. 1985. "Resource Management in the Arid Himalaya: Problems and Prospective Solutions". *Contribution to Nepalese Studies* 12 (3): 107-36.

Chand, Padam Bahadur. 1996. "Comparative Evaluation of two Community Forestry Projects in Nepal". M.Sc. thesis, University of Philippines, Manila.

This study was conducted to compare and evaluate a loan-funded and a grant-funded community forestry project in Nepal. The results showed that the two projects were similar in terms of implementation, management, information and training. However they varied in terms of budget, personnel, technology and planning, the grant project scoring in all these respects. The two projects were similar in terms of household income and vegetation cover but were different in terms of living standard of the people, land productivity and minimization of soil erosion, the loan project being better in these respects. Most of the people had not received any type of training and extension materials in both the projects.

Chapagain, Debendra Prasad. 1984. "Managing Public Lands as a Common Property Resource: A Village Case Study in Nepal". Ph.D. thesis. University of Wisconsin, Madison, USA.

The major finding of the study is that there is the consistency between the individual behavioral intention and the collective interests of the households in the study area. This is true both in the case of contributing toward the provision of collective resources as well as in expropriating benefits from an existing resource; the willingness to contribute resource is attested to by actual acts of contribution. The villagers are aware of the external effects of natural resource use and are capable of devising institutional rules to minimize these externalities, if entrusted with that responsibility; and this process of institution building could be strengthened by providing proper incentives on the part of the government, rather than by introducing policies that would disrupt the process.

Chhetri, R.B. and M.C. Nurse. 1992. *Equity in User Group Forestry in Central Nepal. Kathmandu:* Nepal Australia Forestry Project. Discussion paper 1/92.

Chidi, Chhabilal. 1995. "Population Pressure on Environment and Local Perception and Practice of Conservation: A Case Study of Pipal Danda VDC of Palpa District in Western Hill Region". MA thesis (Geography). T.U., Kathmandu.

Dhungel, B.P. 1987. *Socio-Cultural and Legal Arrangements for Grazing on Public Land. Case study of Bahadurjung.* Kathmandu: Winrock International, NRM Paper 11.

Edwards, David M. 1996. Non-timber Forest Products and Community Forestry: Are They Compatible?" *Banko Jankari.* 6(1): 3-8.

Edwards, D.M. 1996. *Non-Timber Forest Products from Nepal: Aspects of the Trade in Medicinal and Aromatic Plants.* Kathmandu: FORESC Monograph no. 1/96. Forest Research and Survey Center, Ministry of the Forests and Soil Conservation.

Every year 10,000 to 15,000 mt of non-timber forest products (NTFPs), representing around 100 species, are harvested from forest land in the middle hills and high mountains of Nepal and exported to India. Almost all the products leave Nepal as raw materials - roots, rhizomes, leaves, stems, bark, fruits and seeds. Indian entrepreneurs have traditionally controlled the trade: little processing occurs within Nepal and often the income earned by primary producers is a small percentage of the final price paid in the Indian trade centers of Delhi, Calcutta and Bombay.

Ephrosine Daniggelis. 1992. "Forest Resources as an Adaptive Strategy in Sankhuwasabha, Eastern Nepal" *Himalayan Research Bulletin*, XII (1-2): 82.

A study of resource management of Rais and Sherpas in Makalu-Barun National Park shows that more than 70 forest plants were collected and identified by the people, 33 were consumed by local population, 33 are eaten by livestock, 18 were used as medicine, 5 for religious and ceremonial purposes, 5 as building materials, and 3 were bartered or traded. The large number of NTFPs used by the people shows that they form an integral part of the indigenous population's life, culture and religion. Forest resources are critical for people's survival since low food security and natural hazards pose major problems. Both subsistence agriculture and pastoralism show the adaptive dilemmas.

Fisher, H.K. Jeddere. 1994. "Equipping the Community to Implement Community Forestry: Extension for Common Property Resource Management". M.Sc. thesis. Reading University, UK.

This study focuses on the use of group-extension method, which emphasizes the collective adoption of interventions in common property resources. The achievement of such collective innovations-decisions is strongly dependent on both equity and organizational factors. The distribution of benefits needs to be perceived to be equitable, and a unit of social organization is needed to sustain the program. The thesis concludes by looking at the implications for extension training. As well as requiring new skills, extension workers require changes in their attitudes and values. To achieve these, extension training needs to become more process-oriented than content-oriented and to use many of the same methods that extension workers themselves use when working within a community.

Fisher, J. Robert. 1992. "Indigenous Forest Management in Nepal: Why Common Property is not a Problem" *Himalayan Research Bulletin*, XII (1-2): 83.

Fisher shows that anthropologists have contributed to the awareness that rural people in Nepal do successfully manage common property. But from theoretical perspectives, anthropologists have not been able to dismantle the theory of 'tragedy of commons' which makes the assumption that common ownership always facilitates degradation of resources.

FORESC. 1996. "Report on Improving Forest Handover Process and Making Aware of the Rights and Responsibilities of Each Party". HMG/ Department of Forest, Community and Private Forestry Division. Kathmandu.

Fox, Jefferson Metz. 1993. "Managing Public Lands in a Subsistence Economy: The Perspectives from a Nepali Village". Ph.D. thesis. University of Wisconsin, USA.

This study was designed to provide insights into one of Nepal's most pressing problems - how to stop public lands from deteriorating while meeting the basic needs of subsistence farmers for forest products from these lands. Overgrazing is the major cause of degradation of public lands. The study has shown that the present needs of small farmers for forest products from public lands and the conflict among the farmers regarding the measures to increase productivity on public lands can hinder the adoption of land management plans on these lands. Meeting local needs will require trade-offs, which will become increasingly difficult as the population increases. Although maximum amounts of food, fuel, and fodder cannot be made available on the same land, recognition of the significant demands, as well as their consequences on land degradation, may help planners design more workable and acceptable land management plans.

Gautam, Narendra. 2001. "What Makes a Community Forest Successful ? A Comparative Analysis of a Successful and Unsuccessful Community Forest in Kaski District, Nepal". B.Sc. thesis (Forestry), T.U., Pokhara.

It is a study of two community forests (CFs) in Kaski district. One, which was successful, was managed mainly by women and there was equity and transparency in sharing benefits and in generation and use of funds. In the unsuccessful CF,

occupational caste households were denied access and not informed about the crucial meetings during which forest was handed over and management committee formed.

Ghimire, Ganesh Prasad. 1987. "Ecology and Subsistence: Adaptive Strategies of a Brahmin Community in Eastern Nepal". M.A. thesis (Sociology), T.U., Kathmandu.

This study of ecology, culture, and economy and their interrelationships in a village community in Eastern Nepal shows that the Brahmin community of Bagane cluster is trying to become economically more independent.

Ghimire, Kabita. 2000. "The Impacts of Differing Access to Forest Resources on the Livelihoods and Capital Asset of Poor Women in Makawanpur District, Nepal". Organizational training report submitted for PGD in forestry management from Indian Institute of Forest Management, Bhopal, India. FAO/ United Nations, Kathmandu, Nepal.

Ghimire, Madhav Prasad. 1989. "Distribution of Authority for the Conservation of Forest Resources: An Analysis of the Community Forestry Policy of Nepal". M.Sc. thesis. University of California, USA.

This study defines the location of forest authority for enforcement and management that would balance the use and productivity of forest resources in the least costly manner. The study found that local readiness to take effective responsibility, government readiness to protect, manage, and support, and local readiness, central capacity, and effective distribution of authority are the conditions influencing the effective conservation of forest resources.

Giscle Krauskopff. 1992: "Unpaid Labor (*begari*) among the Tharu of Dang: Village Mutual Aid and Collective Organization in the Light of Landownership's History" *Himalayan Research Bulletin*, XII (1-2): 87.

Begari was a free day's labor given by tenants and farmers to Tharu village chiefs and village priests and landlords. This unpaid labor was sustained by a traditional mutual and collective aid system. This helped in sustaining the traditional mutual aid and the leaders' duties. But the introduction of Zamindari system distorted this system. The Zamindari system evolved essentially as a result of hill people's migration.

Graner, E. 1989. "User Group Forestry- Poor Policy for Poor People? Nepal's Forest Legislation from a Political Ecology Perspective". Ph.D. thesis, University of Freiburg, Germany.

Graner, E. 1997. *The Political Ecology of Community Forestry in Nepal.* Freiburg: Germany. Studies in Development Geography. no. 14.

Graner, Elvia. 1999. "Negotiating Access to Nepal's Forest: Winners and Losers" in R.B. Chhetri and O.P. Gurung (eds), *Sociology and Anthropology of Nepal (Proceedings)*. Sociological and Anthropological Society of Nepal (SASON), Kathmandu: 211-224.

Graner presents two case studies from Melamchi VDC where a forest has been handed over to a user group. The work shows that it is primarily the groups which are economically better-off become members in forest user groups whereas economically disadvantaged groups, like ethnic minorities, are

excluded. As user group members exercise a strict control over these forests, the denial of access to non-members implies a loss of access to "public" forests to excluded groups who rely on these resources and whose fulfillment of basic needs is generally "at risk".

Gronow, J. 1987. *Becoming Concerned with People too: The Forest Department Starting Extension Forestry in Dolakha.* Kathmandu: Integrated Hill Development Project.

Gurung, Om Prasad, 1999. "Local Institutions, Cultural Practices and Resource Management in a Mountain Village of West Nepal" in Ram B. Chettri and Om Prasad Gurung (eds.) *Anthropology and Sociology of Nepal, Cultures, Societies, Ecology and Development.*, SASON, Kathmandu.

The study describes the role of cultural systems in managing resources. The cultural systems define people's relationships with the local environment and in regulating the resource use system. But external intervention is causing the deterioration in these relationships, as a result, problems in livelihoods are increasing.

Hobley, M. 1987. *Involving the Poor in Forest Management: Can it be Done? The Nepal-Australia Project Experience.* ODI Social Forestry Network, London. Network Paper 5c.

The problems facing the Nepal-Australia Community Forestry Project, for the implementation of community forestry are not simply how to involve the poor farmer or the superficial appearance of the interaction between the deeper social realities of

class, caste and gender. They are how to understand these existing realities and the power that individual exert for the control of a natural resource. Inadequate understanding, leading to many misperceptions resulted in the problem experienced in Tukucha. The study examines the working of a project with limited financial and physical resources, operating within constraints of a bilateral aid program and actually ensuring that the silent majority is actively participating. Through collective actions, the condition of women and the poor is improving.

Hobley, Mary E.A. 1990. "Social Reality, Social Forestry: The Case of Two Nepalese Panchayats". Ph.D. thesis. The Australian National University, Canberra.

This thesis reveals that although an intent of social forestry is to help the poor and women, class and patriarchal structures limit their access to and control over forests, and their participations in social forestry projects. The notion of gender and class as theoretical abstractions remains remote from the daily lives of individuals, though the experience of each person and relationships into which they enter are constructed by the workings of these notions. Gender and class are shown to determine the way in which individuals interact and how resources are allocated between individuals. The patriarchal construction of society places ownership and control of resources with men, and so women are subordinate through relations of production, and control over their labor power. Empirical experiences reveal women of all classes are dominated through relationships of human reproduction. The class construction of society ensures that some women are dominated by women of higher class, and that some men of lower class are

dominated by men and women of higher classes. Thus each individual's relationships are determined by this complex articulation of class and gender.

ICIMOD. 2000. *Legal Mechanism to Protect Farmers' Right to Natural Resources.* ICIMOD's Participatory Natural Resources Management Program. Kathmandu.

At least half of rural society has been forced to surrender its local ecological and technological understanding of agriculture and biodiversity for the benefit of an externally-controlled industrial agriculture. The main concern is erosion of community intellectual knowledge, even though the lack of equitable compensation is also important. The underlying assumption that informs this new regime is that indigenous people and local communities need to be protected from commoditization of their knowledge and their resources. The influence of the market economy is subversive of indigenous communities as it breaks up communities. The main thrust of this right regime is that- the whole of the indigenous peoples' and local communities' knowledge system must be protected. Presently the knowledge systems of indigenous people and local communities are denied recognition. Only the Western, industrial model of innovation is accorded recognition. It is antithetical to the ethical and social values and needs of many Third World countries and peoples. This is crucial to preservation of biodiversity itself, as recognizing and protecting the knowledge systems of indigenous peoples and local communities' means, as well, a recognition and preservation of the cultural and social life of the traditional societies, which embodies knowledge and practices supportive of biodiversity. It is also in accord with social justice as it recognizes the true

creator and respects diverse cultures and different tradition of knowledge. Nepali farmers are unaware of the new developments taking place under auspices of WTO as well as they are unaware of their rights under convention on Biological Diversity and Convention on Desertification. It is most important to first inform them about the plights towards which they are heading as well as about the intellectual property rights regime and rampant bio-piracy taking place, through awareness/training program, advocacy campaign and providing access to relevant reports, documents or any other source of information.

Ingles, A.W. 1989. *Empowering User Group in the Community Forest Management in Nepal: Problems and Possibilities.* Kathmandu: Nepal Australia Forestry Project,

Jha, Sasinath. 1990. *Conservation for Development in Nepal.* New Delhi: National Book Organization.

Joshi, A.C. 1991. "Forest Users and Management of Common Forests: What are the Major Problems?" *The Nepal Journal of Forestry.* 6 (2): 106-11.

Joshi, Amrit L. 1989. "Common Property, Forest Resource and Government Administration: Implication for Nepal". M.Sc. thesis. The Australian National University, Canberra.

This research is on the past and present situation of forest resources and the land-use behavior of the governments and the people involved in managing the common forest of Nepal. Causes of depletion and deterioration of natural resources are discussed. Attitudes of the government and of the people

involved in managing the resources are explored. Some policy implications involved in the problems of managing the forest as common property resources are presented in the context of understanding the way people think and act in the subsistence farming populations of the middle hills and Terai of Nepal.

Joshi, Neeraj Narayan. 1995. "Factors Influencing Participation of Members of Forest User Groups in Community Forestry in the Hills of Nepal". Ph.D. thesis. University Pertanian, Malaysia.

Forest users, forming a socio-demographic heterogeneous group perceived the current community forestry program as being a better approach to forest management because of its more people centered nature. The shifting of the forest management authority from the government to the FUGs was the most appreciated aspect of the current community forestry program. Hand-over of the forests was also strongly felt by the local residents as the need for managing forest. By and large, the level of participation was medium and/or low. High level of participation prevailed only among a small proportion of forest users. The more active participants included those forest users who had pluralistic organizational membership, those who belonged to smaller FUGs, who perceived adequate government support, who had better linkage with their peers as well as executive members of forest user committee (FUC) and government personnel, who were better informed of program activities, and those who derived satisfaction from the community forestry program. The study indicated that those who perceived greater administrative decentralization, and empowerment of individual participants as important aspects and those who had a favorable attitude towards government intervention also tended to demonstrate a higher degree of participation.

Kafle, G.R. 1992. *A Process for User Group Formation in Nepal: Problems and Solution in Bhakimle and Ahale Forests of Bhojpur Districts.* Kathmandu: Nepal UK Community Forestry Project (NUKCFP), Report no. 3.

Kandel, Keshav Raj. 1999. "Strategic Review of Medicinal and Aromatic Plants and their Utilization in Nepal, A Special Study Report Submitted to IDRC/ Delhi". Kathmandu.

Kanel, Keshav Raj. 1996. "Farm Forestry in the Terai of Nepal: Policy Perspectives". *Banko Jankari.* 6 (1): 12-19.

Kanel, Keshav R. 2000. "Analysing Policy for Poverty Alleviation: An Example from Non Timber Forest Product Subsector". *Banko Jankari.* 10 (2): 3-8.

Importance of Non Timber Forest Products (NTFPs) has been increasingly recognized because of their commercial, socio-economic and ecological value. However, very little research has been done on the biological, commercial, socio-economic and institutional aspect of NTFPs in Nepal. This is mainly because NTFPs are extracted from forests by individuals and traded through multiple actors and market channels within a confusing policy environment. The present paper therefore attempts to explore the policy issues related to the management and promotion of NTFPs.

Karna, A.L. 1998. "Critical Examination of Current Approaches to Participatory Community Forestry Planning in Nepal". M.Sc. thesis. The University of Reading. Reading.

The study could not find any evidence to suggest that the views of the poorer and marginalized people especially *dalit* groups and women are reflected in the planning and assessment work of community forestry.

K.C. Krishna. 1992. "Environmental Stress of Basic Needs: A Study of Begnas and Rupa Tal Watershed Area, Pokhara Valley, Nepal". PhD thesis (Geography). Banaras Hindu University, Varanasi, India.

The effects of the increasing population density and growth results in ecological disturbances of varying magnitudes such as deforestation, and consequent gully formation and landslides, accelerated top soil erosion, flood and siltation, etc., and a situation of overall 'shared property'. Population pressure has accelerated the rate of change in both cultivated and forest lands. Expansion of agricultural land is beyond the threshold level of environmental sustainability of the hills. There is no more land suitable for further expansion. Other resources such as pasture lands, water bodies, and wildlife are also under great stress and their quantity and quality have been adversely affected. Even at present level of bare subsistence, natural resources are unable to sustain populations.

Decreasing per capita land holding and per capita productivity have exposed marginal farmers, mostly *dalit*s, to acute food shortage. Small and marginal farmers are trying to maintain their status quo either through increasing livestock population or through intensifying agriculture regardless of economic benefit and ecological damage. In the process, the marginal lands are also brought under cultivation with a hope to increasing gross output. Existing resources are strained to the point of unsustainability.

Khadka, R.B. and B.K. Uprety. 1984. *Study on Environmental Perception in Bandegaon Village, Lalitpur District.* NP: Kathmandu.

There is a higher percentage of illiterates in the study area. Accordingly the study claims that the level of understanding about the overall environment is very poor. Respondents are not found by the study aware of the effects of degraded environment. The level of understanding of the bio-physical environment is very low.

Kharel, Rekha Sharma. 1997. "Conflicts in Community Forestry in Nepal". M.Sc. thesis. University of Wales, UK.

Kharel investigates and analyzes conflicts in five user groups- two from Terai and three from the hill region. Six sources of conflict were found: access to resources, changes in resource quality and availability, authority over resources, differing perceptions of value, information transfer and availability, and legal and policy issues. Conflicts over access, and conflicts associated with the transmission of the information among the interested parties were the major ones. Measures to hasten the resolution of conflicts and to reduce their frequency are considered.

Kharel, R. Sharma. 1998. "Conflicts in Community Forestry in Nepal. A Review" *Banko Jankari.* 8 (2): 20-25.

It analyzes conflicts in 20 i rests Users Groups. Six sources of conflicts that were recorded are: access to resources, change in resource quality and availability, authority over resources, differing perceptions of values, information transfer and availability, and legal and policy issues. Conflicts related to access and the transmission of information was the major ones.

Khatry, Kiran Bahadur. 1994. "Natural Hill Forest Ecology- User Group Attitude Dynamics: A Case Study of Nagarkot Forest". M.Sc. thesis (Zoology), T.U., Kathmandu.

Leonard, H.J. 1989. *Environment and the Poor: Developing Strategies for a Common Agenda.* New Brunswick: US Transaction Books,.

Mahapatra, Richard. 2001. "Betrayed" *Down to Earth*- Special Report (CSE). Center for Science and Environment, Delhi.

The Forest (Second Amendments) Bill, 2001, to be soon placed in parliament for approval, will strip the autonomy of some 9,000 forest protecting communities known as Forest Users' Groups (FUGs). The proposed amendments to the 1993 Forest Act, which secedes governmental control over forests to FUGs, will not only limit the latter's control over forest but also bring back most of the community forests under the control of the forest department (FD).

How the proposed bill will kill a peoples' movement

Existing provisions	Amendments	Negative effects
Water not included in the definition of forest products	Water included in the definition of forest products	Permission of forest department (FD) for water use
Any part of the national forests could be handed over to communities	Forest areas totaling more than 50 hectares in the Tarai, inner Tarai or Siwaliks defined as block forests fall under the jurisdiction of forest officials	Destruction of forests under official patronage as had happened during the Panchayat rule period

People considered owners of the forest	People's rights limited to fodder or leaf litter	Establishes monopoly of the FD over timber resource in Tarai
User groups independently fix prices of forest products	District forest officers granted discretional power to distribute income from forest produce	Lack of transparency and hence possible corruption
No discrimination on grounds of geographical location	Block forests of Tarai, inner Tarai or Siwaliks cannot be handed over to communities. Only degraded or barren lands to be handed over	Regional discrimination
Excluding 25% revenue for forest development, income to be used for community development	40% of the revenue generated by forest users' groups to be paid to the district forest office	Leads to fund crisis and may make community forest management program unsustainable.

Maharjan, Maksha Ram. 1993. "Cost and Benefit Sharing Patterns in Community Forestry of Nepal". M.Sc. thesis. The Australian National University, Canberra.

This thesis reviews basic concepts in the identification, quantification and valuation of socio-economic and environmental costs and benefits involved in community forestry, and equitable sharing mechanisms that could be acceptable to community forest user groups in the middle hills region of Nepal.

Manandhar, Sumitra Gurung. 1992. "Gender Dimensions of Eco-Crisis and Resource Management in Nepal" *Himalayan Research Bulletin*, XII (1-2): 85.

Ecological crisis in hill areas of Nepal is the outcome of the mismatch between gender differences in land resource management and the government's development approach. The process began in the 1950s. Landslides and soil-erosion increased progressively since the 1960s with deforestation seen as responsible for the deterioration. Terraced land also faced the problem of erosion and loss of soil fertility that threatened productivity. The greater parts of the hills are now managed by women where culture, caste, and gender differences determine variations in work participation and resource management. Gender differences in work participation affect the pattern of resource management leading to ecological crisis. The study advocates local adaptive measures.

Mandal, H.N. 1995. "A Case Study on the Management Problem of Kankrebihar: A Report Submitted to the Nepal Administrative College". Jawalakhel, Kathmandu.

Mathema, Prakash. 1988. "Community Forestry in Nepal: Review". M.Sc. thesis. University College of North Wales, UK.

After providing general information about Nepal's terrain, climate, vegetation and socio-economics, the main causes of ecological degradation in Nepal as consequences of deforestation are discussed. Review of available literature suggests that human and livestock population pressure is the main cause of soil erosion along with shortage of forest products and migration of people from the mountains to the plains.

Muller-Böker, U. 1991. "Knowledge and Evaluation of the Environment in Traditional Societies in Nepal". *Mountain Research and Development.* 11(2): 101-4.

NAFP. 1980. *Community Forestry Development: A Study of Villagers' Attitude Towards Forest and Forestry Development in Sindhupalchok District of Nepal.* Kathmandu: Nepal Australia Forestry Project (NAFP).

Naupane, Hari Raj. 2000. "Factors that Influence Poorer Households' Access to Forest Products from Community Forest: An Analysis of Forest Management and Benefit Sharing Processes". M.Phil. thesis (Participatory Forest Management). University of Reading, Reading.

Nield, R.S. 1985. "Seminar Proceedings: Fuelwood and Fodder - Problems and Policy". Water and Energy Commission Secretariat. Kathmandu.

Panday, K.K. 1993. "Grassroots Initiatives in Reviving Nepal's Forestry Resources" *Himalayan Research Bulletin*, XII (1-2): 60-64.

The realities of Nepal warrant that it adopts people-based resources management systems. However, because Nepal is ecologically and ethnically diverse, appropriate management systems cannot be the same across the country. People living in diverse eco-systems use knowledge and traditional skills to manage different resources according to local needs and imperatives. On occasion, both national and expatriate development professionals assume that the mountain farmers do not devise planned strategies to face local problems or rationally manage their natural resources. We should not generalize, but even in the most depressed conditions, efforts of local communities to manage scarce and vulnerable resources typically reflect their best options. The existence of traditional systems, presents conservation resource planners and developers with an unprecedented opportunity to pursue a dialogue with local people and encourage participation in future resource management projects. The collaboration between the government and farmers is an essential step towards achieving the goal of mountain resource conservation.

Pandey, Shanta. 1993. "Women, Environment and Local Initiatives: Factors Affecting the Degree of Successful Management of Forest Resources" *Himalayan Research Bulletin* XIII (1-2): 54-59.

Indigenous management strategies are both dynamic and site specific. They evolve along with changes in external factors such as mountain ecology. The challenge is to understand what makes an indigenous forest management system work and in what way these practices are changing overtime. What are the underlying causes for their success and failure? Multiple factors affect the degree of successful management of forest resources on community lands. The following factors are important in the initiation and the degree of successful continuation of locally initiated community forest management systems.

- The more vital the resources for survival, the greater the success in continued management. Indigenous species that the villagers use for the multiple purposes are also more likely to be successfully managed.

- The higher the expectations of rewards vs. costs from managed forests, the greater the local participation in forest management. If the violators are punished, it increases the participation.
- The lower the degree of government interventions, the greater the extent of successful indigenous management.

Pandey, Tulsi Ram. 1999. "Local Strengths and Institutional Limitations: Issues of Conflict in Community Forest Management" in R.B. Chhetri and O.P. Gurung (eds), *Sociology and Anthropology of Nepal (Proceedings)*. Sociological and Anthropological Society of Nepal (SASON). Kathmandu: 234-250.

User group conflicts emerged from the questions of equity of forest product distribution among members and amount of fees charged to members for product collections.

Paudel, Harilal 1998. "The Impact of Community Forestry Program on the Less Privileged People. Case Studies from Dolaka District". M.A. thesis (Sociology), T.U., Kathmandu.

The study was conducted to find out the impact of the Community Forestry (CF) Program on the life of the less privileged people (LPP) especially through the LPP' perception. The finding of this study is that the LPP were getting less benefit from CF than other classes of users. The rich had enough forest products in their private land whereas the LPP had negligible amount of forest products due to their small landholding. The LPP representation in the decision-making process was very poor. Some *dalit* users have

been included in the user committee just for representation. The LPP were getting less benefit than the rich. A proverb regarding the benefit of forest to different classes of users is, "*Jasko jan usko dean and jasko bhaisi usko ban.*" The meaning of this proverb is that the wealth is his who has manpower and the forest is his who has cattle. Timber had been used mostly by the rich and medium level users. Some LPP commented that they got low quality and less amount of fuelwood because of the undue influence of the elite over the distribution. They had no any standard distribution system. The LPP did not know if the rich also paid an equal rate for forest product because they had not been informed about that. The LPP seemed frustrated, pessimistic, fatalistic and unaware about the CFP. There was domination of the elite over the decision-making body. The LPP were not getting timber because of distribution system practiced in FUG, i.e., the auction system. All classes of users were involved in the CFP. In physical work the poor have contributed more than other classes of users, but the rich have dominated ideologically. Some informants said that the rich/elite users only talk during the working time and exploit the labor of the poor. Tree climbing was done by male users. Consequently women could not climb up big trees to prune the branch. As a result, they either did not get, or got very little, fuelwood. Decisions were taken in assemblies that the LPP either did not attend or, if they did, returned home after signing their attendance as they were not aware of the matters discussed and did not feel confident to speak up their voices. The LPP did not know what an outsider supportive agency could do to improve their life conditions.

Paudel, Ram Prasad. 1987. "Problems and Prospects of Community Forestry: A Participatory Approach to Combat Forest Crisis in Nepal". M.Sc. thesis. State University of New York, NY.

Paudel focuses primarily on the main problems and prospects of the community forestry program in Nepal. The performance of the community forestry project during its first phase (mid-1980 to mid-1985) is evaluated. Over the major part of the past 200 years the central government of Nepal has followed a policy which has led to the abandonment of many local systems of forest management in the country. Where actual wood scarcity prevails, as is the situation in many middle hill villages of Nepal, the protection of the forest from the desperate and greedy just by rules and regulations is all but impossible. In essence, even in developing countries like Nepal, foresters are beginning to see the necessity of involving people throughout the countryside in afforestation. Over the past decade community forestry has emerged as a new area of development assistance.

Pokharel, Ridish K. 2000. "Indigenous Forest Management Practices in Some Community Forests of Nepal" *Banko Jankari.* 10 (1): 36-49.

In indigenous forest management, equitable distribution of products was essential for smooth management of forest. Unequal benefit sharing invited problems and conflicts. The concept of equitable distribution differed from place to place. In some cases, consideration of household as an unit

was a source of conflict as some households may be larger than others.

Pradhan, Ajay S. and Peter J. Parks. 1995. "Environmental and Socioeconomic Linkages of Deforestation and Forest Land Use Change in the Nepal Himalaya". *In: Property Rights in a Social and Ecological Context.* pp.167-180.

Nepal's rural farming communities depend on forest for fuelwood and fodder. These communities have often been blamed for deforestation and its environmental consequences (for example, forest fragmentation and degradation, accelerated soil erosion). Until recently, the government's forest policy has been to change the forest property regime and protect forest as a state-owned resource. This effort to exclude local communities is to consider state-owned forest as open-access resources. Although the subsistence activities of farming communities are probably responsible to some extent for deforestation, the root cause has been the limitations of government's policy regarding forest property regimes and lack of effective decentralization in forest management. Policy initiatives taken by the government in recent years include handing back some of the state-owned forest to local communities for community management. This is a step in the right direction, but the government must (a) show adequate willingness to transfer property and use rights to local communities and (b) recognize the capacity of local communities for self-governance in resource management.

Ramsay, WJM. 1985. "Erosion in the Middle Himalaya, Nepal with a Case Study of the Phewa Valley, Pokhara". University of British Columbia, Department of Forest resources Management, Vancouver BC.

Rasaily, L. 1996. *Benefits from Community Forestry: A Contribution to the Monitoring and Evaluation Process of Forest User Group in the Koshi Hill (Vol. 2: Benefit Sharing and Social and Institutional and Decision Making Processes within Selected Forest User Groups).* Kathmandu: NUKCFP, Report no. 33.

Rebecca, Saul. 1992. "Indigenous Forest Knowledge: Who Possess and Why?" *Himalayan Research Bulletin,* XII (1-2): 92.

The knowledge about the environment is vast and complex, and is possessed by the people. But all do not possess the same type of knowledge. There are distinct categories of people possessing forest knowledge. The amount and type of this knowledge is influenced by age, gender, caste and socio-economic standing.

Regmi, Sunil, Janie Bergeron and Norman Mascisaacc. 2000. " Opportunities for Leveraged Interventions in High Altitude: NTFPs in the Karnali Zone". *Banko Jankari.* 10 (1): 15-19.

Sharif, Mohammed. 1969. "Perception of Village Needs by Four Categories of Need Definers in Nepal". Ph.D thesis (Sociology). Iowa State University, Michigan.

Sharma, A.R. 2000. "Glamour and Gripes of Community Forestry: Impact on Income Distribution" *Banko Jankari.* 10 (2): 9-14.

This study quantifies the contribution of community forestry to farm households' income in order to assess its impact on the poor-rich divide. The study shows that community forestry contributes 12 % and 3 % of household income of poor and rich households, respectively. Community forestry further increased the income inequalities within the group. The paper recommends for strengthening the linkage of poor households with community forestry and stresses the need to understand multiplier effects of community forestry on the village economy.

Sharma, Laxman Prasad. 1997. "Environment and Quality of Life in the Himalayan Region: A Study of Dhunche Area in Rasuwa District of Nepal: A Project Report". T.U. Research Division. Kathmandu.

Sharma, Sunil K. 1997. "A Sociological Study of Biodiversity Conservation: Perception, Attitudes and Practices among Selected Forest User Groups in Kabhrepalanchok District". MA thesis (Sociology), T.U., Kathmandu.

Shepherd, G. and J. Stewart, 1988. "Poor People's Forestry". *Appropriate Technology.* 15 (1): 1-4.

Shimizu, T. 1994. "Community Forestry in the Annnapurna Conservation Area Project (ACAP), Nepal: Comparative Study of a Sponsored Forest Management System and an Indigenous Forest Management System". M.Sc. thesis, Wageningen Agricultural University, The Netherlands.

There is still some room to improve the strategy of this NGO (ACAP) sponsored community forestry program. Firstly, it is necessary to define the local people of a community clearly into groups and forest interest groups. Though the local people are given preferences in the actions of ACAP, only a little

attention has been paid to who the local people are. Secondly, an ethnic majority, the Gurungs from two case studies, dominate the existing conservation developmental committees (CDCs). There is a tendency for the economically richer and politically powerful villages to dominate the CDC. Attention has to be given to specific forest user groups where members are often more dependent upon the community forest resources than other villages. In both Ghandruk and Bhujung villages, rapid degradation of forest resources is as much a problem as the distribution of and accessibility to forest products in surrounding community forests.

Shrestha, B.P. 1995. "Conflicts in Chautara, Jorkuwa and Guini and Bakunde Community Forest". *Banko Jankari* 5 (3): 120-122.

Shrestha, K.B. 1995. "Community forestry in Nepal and an Overflow of Conflicts". *Banko Jankari.* 5 (3): 101-107.

Shrestha, K.B. and P. Budhathoki.1993. "Problems and Prospects of Community Forestry Development in the Terai region of Nepal". *Banko Jankari* 4 (1): 24-27.

Sigdel, Harihar. 1988. "Perceptions of and Attitude towards the Adoption of Community Forestry Practices in Palpa, Nepal: A Case Analysis". M.Sc. thesis. University of the Philippines, Los Banos.

The researcher in this thesis shows that the majority of the farmers are aware of community forestry program. Most extension agents, on the other hand, are also aware of the community forestry, but remain unfavorable to it. The level of adoption of community forestry activities was found to be

significantly related to the farmers' level of education, caste, income, farm size, contact with extension agents and participation in community forestry activities. The extension services being provided by the agents were found to be inefficient in relating to the people and thereby promoting participation.

Siktel, K.P. 1995. "FUG Conflicts in Dolakha and Ramechhap". *Banko Jankari* 5 (3): 116-9.

Silawal, Umakanta. 1985. *Population Growth and Agricultural Change in Nepal.* New Delhi: Bikas Publishing House.

Silwal, Umakanta. 1986. *Attitudes, Awareness and Level of People's Participation in Community Forestry Development Program, Nepal.* Kathmandu: Winrock International. Forestry Research Paper Series no. 3.

Silwal, Umakanta. 1992. "Impact of Population Growth on Agriculture Development in Nepal: A Regional Analysis". Ph.D. thesis (Economics). Banaras Hindu University. Varanasi, India.

Singh, Bijay K. and Arjen Sterk. 1995. "Conflict Management in Leasehold Forestry Groups". *Banko Jankari.* 5 (3): 130-3.

Singh, Bijay Kumar. 1998. "Community Forestry in Nepal, Gradual Move from Subsistence to Monetized Sector of Economy" *Banko Jankari.* 8(1): 10-12.

Community Forestry in Nepal has been able to generate funds for local use. But book-keeping and financial auditing of FUGs are still at a rudimentary stage.

Suvedi, M.P. 1986. *Poorest of the Poor: A Comparative Study of Rural Poverty in two Villages of Nepal.* Kathmandu: Winrock International. Project Rural Poverty Research Paper Series no. 3.

Swiss Development Co-operation. 1995. "Swasnimanche, Lognemanche and Jangle. A Gender Analysis. Vol. I and II". Dolakha-Ramachhap Community Forestry Development Project. SDC.

This study analyzes the roles of women and men in forest use and management. It points out different types of discriminations on women, as forest guards would see women as environmental degraders. As women are responsible for the collection of fuelwood and fodder from the forest, they make desperate attempts to go to the forest for the collection of fodder and grasses most of the time of the year. Fuelwood is collected only occasionally. Even though women take care of the forest and avoid activities that result in the destruction of forest, the forest guard who is only concerned with those who enter the forest, considers women as a potential threat.

Tecle, A. Szidarovszky & F. Duckstein, L. 1995. "Conflict Analysis in Multi-resource Forest Management with Multiple Decision Makers". *Nature and Resources.* 31(3). Northern Arizona University, Arizona.

Thapa, Bala Ram. 1994. "Farmers' Ecological Knowledge about the Management and Use of Farmland Tree Fodder Resource in the Mid-hills of Eastern Nepal". Ph.D. thesis. University of Wales, UK.

This thesis is an investigation into indigenous ecological knowledge about the management and use of farmland tree fodder resources in a rural village setting in the middle hills of eastern Nepal. The

research demonstrates that farmers possess detailed ecological knowledge of tree and crop interactions, tree fodder quality and tree fodder management techniques which they use in formulating fodder management and feeding strategies.

Tingsabadh, C. and K. Phutaraporn. 1989. *Socioeconomic Impacts of MPTF Biotechnologies on Small Farmers in the Philippines, Nepal and Thailand.* Bangkok: Winrock International.

Tiwari, Sagendra. 1996. "Community Forestry in the Hills of Nepal: A Property Rights Approach to Resource Management". M.Sc. thesis. University of Edinburgh, UK.

Establishing property rights over resources is vital for the efficient and equitable exploitation of the resources in developing countries like Nepal. Nepal's economy is based on subsistence agriculture, with forestry as an integral part. The hill communities of Nepal, being dependent on forests, have always protected their forests on the basis of mutually recognized access and use rights. In the past however the institutional changes imposed by the state have often tended to disrupt the existing local common property systems. This eventually resulted in deforestation and degradation of forests. The community forestry policy, implemented as an on-going program since 1978, acts to return the ownership of the forests to their relevant user communities for use and management. This study analyzed the community forestry sector of Nepal from a property right point of view. The focus of the study was to assess how community forestry in Nepal acts to formalize the rural community's right over forests.

Tore Nesheim, 1992. "Changes in Forest Management among the Kulunge Rai of East Nepal" *Himalayan Research Bulletin.* XII (1-2): 88.

Previously the forest was managed on the basis of 'clans'. The clans were assigned forest resources. With changes, this system did not work, and so individual shares were allocated among the clans. This is an adaptive to cope the new situation created by the modern influence.

Tumbahanphe, Netra and Drona K.C. 1995. "The Bucchung Forest Conflict". *Banko Jankari.* 5 (3): 108-112.

Upadhyaya, Chiranjivi Prasad. 1989. "Common Property Forest Management and Products Distribution: People Perception and Role in Gorkha, Nepal". M.Sc. thesis. University of the Philippines, Los Banos.

Upadhyaya shows that respondents had varied socio-economic characteristics. Most had many livestock, goats being the most popular. Very few respondents owned trees or forest. The most preferred forest land tenure was private ownership, to ensure the security of benefits coming from the forest. Socio-economic variables such as age, income, caste, and education of household heads, education and age of women, and income and education of local leaders significantly affected their perceptions of common property forest (CPF) management and product distribution. Factors such as income and caste of household heads and caste of local leaders had a significant influence on their roles in CPF management and product distribution. The income, caste and education of household heads and education and caste of local leaders were found to affect their views regarding

CPF management and forestry products. Caste and education of household heads, income of local leaders and age of women were significantly related to their views regarding the equitable distribution of CPF products.

Upadhyaya, L.R. 1991. "The Countrywide Survey of Farmers' Knowledge and Perception about Tree Fodders-1990. The Pilot Surveys in Dhading and Bara Districts". Forestry Research Division, Kathmandu, Nepal.

Van der Meer, Maaike Wigboldus. 1992. "Towards Communal Forest Management: Some Case Studies from Begnas VDC, Nepal". M.Sc. thesis. Agricultural University, Wageningen, The Netherlands.

Parallel to the initiative taken by the government for community forestry, communities took their own initiatives based on traditional systems. There is now growing recognition that indigenous systems of forest management are common in many parts of the hills. Often these indigenous management organizations have existed for many years. These systems operate on land that may technically be governmental land, but in effect is perceived by the communities as their property. Two types of forest management system can be distinguished: externally sponsored and indigenous systems. A problem in this classification however, is that an externally sponsored management system can be initiated, and even actively adopted, yet needs to be completely incorporated into local social system and relation to be successful.

Wallace, Michael Bruce. 1981. "Solving Common Property Resource Problems: Deforestation in Nepal". Ph.D. thesis. Harvard University, Cambridge, MA, USA.

Many renewable natural resources are being subjected to the increasing demands of an ever-growing human population. As the population increases, the consumption of these resources exceeds their yield, and stocks of these resources decline. Because they often play vital roles in maintaining local or global ecological balances, the environment is altered as these resources decline, often with adverse consequences for humanity. Unfortunately they are often common property, so people over use them, no individual has more than a minimal incentive to invest in replenishing them, and markets, which, might act to alleviate these problems, are often imperfect or non-existent. An economic model of deforestation was developed to help structure the analysis. Deforestation is shown to be a result of common ownership of the forest, coupled with an inelastic and increasing demand for the forest products. The consequences of the common-property problem are compounded by the external effects-notably erosion-which accompany over-use of the forest.

Yadav, N.P. 1995. "Conflict Resolution in Community Forestry: A Case Study of Patle Pangsing Community Forest, Dhankuta-3". NUKCEF. Kathmandu.

Yadav, Nanlal Ray. 1992. "Indigeneous Practices of Agroforestry. A Case Study from Kahun VDC, Kaski District". B.Sc. Forestry thesis, TU, Pokhara.

Yadav, Ram P. 1998. *Equity Consideration in Agricultural Extension Services in Nepal.* Kathmandu: Winrock International Series no. 2.

Water Resources / Irrigation

Bruns, Bryan Randolph and Meinzen Dick (eds.). 2000. *Negotiating Water Rights.* New Delhi: International Food Policy Research Institute (IFPRI) and Vistaar Publications.

Christian, McDonaugh. 1992. "Management of Canal Irrigation System in Dang, Southern Nepal" *Himalayan Research Bulletin.* XII (1-2): 88.

A canal providing irrigation to 6 villages has been maintained by the indigenous Tharu population, particularly the village headman and village committee of Sukhrwar. There is a mythological story in the village linking the canal to the clan of the village headman of that Sukhrwar village. As a result they have been repairing the canal even though now a large proportion of land is owned by Brahmin-Chettris.

Gurung, T.B. and B. C. Shrestha. 1988. "Declining Catches of Sahar (*Tor sps*) from Lake Begnas, Pokhara, Nepal" in *Proceedings of National Conference on Science and Technology.* Kathmandu: Royal Nepal Academy of Science and Technology. Kathmandu. P. 395.

This work discusses the decline of the population of local fish species, which are considered to be tasty, due to the introduction of exotic fish species and changes in the flora and fauna of the lake ecosystem. This decline is the indicative of deterioration in the ecosystem of the lake.

IMC. 1990. *Water Use Conflicts and their Resolution in Selected Irrigation System of Nepal.* Kathmandu: HMG / MOWR, DOI/Irrigation Management Center (IMC), Pokhara. *IMC Applied Study Report no. 13.*

The study deals with water allocation and distribution procedures, status of water availability, water application, general causes and frequency of water conflicts, conflict resolution and implementation of agricultural activities. Water-use conflicts and management include conflicts with other systems, conflicts between water users and the concerned agency and conflict among water users within a system.

Karki, Jaindra Bahadur. 2001. "Impact Study on External Assistance to Farmer Managed Irrigation Systems in Nepal". in Upendra Gautam and Siris Rana (eds) *Challenges to Farmer Managed Irrigation System.* Kathmandu: Promotion Trusts.

With external intervention, operation and maintenance costs have been partially realized by the construction of diversion structures and landslide protection works. However these systems are still new. Later they will need regular maintenance. The maintenance cost of such structures is higher than the cost involved in the past, which is beyond the capacity of the user farmer. In a majority of the systems the farmers have been using the resources from VDCs and other agencies for repair and maintenance works. This has resulted in the dependency of the farmers for maintenance work and support. Agriculture production in the rehabilitated system has not been increased significantly.

Poudel, Rabi. 2000. "Farmers Laws and Irrigation Water Rights and Dispute Management in the Hills of Nepal". Wageningen University Research Center (WUR), Netherlands.

Relative to men, women have lesser chances of becoming a member of a *Pancha-bhaladmi* (a dominant rural institution that manages disputes). Very few

water disputes in Nepal are filed in courts. The majority of claimants and defendants in such cases are traditional upper caste farmers (Brahmin and Chettri). Many underprivileged individuals may not be able to claim their rights because of the many socio-economic problems they have in accessing the legal system.

Pradhan, Rajendra *et al.* (eds). 2000. *Water, Land and Law: Changing Rights to Land and Water in Nepal. Kathmandu:* Legal Research and Development Forum (FREEDEAL), Wageningen Agriculture University (WAU), and Erasmus University Rotterdam (EUR).

Pradhan, R. and U. Pradhan. 1997. "Law rights and Equity : Implications of State Intervention in Farmer Managed Irrigation Systems" in R. Pradhan and F. Bendda Becmann (eds) *Water, Land and Law: Changing Rights to Land and Water in Nepal. Kathmandu:* Legal Research and Development Forum (FREEDEAL), Wageningen Agriculture University (WAU), and Erasmus University Rotterdam (EUR).

Pun, Shuku. 2001. "Role of Gender in Sali-Nadi (Shankhu Raj Kulo) Irrigation Management : A Case Study" in Uprendra Gautam and Shrish Rana (eds) *Challenges to Farmer Managed Irrigation Systems: Proceedings of an International Seminar on "Challenges to Farmer Managed Irrigation Systems"* held on 28-29 March, 2000, Kathmandu. pp. 59-73.

The paper outlines discriminations against women and women headed households in sharing irrigated water. The system of water distribution, which required all-night vigilance did not suit women-headed households, as women also had to look after children at home. Similarly, women were not involved in many of the maintenance and

rehabilitation works initiated by the formal agencies like Department of Irrigation of His Majesty's Government. The mismanagement and the practice of overtaking others' quota started after the disappearance of the traditional institutions like *Picha* and *Nwaikhi* which were effective in the past in regulating the distribution of water and which did not require vigilance on the part of the users.

Sharma, Shudhindra. 2001. *Procuring Water : Foreign Aid and Rural Water Supply in Nepal.* Kathmandu: Nepal Water Conservation Foundation.

The book shows that poor people, particularly those belonging to *dalit*s, are discriminated against in claiming access to clean drinking water provided by foreign donors. These poor people end up in getting only the waste water (off flow from the taps used by wealthier households) from the taps. External intervention did not improve the situation. Rather, it helped the upper-caste households to legitimize their access to safe drinking water.

Spiertz K., S. Khadka and A. Haq (eds). *Water rights, Conflict and Policy.* Kathmandu: IMMI.

Uprety, Bishnu Raj. 2001. *Conflict Management in Natural Resources. A Study of Law, Water, and Forest Conflicts in Nepal.* Wageningen University.

The book argues that most of the conflicts on resources are due to political bias towards the wealthier and more powerful class. The conflicts have also occurred because of an improper understanding of village life and society. Therefore in some cases even the good intentions of external agencies have created conflicts. The book utilizes the concepts and methodology of legal anthropology

(like legal pluralism, forum shopping and shopping forums) in understanding conflicts in natural resources. The book also provides a new approach of Interactive Conflict Management (ICM) for conflict management.

The resolution of conflicts is the major focus of the book. It argues that traditional local systems of conflict management were efficient and, in most cases, convenient for the poor people, even though these systems were also based on unequal relations between people of different castes and gender. But these systems are rapidly disappearing mainly due to the increased involvement of state-agencies in the affairs of the village society. People now turn to formal agencies to manage various conflicts they face. But the author argues that formal conflict management agencies like courts and government agencies are out of the reach of the ordinary village people as they are expensive, time-consuming, corruption-ridden and biased towards elite and powerful groups. Therefore, weaker sections of society have no access formal conflict resolution procedures. Because of various imperfections and weaknesses in the formal conflict resolution system, their idealized principles of providing justice and promoting equalities have not been practically realized in Nepal.

Upreti, Bishnu Raj, 2001. "External Intervention and Conflict: Experience from Farmer Managed Irrigation System in Nepal" in Uprendra Gautam and Shrish Rana (eds.) *Challenges to Farmer Managed Irrigation Systems: Proceedings of an International Seminar on "Challenges to Farmer Managed Irrigation Systems"* held on 28-29 March, 2000, Kathmandu. Nepal. pp. 138-3.

The author examines the role of external interventions in escalating conflicts within the community for sharing irrigation water in the erstwhile farmer managed irrigated systems. The

power alliance of the external intervening agents and local politically influenced class results in most of the cases in unfair distribution of water. This led to conflicts. Moreover, this alliance overlooked the local norms and values, beliefs, knowledge, interpretation of water rights and notions of property. Political intervention in irrigation management that mainly focuses on political and economic interests ignoring local dynamics is responsible for the creation and escalation of irrigation conflict and threats to sustainability.

Zwarteveen, M. 1994. *Gender Issues, Water Issues: A Gender Perspective to Irrigation Management. Colombo*: IIMI, Working Paper no. 32.

Women and resources

Gautam, Kamal Prasad. 1996. "Women's Participation in Decision Making in Community Forestry Activities at Local Level". B.Sc. thesis, T.U., Pokhara.

The study, which was conducted in two randomly selected community forests in Myagdi district, reveals that the existing state of women's participation in decision making in community forestry activities is not powerful, although it was felt most essential. The problems undermining the active participation of women are: lack of awareness about government's conservation policy, illiteracy, not enough space given to women for participation, lack of genuine local-level planning and pressure from vested interests. The study recommends greater participation of women in decision-making and an equal share in the benefits of the forests.

Inserra, A. E. 1989. "Women's Participation in Community Forest in Nepal" *Banko Jankari.* 2 (2): 119-20.

The participation of women in forest utilization and also in nurseries and afforestation is pointed out. The article argues that women should be involved in all forestry related activities, and also be in paid employment as rangers, *naikes* etc. and especially in extension work aimed at village women.

Kandel, Devi Prasad. 2058 v.s. *Property Rights of Women in Nepal.* Kathmandu: Ratna Pustak Bhandar.

Kandel describes legal provisions related to women's rights to property. The study concludes that though women are highly regarded, but do not have the same economic and social rights as men. But women of upper class seem to have some access to property.

Karki, M., J.B.S. Karki and N. Karki. 1994. *Sustainable Management of Common Forest Resources: An Evaluation of Selected User Groups in Western Nepal.* Kathmandu: ICIMOD.

The study reveals that women are motivated to participate in forestry management. They recognize valuable plants species, draw boundaries, provide historical information in protecting the forest, prepare the community for agreeing to allocation and boundary rules, and in representing the agenda of the weaker section. The study recommends that while community forestry programs should be gender sensitive, implementation address the household as opposed to purely women.

Kharel, S. 1993. "Women's Participation in Community Forestry: The Nepal-Australia Community Forestry Project's Experience". *Banko Jankari.* 4 (1): 53-7.

The experience of the project is that most committees do not include women as members due to various committee-level, physical, social, political and administrative factors. Even when women are symbolically included, decisions often fail to recognize women's needs and constraints.

Kunwar, Sharada (K.C.). 1998. "Samudayik Ban Bikas Karyakramma Gramin Mahila ko Bhumika (Role of Rural Women in Community Forestry Development)". M.Sc. thesis, T.U., Kathmandu.

The study showed that the community forestry development program conducted by women's FUG in Kohalpur VDC-4, Banke, has become a model for the mid-western development region. The program is being operated effectively under the active leadership of women through the women's forest user group. It also found that women participate actively in management, protection, control, and utilization of forests.

Messerschmidt, Donald and N.K. Rai. 1992: *Reading in Social Forestry and Natural Resource Management for Nepal.* No. 10, I.O.F./T.U., Pokhara.

It is argued, among others, that women's lives are directly affected by environmental destruction as they are the major collectors of forest products, primarily responsible for food processing and the greater proportion of agricultural tasks. So they have an important role to play in community forest management activities.

Pant, Menaka. 1996. "Women in User Groups and User Committee". B.Sc. Forestry thesis, I.O.F./T.U., Pokhara.

This study conducted in Lamachaur and Hemja VDCs of Kaski District, explores women's role in decisions related to protection, plantation, harvesting and benefit sharing in community forestry. It also assesses the training needs for women.

Paudyal, B. 1997. "Women's Participation in Forest Management through Community Forestry". BSc Forestry thesis, I.O.F./T.U., Pokhara.

The study focuses on various aspects of women's participation in two FUGs in Puranchaur VDC of Kaski District. In both groups women's participation in decision making is found to be very poor. Their participation in weeding, cleaning, thinning/pruning and also in plantation is satisfactory, but when it comes to decision making on various aspects of management, they were not consulted and also were not present in the discussions that led to the decisions. The main reason for women's poor participation was the heavy burden of subsistence activities.

Rana, I. 1987. *Legal Status of Women in Nepal.* Kathmandu.

Siddiqui, N. 1989. "Women in Forestry". Nepal Australia Community Forestry Project. Kathmandu.
Siddiqui believes that women's participation will help the forest first and the women second. For their own benefit, she argues, women will have to give to forestry before forestry gives to them. Because of this situation, it is felt essential to involve women in developing and implementing workable management plans.

Subedi, Prative. 1993. *Nepali Women Rising.* Kathmandu: Women Awareness Center.

Describes the various aspects of women development in Nepal and the position of women in socio-economic fields. Similarly, women's access to natural resources and their participation in the management of resources are covered. Problems faced by Nepali women like trafficking and AIDS are also covered.

U.N. 1996 *Women of Nepal: A Country Profile.* United Nations, New York: ESCAP, Statistical Profile no. 4.

This survey describes socio-economic characteristics, access to resources and facilities, and the political power possessed by Nepali women.

EIA (Environmental Impact Assessment)

Anonymous. 1999. "Banepa- Sindhuli-Bardibas Road Project: Environmental Impact Assessment Section II". Ministry of Works and Transport, Department of Roads. Kathmandu Nepal.

A 38.8 km. long section II of the Banepa-Sindhuli-Bardibas Road passes from difficult terrain, forest and cultivated land, both upland and lowland.

Anonymous. n.d.. "Environmental Impact Assessment of Copper Sulphate and Copper Oxychloride: Final Report". Pashupati Agrochem Nepal (p) Ltd. Parsa Nepal. Archat Consultants, Ahmedabad, India.

The report deals with possible impact of copper sulphate and copper oxychloride on biological, physical, socio-economic systems and on pollution. The parameters of biological environment are wildlife, vegetation, forest, fish and fisheries. Air quality, microclimate, water quality, noise and

vibration, soil, topography and slope stability and change in land-use pattern were the variables used for assessing the impact on physical environment. Impact on socio-economic environment is based on the analysis of various variables like creation of employment opportunity, contribution to the industrialization process, acceleration of economic activities through enhancement in agricultural productivity, change in settlement pattern, technology transfer and management skills, social conflicts, pressure on public utilities and services, infrastructure uses and traffic circulation, occupational health and safety and waste management.

Bhattarai, Sushil, Batukrishna Uprety and G.B. Juwa. 1985. "Environmental Impact Assessment on Resettlement Program". Ministry of Forest and Soil Conservation, Kathmandu.

Devkota, Surendra Raj. 1999. "Environmental Impact Assessment for Disposal of Obsolete Pesticides". Ministry of Agriculture, Department of Agriculture, Kathmandu.

This EIA aims to explore and analyze the impact of disposal of obsolete pesticides in the proposed site Dhadawar-9, Bardiya. Environmentally non-persistent pesticides such as organo-phosphates, carbamates, deltamethrins and others selected from warehouse of Agriculture Instrument Corporation (AIC), Cotton Development Board (CDB) are lent there in the total amount of 19.23 tons for disposal. The possible adverse environmental impact results from improper handling of pesticide, transportation of containers, disposal, and post-disposal activities. Impact on air quality, water quality, soil quality, local flora and fauna, labor force involved in the process from handling to disposal and local communities and livestock grazing were studied along with other

ecological risks for surrounding agriculture cum forest ecosystems. Temperature, rainfall, bioaccumulation and biomagnification risks are also examined.

IUCN. 1995. *EIA of the Bara Forest Management Plan: Forest Management and Utilization. Development Project.* Kathmandu: IUCN.

Eco-tourism

Baumgartner, R. 1988. "Tourism and Socio-economic Change: The Case of the Rolwaling Valley in Eastern Nepal". *Tourist Recreation Research* XII (1): 17-26.

Bjonnes, I.M. 1980. *Ecological Conflict and Economic Dependency on Tourists Trekking in Sagarmatha National Park, Nepal: An Alternative Approach to Park Planning.* Oslo: Universitet sfor laget.

Burger, V. 1978. *The Economic Impact of Tourism in Nepal: An Input-Output Analysis.* Ithaca, NY: Cornell University.

Cruz, R. 1999. *The Impact of Ecotourism in the Annapurna Region: The Baragoan, The Annapurna Sanctuary and Sikles Sector.* Kathmandu: Cornell Nepal Study Program.

Gurung, C. 1997. "Ecotourism, Nepal's Experience" in Jackson, R. and Ahmad, A. (eds) *Proceedings of the Eighth International Snow Leopard Symposium, 12-16 Nov., 1995, Islamabad, Pakistan.* International Snow Leopard Trusts, Islamabad and World Wildlife Fund for Nature- Pakistan. P. 170-7.

Gurung, D. 1995. *Tourism and Gender: Input and Implications of Tourism on Nepalese Women: A Case Study from the Annapurna Conservation Area Project:* Kathmandu: ICIMOD, MEI Discussion Paper 5/3.

ICIMOD. 1994. *Mountain Tourism for Local Community Development in the Hindukush Himalayas.* Kathmandu: International Center for Integrated Mountain Development.

Khatry, Kiran Bahadur. 1998. "Hill Forest Ecology Dynamics, Ecotourism and Social Impacts in Sikha Valley of ACAP". M.A. thesis (Sociology), T.U., Kathmandu.

The study focuses on the ACAP as a study of the relationship between ecotourism, forestry and local users. There is pressure on forest products from heavy demand from the community and lodge owners. Cultural influences are slowly affecting the village.

Koirala. S.P. 1997. *Towards an Institutional Framework for Tourism Development: A Case Study of Pokhara.* London: Paladin.

Kurt, Luger. 2000. *Kids of Khumbu: Sherpa Youth on the Modernity Trail. Kathmandu:* Mandala Book Point

The book aims to understand the economic, cultural and educational aspiration of the youth of Khumbu region, and their lifestyles, hopes, fears and pastimes in the face of rapid change taking place in that region because of the modern education, demonstration effect of holiday behavior of tourists, new found mobility and wealth resulted from tourism and influence of mass media like TV, video, cinema. It is also an inter-cultural study for it compares the worlds of the youth of Khumbu and Pinzgau districts (a mountain resort in Salzburg, Austria). The impact of tourism, as the study reveals, has not adversely affected religious values, even though other changes have taken place. The Sherpa feel proud of

their identity and cultural degeneration is not expected. But the same generalization may not hold true in case of other people whose culture has not been particularly helpful in drawing the attention of tourists and in earning high income. The cultures of such people may quickly be obliterated under the process of modernization and globalization.

Lama, Wendy B. and Prasanna Yonzan. 1996. "Ecotourism Guidelines in Langtang National Park". The Mountain Institute. Kathmandu.

This study looks at the social and cultural impact of tourism and the disruption of the traditional socio-economic system. The adverse impact of tourism are - burdens are placed on women for household, herding, farming and child raising when men are away on trek or expedition, commodity prices are inflated in tourist areas, people are unavailable for farm work in tourist seasons, youth prefer tourist related jobs over education, crop choices and livestock types are altered to suit tourist demands or seasonal availability of labor, and adverse impact on nutritional values and grazing patterns. Outside influences on the social structure and culture of Langtang- Helambu area and adaptive management are: serious damage to food crops by wild boar where up to 60% of crops lost or damaged, resulting in the extreme hardships, insecurity and the need for supplemental income, restrictions on cutting of fuelwood and timber. Some examples provide insights into how community ties and social harmony weakening. In Kyangjin, a local lodge worker was brutally attacked by a trekking guide, both under the influence of alcohol over trifle issue. In Thulosyabru, seven families bearing the surname 'Lama' have adapted Christianity as their religion in the last five

years. At first there was one individual who converted and gradually others followed. This has introduced an element of social strife in the village and alienated the Christian families. In Syabrubesi, the historic entry gate to the village is in terrible disrepair.

Naupane, G.P. 2000. "Assessing 'Eco" in Ecotourism in Nepal". *Banko Jankari* 10 (1): 7-10.

Odell, M.J. 1998. "The challenges of Global Conservation: Protected Area Management, Ecotourism and Local People" in East, P., Luger, K. and Inman, K. (eds) *Sustainability in Mountain Tourism: Perspectives for the Himalayan Countries*. Delhi: Book Faith India, Vienna, Studienverlag. pp. 213-221.

Poudel, P.C. 1996. "Tourist Resources and Environmental Appraisal in Pokhara region, Nepal: A Geographical Analysis". Ph.D. thesis. Banaras Hindu University, Varanasi.

Sharma, P. 2000. *Tourism as Development: Case Studies from the Himalayas*. Lalitpur: Himal Books.

Sharma, Pitambar. 1995. *A Framework from Tourism Carrying Capacity Analysis*. Kathmandu: ICIMOD.

Shrestha, Dinesh. 1994. "Environmental Impact on Khumbu by Trekkers and Mountaineers". M.A. thesis (Geography), T.U., Kathmandu.

Singh, T.V. and Kaur, J. 1983-84. "Mountain Tourism: How Good and How Bad- Case Studies from the Himalayas". *Journal of Himalayan Studies and Regional Development*. (7,8): 81-96.