DEPARTMENT FOR INTERNATIONAL DEVELOPMENT STRATEGY FOR RESEARCH ON RENEWABLE NATURAL RESOURCES

NATURAL RESOURCES SYSTEMS PROGRAMME FINAL TECHNICAL REPORT

DFID Project Number

R6778

Project title

Community Forestry in Nepal: Sustainability and Impacts on Common and Private Resources

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1. Executive Summary

The project's purpose has been an improved understanding of common property issues and tenure rights developed and incorporated into land-use management and planning strategies. This has been addressed through research into one of the most dynamic examples of an initiative to change the fundamentals of common property management and tenure relations: the community forestry process in Nepal.

This purpose has been achieved through a wide range of research activities that have focused on 11 forest user groups and 3 non-FUG localities in the Koshi Hills of Eastern Nepal, the location of the Nepal-UK Community Forestry Project who have been the direct research collaborators throughout. The field research also included a review of approaches to community forestry in other project areas in Nepal. The fieldwork in the Koshi Hills has been based on the development of a participatory action research (PAR) approach in which the communities in which the work was undertaken and other community forestry stakeholders (especially the Department of Forestry) have been actively involved in the development of approaches and results. An inter-disciplinary approach has been taken, employing both socially-based approaches but also including forest resource and soil nutrient balance assessments.

The research outputs are:

- 1. A review comparing different approaches to Community Forestry in Nepal.
- 2. The development of a Participatory Action Research methodology to assist communities in assessing implications and outcomes of Community Forestry.
- 3. The development of a Micro-Action Planning process for Forest User Groups to identify their weaknesses and take action as appropriate, drawing in outside support where necessary.
- 4. The analysis of implications of CF for farming systems.
- 5. The identification of key indicators to assess the development of the Community Forestry process.
- 6. The enhancement of capacities of different stakeholders for the implementation of CF policies.

These outputs and the contribution that the project has made to the design of future UK support to community forestry in Nepal have contributed both directly and indirectly to the realisation of DFID goals. The direct contribution has been through the further refinement of the approach to community forestry in Nepal, with in particular contributing an approach to dealing with issues of internal FUG equity, sustainability and development that were seen as the greatest challenges by all parties involved with the NUKCFP. Indirectly through providing insights into how the sustainable management of common property resources can have direct and significant impacts on sustainable rural livelihoods for the poor. These improvements are both material, such as enhanced flows of products and the development of services through FUGs, and non-material like the empowerment of women and disadvantaged groups to participate in the FUGs and wider development processes.

2. Background

Livelihood systems in the mid-hills of Nepal, based on access to common and private property resources, have faced increased stress in recent years, manifested in declining quality and alienation from forest resources, and increased stresses on farmbased production systems.

The sustainability of these livelihood systems has been addressed by bilateral projects, particularly through CF. Understanding the impact of CF on forest resource-base, farm-based production and on communities is a key development issue that has implications far beyond Nepal in the search for sustainable livelihoods systems in which common property resource management plays a key role.

Previous research:

Shepherd, G., Kiff, E. & Robertson, D.1995 'The importance of Common Property Issues, Tenure and Access Rights in relation to Land Use Management and Planning at the Forest / Agriculture Interface (London: ODI).

Soussan, J Shrestha, B.K. and Uprety, L.P. (1995) 'Social Dynamics of Deforestation' (London: Parthenon).

Demand for the project was based on the interactions of the principle investigator and other project members with the community forestry process in Nepal, and in particular with the NUKCFP project. This demand has been strongly reinforced during the project by the response of the NUKCFP project, the Government of Nepal forestry organisations, the wider community forestry group in Nepal and, perhaps most importantly, the communities with which the project has worked, to the participatory action research process and research findings that are at the heart of the project. Specific actions such as the adoption of sub-FUG action planning by the communities and the requests from NUKCFP and DFID for the project's inputs to the design of the next phase of UK support to community forestry in Nepal demonstrate these demands in concrete terms.

3. **Project Purpose**

The research project addressed the need for an improved understanding of common property issues and tenure rights surrounding community forestry in Nepal, in order that forest resource management and planning strategies could be improved. The research project used a participatory and action-oriented method in order to work with communities to develop a thorough understanding of the issues at the local level, and to disaggregate the experiences of the different groups. Through this method, the research project analysed the process of Community Forestry at local level, and its effects and influence on local livelihoods. This allowed the research project to develop improved planning strategies based on their needs and potentials.

4. **Research Activities**

Initially a workshop was held in the research area to review the logframe and plan the research activity. This involved UK research team, NUKCFP team, HMGN Department of Forest personnel, and staff from Pakribas Agricultural Project.

A review was made of the literature, and a review, involving site-visits to Bi-lateral CF projects across the mid-hills of Nepal, as well as non-project areas. This gave important insights in the extent to which the situation in the Koshi Hills reflected the UK project approach as opposed to inherent features of ground reality that affected community forestry development irrespective of the external approach adopted.

The main part of the field research involved two cycles of field-visits to Forest User Groups (FUGs), as well as visits to some non-FUGs, in the Koshi hills area of NUKCFP activity. A total of 11 FUGs were selected across the 4 districts in the Koshi Hills area, and each were visited twice (in the spring of 1998 and again in 1999) by the research team for about a week at each visit. A Participatory Action Research process developed by the team was used, which combined group meetings at all the hamlets (male and female separately), with a planning process which culminated in an assembly meeting where the strengths and weaknesses of the FUG were identified and a 'micro-action-plan' was developed. This was combined with key informant interviews, group meetings with particular livelihood groups such as blacksmiths, fuelwood sellers, resin tappers), interviews with households interviews, forest resource assessment, reflection with FUG Committees, collection of documents of the FUG. Local stakeholders (such as FUG network personnel, District Forest office and Range post staff, local NGOs) were involved in the field visits and with the action plans which arose. Three non-FUG localities were also studied, to provide a comparative insight as to whether the developments in FUG areas reflected the specific influence of the community forestry process.

Soil Nutrient Management practices were specifically studied at 2 FUGs, where a participatory method was combined with laboratory-based soil sample analysis. Samples were analysed by Mrigendra Malla at FORESC, Kathmandu. The results were shared with the respondents during return visits, and recommendations were made to households and tole- and forest user groups on improved nutrient cycling practices.

Stakeholders at local, district, area and national level were interviewed in the spring of 1999, firstly to develop the CF process indicators, and secondly to gather their perceptions of the main issues arising regarding common and private property management in the mid-hills.

5. Outputs

1. Review comparing different approaches to community forestry in Nepal

Through literature review and extensive field visits in 1997 a report was completed, the main findings were that due to the common legislative framework and similar agro-ecological conditions across the mid-hills of Nepal there were inherent similarities in the development of community forestry regardless of the nature of the external inputs given in FUG formation and subsequent support. In particular, the differences within each of the areas were far greater than the differences between areas, with fundamental influences such as the characteristics of the forest resource itself, proximity to roads and towns and hence access to markets, the size and social structure of the local communities and the level of dependency on forest resources in local livelihoods determining the development of the community forestry process on the ground.

2. Methodology to assist communities in assessing the implications of the community forestry process and outcomes

A Participatory Action Research method was developed by the team, in conjunction with the NUKCFP team, and after review of other development organisations' experiences. This was piloted and refined before being employed across 11 FUG sites over a 2-year iterative field research cycle (3 non-FUG sites were also studied). Although initially slightly more study sites had been selected, the extensiveness of the method precluded visiting further sites and the number and localities selected reflected the position of the NUKCFP with regard to their preferences and the availability of their staff collaborating on the project. The method, though focussing primarily on the forest users, involved all local stakeholders (Department of Forest Staff, as well as other groups such as FUG networks, NGOs and CBOs) in a participatory process of discussion and review, leading to an action-planning exercise. This was followed up with support planning in conjunction with stakeholders, and a repeat visit after 12 months.

In conjunction with the group activities, household interviews were conducted covering livelihood and community-forestry related issues. The forest resource was also surveyed in detail.

The PAR method was found to be very valuable as a learning process for all stakeholders involved. From this a simplified Micro-Action-Planning process was developed which FUGs can use for themselves on a regular basis to formalise review and action planning for their development. The micro-action-planning process requires merely the initial facilitation from support staff such as Ranger or Forest Guard, or NGO / CBO / FUG Network personnel.

A key finding of the research has been that virtually all FUGs have weak decisionmaking processes and no formal planning or resource management systems. Many FUGs were in practice seen by the forest users as 'Committee' or 'Chairman' forestry because, in the absence of formalised planning procedures, control by default goes to the FUG representatives in the committee. The micro-action-planning process has great potential to radically improve the development of FUGs and their impact on members' livelihoods, by formalising inclusive decision-making and planning processes.

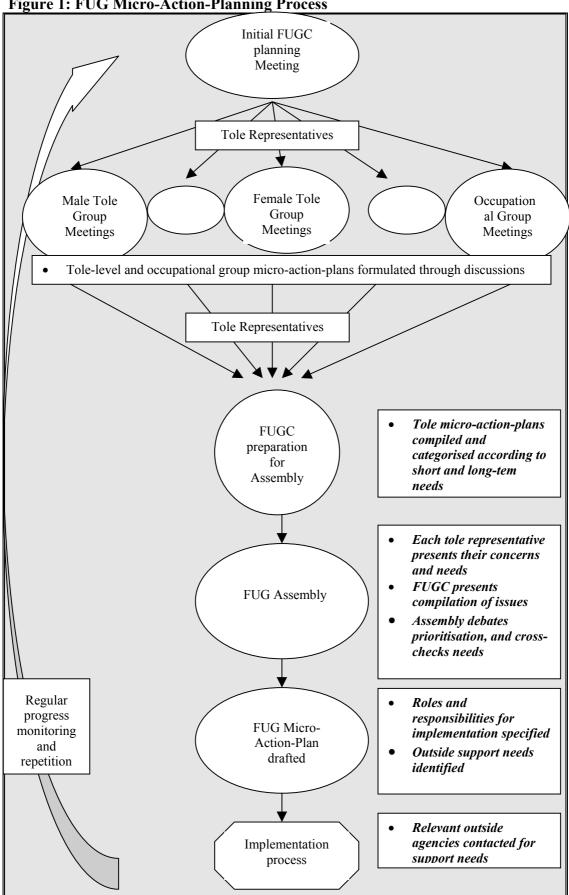
The micro-action planning process described in the above diagram was developed through the Participatory Action Research method, as a process FUGs can use to incorporate all users in planning and decision-making, based on tole (hamlet)-level interaction, in contributing their ideas and needs in to plans. These plans are discussed at a general assembly and combined into a micro-action-plan, where responsibilities for implementation and needs for outside support are specified.

This process was tested at all the FUGs, where it was found to be of great value. All FUGs studied developed micro-action-plans during the first phase of field-visits, and after a year had elapsed over $2/3^{rd}$ of points had been implemented. Many of the action points are for internal action (i.e. not requiring external support), such as improved information flows, forest protection and more active forest management.

Some action points require external support, such as for forest boundary clarification and conflict resolution. The 'micro-action-plans of all FUGs could be passed on a regular basis to District Forest Offices to ensure post-formation-support is targeted to the specific needs of the FUGs. This can be the basis of effective DFOP and Rangepost support planning, which is currently lacking. DFOs enthusiastically received the plans and supported their implementation where resources allowed.

FUGs which had been operating relatively effectively used the micro-action-planning to identify and implement community development activities not directly related to forestry. This illustrates the great potential of FUGs as an institutional basis for local self-development, in the absence of other effective local development planning structures. Plans can be passed to the appropriate district-level agencies.

The 'Micro-action-planning' process represents a key opportunity for HMGN agencies and donor agencies to target support to disadvantaged groups such as women, the poor, and marginalised occupational groups (e.g. fuelwood sellers and blacksmiths) on the basis of their own priorities, and to incorporate them into FUG decision-making.



3. Analysis of process and implication s of Community Forestry for farming systems and livelihood in the PAC and NUKCFP areas

Though the PAR process detailed information was gathered regarding the implications of CF for farming systems, and on availability and distribution of forest products and services. A soil nutrient cycling study at two FUG sites in January 1999 developed this understanding further.

Sustainability of Forest Resource:

Forests at all 11 FUG sites were found to be improving. This was a reversal for most from the deterioration they had been suffering prior to CF, due to lack of effective regulation on product extraction. In two sites there was concern over the sustainability of current extraction of sal timber for ploughshares, but measures were being taken to address this.

At the 3 non-FUG sites studied the forests were continuing to deteriorate rapidly. During the period of the field research FUGs were formed at 2 of the 3 non-FUG sites, leading to an initiation of more effective regulation on forest product extraction.

Forest Product Extraction and livelihoods:

Through wealth ranking of FUG members common indicators of household wealth and livelihood were identified:

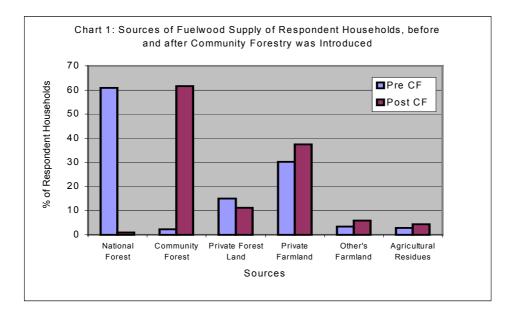
Wealth Rank:	1. Rich	2. Medium	3. Poor	4. Landless	
Food Production	• Sufficient food production for 12 months and surplus for sale.	• Just or almost sufficient food production for 12 months.	• 3-6 months food production.	Little or no food from own production	
Land	• Large <i>Khet</i> and <i>Bari</i> land and perhaps land in Terai / plot in town.	• Sufficient land to feed family	• Little land, mainly <i>Bari</i>	• Landless (only <i>ghaderi</i> and perhaps a tiny plot of <i>Bari</i> land)	
Livestock	• Livestock (Cattle: Cow / oxen / buffalo)	• Livestock (Cattle: oxen, few cow, sometime buffalo)	• Little or no cattle or small livestock.	 No cattle, perhaps small livestock: few pigs / goat / chickens) 	
Service / Labouring	• Service (e.g. school teacher, private job, administrative job in govt. office/VDC, army etc	• Minor service /job. (peon, clerk, primary school teacher, seasonal work outside village or in India etc)	 Seasonally dependent on labour (agricultural / portering) or skill-based job (e.g. carpentry). 	• Dependent on agricultural labouring, blacksmith, portering, etc.	

 Table 1: Indicators of Wealth Rank 1-4 Common across Study Sites:

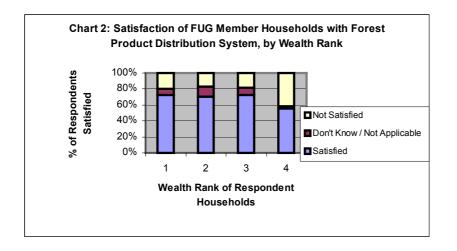
Different wealth-ranks showed different dependence on the forests:

- Rich wealth rank households have diversified sources of income, and have private resources for supplying tree products. Hence they are much less dependent on forests for product flows, and were mainly interested in forests for construction timber, and also plough-shares.
- Medium wealth-rank households have farmland and much livestock and tend to depend on forests for fodder as well as fuelwood and timber, but have some private tree resources to fall back on.
- Poor households may have some livestock and farmland, but have little private access to tree products are so can be particularly dependent for the forest for animal fodder and leaf-litter for composting.
- Poor and Landless households often depend on forests for inputs to support market-oriented activities such as fuel-wood selling, alcohol-distilling, charcoal for blacksmithing, etc. Their livelihoods are extremely fragile and marginal.

All wealth-ranks use the forest for fuelwood supply, although rich and some medium wealth-ranks are less dependent as they have access to private resources.



The source of fuelwood for almost two thirds of households has changed from the National Forest to the Community Forest. There has also been shift towards use of other sources of fuelwood to augment community forest use, most significantly on-farm sources. This is a response to increased regulation of fuelwood extraction and imposition of royalties. Fuelwood supply from private forests has slightly reduced, as some forest land which was previously seen as private has become recognised as community forest, and also as some private forest has been converted to farming use.



Most households had been dissatisfied with the lack of regulated forest product extraction prior to CF and welcomed CF. The change in the product distribution regime is one of the central issues of Community Forestry's impact on households. Whilst there is a satisfaction level of around 70% of rich, medium and poor households with the product distribution regime, there is a distinctively lower level of satisfaction amongst landless households. This reflects the fact that, for many, increased regulation of the forest have made their livelihoods more difficult. It also reflects their more marginal involvement in and influence on decision-making. Satisfaction levels were much higher for poor households in FUGs where there was more inclusive decision-making, and equitable product distribution, such as Ahale. It is therefore critical that in future these groups are specifically targeted for involvement in FUG decision-making.

Nutrient Cycling Practices

The majority of households from both locations reported that the introduction of CF had not significantly changed the availability of fodder, grazing and bedding resources from the forest. However, a substantial number of farmers did report a decrease in additions of organic matter to their land. The number of households reporting a decrease in additions (25%) was greater for bari land, than khet (17%). Of those farmers reporting a reduced input of organic compost, a greater proportion was from poorer households. Further, when asked if they had sufficient compost only 2 of the 24 poorer respondents believed that they had enough for their own needs, compared with 50% of the wealthier respondents. Increases in compost additions were linked to increased livestock numbers and labour availability.

the last 5 years.								
Field type Crop		Increase (no. of	Same (no. of	Decrease (no. of				
		respondents)	respondents)	respondents)				
Bari	Maize	7	22	11				
Khet	Paddy	4	21	5				

Table 2: Farmers perception of changes in rates of organic compost addition in

Poorer households identified the lack of livestock, followed by climatic conditions and labour as key constraints to increased compost production. Richer households placed labour as the primary constraint, followed by livestock numbers. Interestingly, a difference was identified in the quality of compost used by different households, with significantly higher mean N and K content to poorer households' compost. Lower availability of on-farm sources of crop residues, tree products and green grass interacting with labour constraints to off-farm collection may well be contributing factors.

While the majority of farmers reported no change in maize and millet yields over the last 5 years, over 25% identified a decrease, with 10% noting an increase in yield (table 2). Similar concerns of yield decline were shared by wealthier and poorer households

Table 3: Farmers perception of crop yield changes in the last 5 years on Bari Land.

Field type	Сгор	Increase (no. of	Same (no. of	Decrease (no. of	
		respondents)	respondents)	respondents)	
Bari	Maize	4	24	10	
	Millet	3	20	8	

Results showed considerably lower levels of concern than those reported from studies in western Nepal, where over 50% of farmers perceived declines (Turton et al., 1995; Vaidya et al., 1995)

Policy Implications

FUGs have emerged as valuable local institutions, ensuring protection and sustainable management of forest resources. However most are having difficulties adopting proper procedures, involving all members in decision-making and planning. Consequently although forest resources are improving there is a lack of active management to take full advantage of their potentials. Poorer and marginal sections are less satisfied with the arrangement as their needs are not receiving sufficient attention and they are often facing increased difficulties due to the increased regulation of forest access, even though the resource itself is improving as a result of this regulation. There is an urgent need for systematic support to FUGs:

1. To develop their institutional capacity to hold micro-action-planning process. This requires simple awareness raising of roles and responsibilities of FUG members and could be achieved by a motivated Forest-Guard (or similar agent from an FUG network / NGO or project) in a day's visit to an FUG assembly meeting.

- 2. To provide external support to ensure implementation. The Department of Forests District Forest Office / Range Posts need to invite FUGs to submit their requests for specific support in the form of their action-plan. The DFO office can then collate these in order to plan resource allocation for the different support activities.
- 3. Poor and marginal groups need particular attention, to ensure they are incorporated into decision-making and to receive specific livelihood support that reflects their priorities and potentials.

Key indicators to assess the development of the CF process

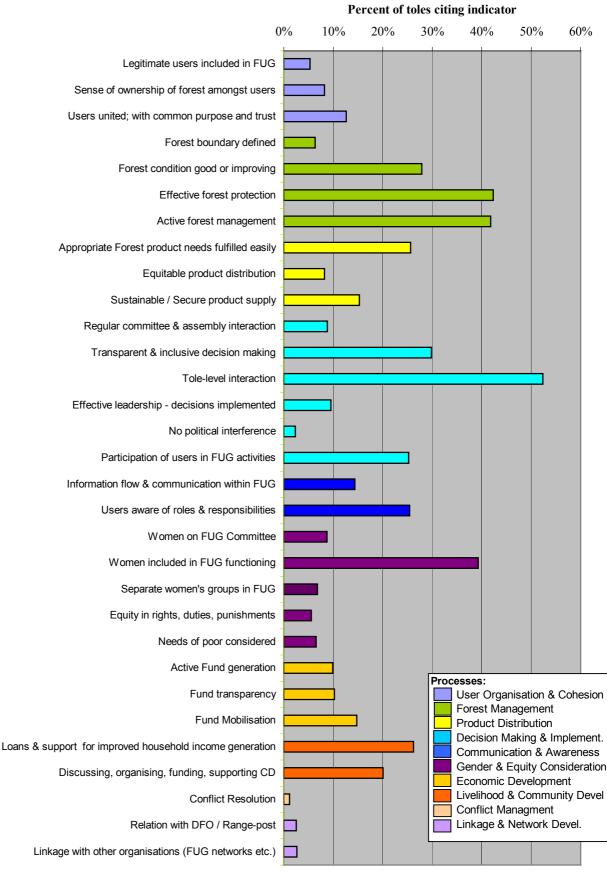
Through the PAR process, in conjunction with other stakeholders, process indicators were identified. These indicators reflect the key needs and constraints that the FUGs and others perceive as reflecting the level of development and impacts of community forestry. Although also providing an opportunity for all levels to assess the development and priorities for the future in community forestry in terms of a monitoring function, at the levels of the FUGs and others involved in the implementation of community forestry, the indicators were felt to be an important management tool, for guiding decision-making about the future more than for monitoring the past.

As such, the approach, and their specifically stated need, was to develop indicators that were dynamic and that were applicable for the specifics of different localities. There is consequently not one set of all-purpose indicators that serves all places and all times, but rather a *process* through which FUGs and external support agencies can reach a clear and agreed picture on the present situation and future needs, and then revisit the indicators in future phases to assess achievements and define the next phase of priorities and responsibilities.

Taken in this sense, the indicators are an integral part of the participatory planning and management system, providing clarity and an agreed set of priorities both within the FUGs and between FUGs and external support agencies (the Department of Forestry, the NUKCFP project, NGOs, other government agencies, local government). They are evolutionary and dynamic, and they provide an opportunity to identify complex issues in a more precise manner that could otherwise be perceived very differently by different stakeholders. They consequently do not just allow all parties to assess progress and needs: they actively contribute to progress and to meeting needs.

The specific indicators that emerged reflect this type of dynamic process. They are a combination of:

- Extremely practical management issues relating to the management regime of the forest, the distribution of products and the use of funds generated and the planning of other development activities that the FUGs could move into.
- Institutional, social and political relationships, including the internal functioning of the FUG, the nature and effectiveness of external institutional relationships, issues of representativeness, social equity, transparency and legitimacy in decision-making and others.



Process Indicators:

Community Forestry Process Indicators Cited in Tole Meetings

Through the participatory application of these process indicators to the performance of each FUG the different performances of different FUGs has become evident. Small ethnically homogenous user groups highly dependent on small forest resources for regular fuelwood supply have performed most effectively according to their own indicators. Large ethnically diverse and spatially diffuse user groups managing large forests have had less success on their own terms. This is due to the greater difficulties in co-ordinating decision-making, which can lead by default to 'committee forestry'. There are also a few instances of autocratic local leaders dominating procedures for their own ambitions. The decision-making process was found to be a critical issue for support if the performance of the FUG was to reflect the spirit of 'community forestry'. Structured and inclusive tole-level involvement was identified by almost all FUGs as being essential for this. The micro-action-planning process developed during the research provides a model for this which can be easily initiated in FUGs, and from field-testing was found to be highly effective.

The indicators identified through the participatory action planning process included such a diverse and sophisticated set of issues is an extremely positive reflection of both the importance attached to community forestry and the maturity that it has reached in many FUGs. Above all, the indictors, taken together, indicate that community forestry in Nepal is, in most cases, a positive and dynamic process that has many achievements but that also cannot be complacent as new challenges, opportunities and priorities emerge.

4. Enhancement of the capacities of the different stakeholders

Through discussion and dissemination of research results at both district and arealevel meetings involving different stakeholders, and culminating in a National Level-Workshop attended by the Department of Forestry Director General and Ministry Policy makers, Bilateral Community Forestry Project leaders, as well as a variety of other stakeholders, the findings and their policy implications were presented and discussed. The key findings, that community forestry is a dynamic and evolutionary process and that tole-level micro-action-planning process is essential to introduce in order that FUGs formalise inclusive planning and capture the dynamics of the process, were recognised and appreciated.

6. Contribution of Outputs

These findings and their policy implications have been shared with HMGN policymakers and Department of Forest staff. The NUKCFP follow-on project design team has been extensively briefed on these issues.

A final report is currently being prepared for dissemination and other publications and dissemination media will follow. The work in the project area will continue through the integration of ideas and approaches in the new phase on UK support to community forestry in Nepal, and through an extension of the partnership between the University of Leeds and the research partners in Nepal within the context of a new DFID research project funded under the Policy Research Programme.

7. Publications

- Dougill, A., J.G. Soussan, O. Springate-Baginski, E. Kiff, O.P. Dev and N.P. Yadav (In press). Impacts of Community Forestry on Farming System Sustainability In The Middle Hills of Nepal in Land Degradation and Development, (in press)
- Dougill, A., J.G Soussan, O. Springate-Baginski, E. Kiff, O.P. Dev and N.P. Yadav 1999. Impacts of Community Forestry on Farming System Sustainability In The Middle Hills of Nepal paper (as above) presented at the LANDCOM conference, Perth Australia, 1999
- Soussan, J.G., O. Springate-Baginski, E. Kiff, O.P. Dev and N.P. Yadav 1999. Research Advances: Community Forestry in Nepal. DFID, London
- Springate-Baginski, O., J.G. Soussan, O.P. Dev, N.P. Yadav, E. Kiff 1999. Community Forestry in Nepal: Sustainability and Impacts on Common and Private Resource Management Environment Centre, University of Leeds

8. Internal documents

- Baumann, P. O.P. Dev, E. Kiff, Soussan, J.G., C. Turton, N.P. Yadav 1998. Community Forestry in Nepal: A Framework for Research and an Exploration of the Literature
- Soussan, J.G., C. Turton, P. Baumann, O.P. Dev, N.P. Yadav 1998. Community Forestry in Nepal: Progress Report on a DFID-Funded Research Project
- Soussan, J.G., C. Turton, P. Baumann, O.P. Dev, N.P. Yadav 1997. Community Forestry in Nepal: Sustainability and Impact on common and private property resource management – workshop on reformulating the logframe
- Springate-Baginski, O., J.G. Soussan, O.P. Dev, N.P. Yadav 1999. Recommendations for NUKCFP Follow-on Project Design

Springate-Baginski, O., J.G. Soussan, O.P. Dev, N.P. Yadav, E. Kiff 1998: Community Forestry In Nepal: Sustainability And Impacts On Common And Private Property Resource Management: Report On First Phase Of Field Research

All available from School of the Environment, University of Leeds, Leeds LS2 9JT

9. Appendices

b) Journal articles and other outputs in the grey literature.

APPENDIX 5 – INVENTORY CONTROL FORM

4.1 Project: R6778

[List all equipment (>£500) purchased under the project, noting any changes during the quarter.]

Item	Make and Model	Serial No.	Date received	Purchase price	Location		Disposal	
				1		То	Date	Authorised
Laptop	Toshiba	1161311	28/01/97	£3,049.1	Leeds			
	430CDT	2E		3				
Desktop	Dan	B9051-3	01/02/98	£1,628.0	Leeds			
computer				0				
Camera	Canon	1206546	Feb-98	£410.00	Leeds			
	EOS							
	500N							
Soil	Palimtest	8083-	29/01/97	£846.00	Leeds			
Quality	Photomete	083						
Kit	r 5000							