Review of Methodologies for the Assessment of the Poverty Impact of Participatory Forest Management

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Prepared for the Start-up workshop of the project:
Action Research on Assessing and Enhancing the Impact of
Participatory Forest Management on the Livelihoods of the Rural Poor.
Nairobi, Kenya

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1. Introduction

1.1 Aims and Objectives

This paper provides a review of some methodologies which have been used to assess the impact of poverty in a number of Participatory Forest Management (PFM) projects. The wider context of this is to provide the background for the development of a methodology that will be used to research the impacts of PFM in four case study countries. This paper should be read in conjunction with the paper by Moss et al., (2005) which provides a literature review of the impact of PFM on poverty reduction.

This methodological review used a 'meta-method' (Glasmeier and Farrigan 2005) approach which involves reviewing a variety of descriptions of the assessment methods and providing an overall analysis of how methodological characteristics influence research findings. The biggest challenge which this review faced was the scarcity of literature on the methods to assess PFM and the lack of clear recording of methodologies Reeb (pers. comm.) suggests that this is because PFM or community based natural resource management (CBNRM) is only loosely defined and therefore understood, its assessment is rather complicated and prone to a high degree of subjectivity. Others such as Glasmeier and Farrigan (2005) highlight "that community forestry, as both a process and an outcome, is an understudied and under evaluated field of development' and that poor reporting practices create difficulties in reporting on the different measurement techniques and the ways in which partners have been involved.

This review is ordered around four main sections. The first section discusses logistical considerations such as size, composition of the research team and timing. The next sections look at different methods of sampling design. The subsequent section on data collection is divided into a discussion of what type of data projects have collected and which data collection methods have been used. The last section touches on data analysis and the ways in which this has been tackled in the literature.

It is hoped that this review will assist in the design of a methodology which will meet the objectives of the overall research programme. Within this the main challenge we face is the need to get a balance between developing a core methodology that is comparable across all sites and is yet flexible enough for each country or site to collect information of site-specific interest. The research questions we will be seeking to answer are:

1. Can PFM contribute to poverty reduction by providing rural people with a sustainable stream of net benefits greater than those obtained under a non-PFM situation?

2. How significant are the benefits (in relation to other income-generating activities)? What are the key negative impacts of PFM and are there ways of minimizing or reversing these?
3. How do the impacts (both positive and negative) on poverty of different forms of PFM compare?
4. Are the costs and benefits of PFM distributed in an equitable manner both between communities and between households within communities?

Beyond the immediate research project, it is hoped that the methodology will be adaptable by local forest services and PFM practitioners for regular monitoring. In addition to ensuring academic rigour, the methodology therefore needs to be cost-effective and easily implemented (both in terms of data collection and analysis).

2. Logistical Considerations

The successful planning, design, execution and analysis of an assessment of this kind depends entirely on the constraints within which it has to operate. The literature emphasises that consideration of requirements for resources, budget, time inputs and personnel are imperative to the design of a workable research methodology.

2.1 The Balance of Insiders and Outsiders in the Research Team

As Branney et al. (2000) point out "much forestry research in Nepal has traditionally followed the agenda of outside researchers and has frequently failed to deliver results relevant to the majority of forest users". This highlights the benefits of including local researchers into research design and execution. The input of indigenous personnel working for non-governments organisations (NGOs) was found to be crucial in encouraging participation, and there is evidence of increased acceptance and utilization of results on behalf of the local community. The involvement of state officials (forest or other government department personnel) has, given community members the opportunities to highlight their own development needs to these representatives, an opportunity which may otherwise have not been available to them. This kind of cross-sectoral interaction has eased the scaling up of information to the policy making level, as well as increasing awareness of local issues on behalf of the decision makers.

2.2 Multi-Disciplinary Personnel

Where scope and funding permits, it was found to be preferable for researchers to come from multi-disciplinary background, combining skills in economics, sociology, management, agriculture, environment, social development methodological analysis and local language skills (Ashley and Hussein, 2000). Maintaining a gender balance was noted as important in survey team composition, although recruitment in this respect was observed as a problem in a number of cases.

2.3 Team Size

The literature covered in this review contains cases in which the scale of fieldwork has either been very extensive with large numbers of team members or very small scale and employing very few people. There is a dearth of information regarding projects of a similar scale to our proposed research. CARE (2002) suggests teams can range in number

from 6 to 35 individuals, though projects with additional resources such as the DFID-funded Nepal Livelihoods Forest Programme (LFP) were able to employ larger numbers of local enumerators. Outsiders filled most positions of responsibility. Personnel are often divided into teams, with team size depending on the resources available to undertake fieldwork in different areas or agro-ecological regions.

2.4 Time Inputs

The reported duration of fieldwork also varies significantly, depending on the project scale and resource constraints. The larger projects tend to spend anything from 40 days per site undertaking fieldwork and the smaller ones between seven to ten days. Multiple visits were made to each site in most cases, with team members spending anything from one day to two months with the community. In the case of some smaller scale research projects the researcher(s) resided with the community for the duration of the project (see for example Timsina, 2003).

3. Sampling Design

The main issues to consider in sample design are how to maximize credibility of the results by recognizing the inherent biases in the categorization of the sample, the selection of units of analysis and the timing and location of survey. Sampling is used because the population is nearly always too large for complete enumeration. Sample design is about choosing how many elements (households etc) and which elements to include in a survey. Sampling aims to allow conclusions to be made about a population (within defined error limits). The sample design ensures that each member of the population has an equal chance of being selected to avoid bias.

3.1 Sampling method

The main methods of sampling include:

Random Sampling such as through use of random numbers to chose which households are to be surveyed has the disadvantage of the surveyor having to know the total number of households and being able to assign them each a number. Household lists held by the local administration are not always complete and may not include households which are not registered or are migrant households.

Systematic Sampling i.e. where every 10^{th} household is surveyed, ensures that the sample is spread more evenly across the community. This has the advantage of not having to know the total number of household but may introduce bias if there is some irregularity in the household layout.

Stratified Sampling is used when the researchers want to ensure a representative selection from a number of groups within the population. This is a valuable technique where there is a lot of variability in the population and helps in getting a more representative sample. Various features have been used for stratification in the literature.

- The use of wealth ranking is a common strategy used for the stratification of the sample prior to the survey. For example Timsina (2003) used this exercise in one VDC in Nepal to select 54 households for interview.

- Richards el al, (2003) stratified their sample into four wealth-based categories which were maintained through to the analysis. 34 households were surveyed. The households were initially selected randomly but later based on accessibility due to time constraints (Richards et al, 2003).
- Sunderlin (1997) stratified his sample of four sites in Java Indonesia by soil type choosing villages or sections of villages close to the social forest sites he was assessing the impact of. Within the selected sites he surveyed all households participating in the social forestry programme and all, or a representative fraction, of non-participants.
- Smith and Sender (1988) stratified their sample prior to the survey into poor and non-poor by selecting 100 households with low school attendance from records of school absenteeism (showing the priority for work over education) in 4 primary schools with known low attendance. These households were then further stratified according to ownership of various assets using a technique known as 'possession scoring'.

Cluster Sampling takes into account the natural occurrence of units. Random sampling can be used to choose the clusters. It differs from stratified sampling as the starting point is the natural clusters whereas this is constructed in stratified sampling. In the case of the Livelihoods and Forestry Programme research across 7 districts in Nepal, the Village Development Committees were clustered and within each cluster the forest condition was classified into "good" or "degraded" (taken from the project's FUG database). Households were then stratified into two categories according to area of forest resource for each household. Households were selected manually and randomly from a team-developed list. 18 to 21 households per village were selected from 155 FUG's across 7 districts. Zeller et al (2003) also used this technique and using cluster sampling randomly selected 200 participating households and 300 non-participating households.

Snowball Sampling is a non-random method of data collection whereby interviewees are asked to nominate further informants (Faugier and Sargeant, 1997; Eland-Goossense et al., 1997; Kaplan et al., 1987), and is especially useful for exploring certain specific issues. In the choice of respondents, attempts should be made to maintain a balance between broad categories of household.

3.2 How large does the sample need to be?

To ensure statistically valid results the sample number must be considered carefully. A common standard of confidence in statistical validity is 'a margin of error of less than 5% at a 95% confidence level'. There are various tables and web-sites to assist in to calculate the size of the sample to assist in calculating the sample size.

In many of the cases examined in the literature however the sample size was too small for statistical analysis and sample size was decided by other criteria. Thanh et al (2003) selected 20 households in two villages divided equally between participants and non-participation in the FLA program. The households were stratified into rich, medium and poor groups (with help of village headman). The sample purposefully included several households with heads in a recognised position in the village. In the case of the research

by Richards et al (2003), seven were selected from among the 'very poor' households, 10 from 'poor', 10 from 'mid-wealthy' and 7 from 'rich'. Rosyadi and Nuryartono (2003) in their study of 8 forest villages in Central Java selected 15 respondents from each sub-village reaching a total of 240. They ensured equal samples of participants and non-participants.[1]

4. Data Collection

4.1 What Type of Data to Collect?

4.1.1 The Qualitative/Quantitative Debate

The decision over the correct balance of quantitative and qualitative data is of key importance. Quantitative data enables one to generalize conclusions to a wider population and to make comparisons between two populations if valid sampling and significance tests have been used. However the picture obtained is less rich and complex as it requires closed answers. Qualitative data allows one to obtain a more complete detailed description which is useful to explore the bigger picture behind the statistics. It also allows the respondents to talk about issues which are important to them without being constrained by the interviewer. However it is hard to extend conclusions to a wider population as findings cannot be tested statistically. In addition the interviewer is more heavily involved in the research. Some studies that initially set out to produce quantitative data found that so many discords "emerged amongst stakeholders' perceptions of many items of investigation….[that] …the quantitative component of fieldwork finally appeared as marginal" (Oyono et al. 2005).

In terms of policy influence, although much quantitative data is unreliable it takes great skill to persuade a numbers-orientated audience that qualitative data can be as predictive and powerful as quantitative ones. Policy makers are conditioned to look for and to trust highly quantitative reports with tables, graphs and charts.

With reference to this review of PFM impacts, in which information is hoped to be gleaned at a variety of societal levels, it is important to consider that "broader community level information can be collected more easily through qualitative studies while quantitative studies facilitate the collection of household level data" (DFID, 1999). The advantages and disadvantages of qualitative and quantitative studies are captured in Table 1.

The criteria used for judging quantitative research are reliability, validity, empirical content, consistency and generality. These criteria are based on the norm of objectivity and on the independence of the researcher. The aim is to limit the effect of researcher bias where bias is defined as a deviation from some empirical truth. However, if these criteria are applied to qualitative methods, the benefits of their use would be undermined and the researcher could be accused of being unrepresentative, atypical and idiosyncratic

[1] The use of 'saturation' point has been used by some using qualitative techniques for deciding the sample (Morse, 1995; Flick, 1998:185), this is the point when no new information is collected and or learning about the situation can be achieved.

(Devine, 1995; Gilbert, 1996). Quantitative surveys strive to remove bias in order to increase the validity of the results. In qualitative research the validity depends to a large extent on the competence and rigour of the person doing the fieldwork (Guba and Lincoln, 1981). The judgments of validity and reliability therefore become the largest challenges faced by qualitative research.

Table 1: Advantages and Disadvantages of Qualitative and Quantitative Studies

	Quantitative	**Qualitative**
Pros	Facilitates collection of household level information	Facilitates collection of community level information
	Easy to validate information statistically if a good sampling approach is adopted	Allows an open and interactive process that encourages collection of detailed and descriptive information
	Best suited for a large sample size	Effective for a small sample
		Reveals the "why" and "how" of the issues in question
Cons	Difficult to collect community level information	Case studies of specific households can be collected
	Does not permit collection of information beyond the parameters or variables defined	Difficult to generalize unless many case studies are done through a systematic sampling process
	Why" and "how" of the issues cannot be collected beyond the defined parameters	Validity is always debatable and difficult to generalize across the population under study

(taken from DFID, 1999)

One of the most effective means of overcoming the failing of each of these approaches is the adoption of multiple methods or 'triangulation' by using various methods of research to corroborate the evidence and to supplement the data obtained. Triangulation is defined as the combination of methodologies in the study of a single phenomenon, and it often involves the combination of both qualitative and quantitative techniques. A NRI/University of Reading paper argues that "the trustworthiness of information will be greater if quantitative and qualitative approaches to data collection and analysis are combined rather than being used separately" (Ashley and Hussein, 2000). Using more than one method can help to ensure that variance is not a result of method: 'convergence will enhance belief that results are valid and not a methodological artifact' (Bouchard, 1976:268).

4.1.2 Scale of assessment

Differing levels of assessment are required to glean relevant information from all the different groups in society. Data is often collected, in distinct forms, at the household/individual level, the organizational level (such as the forest user group) and the community level. This is particularly important because "different aspects of poverty and deprivation apply at differing levels of social organization" (Herbert and Shepherd,

2000). Consideration is also given to the impacts of PFM on the wider community; that is neighboring communities and possibly former resource users who are refused access under PFM. An incomplete understanding of the aggregate impacts of a project may transpire if analysis of any one of these groups is neglected. Assessment at all levels of society highlights connected levels of change and permits understanding of differences within and between communities. Particular considerations of differing assessment levels are outlined in Table 2 below:

Table 2: Differing Levels of Assessment

Level of Assessment	Considerations
Individual	• Easily defined and identified • Permits examination of differing impacts according to gender, age and social status • Inter-household relations can be explored • May neglect wider impacts
Household	• Relatively easily defined and identified • Enables understanding of livelihood strategies (e.g. income, assets, consumption) • Relations between individual, household and community captured. • Requires working definition • Relies upon (often false) assumption that a positive impact for one household can be aggregated.
Forest User Group/ Organisation	• Permits assessment of social and political capital • Requires working definition • Group dynamics difficult to understand
Community	• Enables understanding of intra-community differences (e.g. by social group) • Social and political capital easily assessed • Boundaries require clear definition

Adapted from Shepherd and Herbert (2000)

4.1.3. Definitions of Units of Assessment

Household

It can be argued (see for example Corbett, 1988:1101) that the household unit of analysis is the most appropriate when looking at livelihoods because decisions about production, investment, and consumption are taken primarily at the household level. Ellis (1998; 2000:18-20) suggests there are benefits of using the household as a unit of analysis as it is a site where 'particularly intense social and economic interdependencies occur between a group of individuals' so that individual action cannot be interpreted separately from the social and residential space which individuals inhabit.

The definition of a household and who to include can be complex. Some use co-residence to define a household (Meillassoux, 1981; Ellis, 1993) but this can be problematic in communities with high levels of seasonal migration and these situations may need an alternative definition of the household with an emphasis on the family and the role of non-resident family members in the well-being of the family members (Stark, 1991; Preston, 1994). Research by Le Trong Cuc (1993) in Vietnam points out that that when

different household members refer to their ‘household’ they may talk about different entities.

Forest User Group

PFM frequently involves the formation of Forest User Groups with a clearly defined membership. Members of the group often either pay membership fees, or else participate in forest protection. Membership is usually conferred on a household rather than an individual basis. Eligibility for membership varies in different contexts. For instance, in Nepal, membership is supposed to be open to all households who are users of the forest (Springate-Baginski, 2003). Users may therefore belong to different communities residing in scattered hamlets, but depending on the same forest resource.

Different categories of Forest User have also been identified in Nepal. They include regular users who collect forest products on a daily or weekly basis and occasional forest users who may live at a distance from the forest and only use it on a seasonal basis. 'Future' forest users have also been identified who are wealthier households who anticipate future requirements for forest products such as timber but do not participate in community forestry activities.

In Mexico the membership of Forest User Groups is somewhat different. Ejido communities have property rights over private and common land. Private land is usually used for cultivation whereas common land is often pasture or forest. However within a single community not all the inhabitants have property rights over common land as these property rights can only be inherited by a single child (Alix-Garcia et al., 2004). In Tanzania, a village based governance system and new land laws in 1999 enables villages to formally register title to their common lands (Wily, 2001). Forest User Groups may therefore refer to whole villages.

Community

The definition of community is a particularly contextual and complex issue; one which varies according to time and place. There is very little literature-based evidence of methods by which research teams have defined ‘community’ at the fieldwork level. Questions to consider include whether a definition should be based on location or proximity to the main livelihood resource. However, “defining community solely in these terms collapses all other critical social divisions and categories such as class, gender, race, into one based solely on the most basic geography” (McCarthy, 2002). Although this recognises that there are communities not defined by place, it still suggests that place does define some communities, i.e. “proponents of this formulation still miss or underestimate the possibilities that a shared place may not engender any meaningful ‘community’ that can be defined separately from interests and power relations.”

4.1.4. The Development of Poverty Impact Indicators

There have been a number of attempts to develop frameworks that address the impact of participatory or community based approaches to forest management on rural livelihoods. Prominent amongst them are those of Centre for International Forestry (CIFOR), the Forest Stewardship Council (FSC), and a proposed method of assessing the impacts of

Joint Forest Management in a World Bank supported project in the state of Jharkhand in India (Belcher, 2005; FSC, 2004; CIFOR, 1999). The latter project is planning to monitor the livelihood impacts of community forest management in 1600 villages. The Food and Agricultural Organisation (FAO) has also been developing a system for assessing the impact of forest management on poverty, with particular regard to different forms of forest ownership and decision making, but without a more detailed analysis of institutional factors necessary to distinguish between different forms of community forestry (Reeb, pers. comm., see Annex 2).

All three frameworks assess different categories of impacts, but common to all of them is the separation of environmental, social and economic indicators. The CIFOR framework distinguishes between social, ecological and economic indicators, situating them within the policy context at both national and forest management unit level, which will have an overriding influence on the outcome of any forest management project (CIFOR, 1999). The Indian methodology uses the sustainable rural livelihoods framework, and therefore differentiates between natural, physical, financial, human and social capital (Belcher, 2005 in Moss, 2005 Figure 4.1). The Forest Stewardship Council's Principles and Criteria for Forest Stewardship provides a set of ten principles (FSC, 2004). Of these, four can be described as social principles, three relate to the environmental impact of forest management and one is concerned with the benefits derived from forest management. The other principles concern compliance with the law and FSC principles, forest management and monitoring and assessment.

All three frameworks also set out hierarchical methods of assessment. Under each different category heading (social, environmental and economic etc.), each framework specifies a set of objectives of forest management (Belcher, 2005; FSC, 2004; CIFOR, 1999). These are termed principles in the FSC and CIFOR frameworks, and are accompanied by a set of criteria for each principle, setting out in greater detail what is meant by that principle. The CIFOR and Indian framework then specify more detailed sets of indicators that can be used to assess each criterion. The indicators used anticipate the types of impact that will result from changes in forest management. The Indian framework distinguishes between direct and indirect impacts. Indirect impacts are the result of changes that contribute indirectly to a change in livelihoods such as improving people's ability to engage in markets and hence increase income from production (Belcher, 2005). The CIFOR and FSC frameworks provide generic principles, criteria and indicators which must be adapted to location and context specific instances of forest management at national, regional or lower levels as appropriate. CIFOR provides a manual for this purpose (Prabhu et al, 1999).

In testing its social, ecological and policy indicators CIFOR found the development of generic social indicators to be particularly challenging (Prabhu et al, 1998). Development of social indicators required national and regional knowledge, longer and more detailed interviewing, and decision-making about conflicts between different understandings of tenure and land and forest use-rights.

Belcher (2005) proposes the application of SMART indicators (Gonner, 2004) which are intended to be relatively quick and easy to measure, locally meaningful and relevant and time scale appropriate. It is with this in mind that a set of indicators have been drawn up, based on the case studies reviewed, which could be used in this assessment of PFM (Table 3).

Table 3 A selection of indicators which have been used to examine the impact of PFM on livelihoods

Economic Capital

Income, Assets, Non-Monetary Income, Risk and Vulnerability

Level of Analysis	Impacts	Indicators	Example
Household	Income Benefits from the Forest	a. % household income derived from PFM. b. Breakdown of asset ownership on basis of PFM related purchase. c. Area of land under cultivation, agricultural output, timber and NTFPs.	a. Cavendish (1999) b. Sender and Smith (1988) c. Thanh et al (2003)
	Household Dependence on Forest	a. Income from crops b. Off-farm income including remuneration from employment.	a/b. Thanh et al (2003)
Forest User Group	Income gained from membership fees, levies, penalties and product sale.	Number of outlets for the sale of forest products	Pandey (2005)
Community	Infrastructural developments	a. number of houses with electrical supply. b. number of functioning wells/water pumps c. Quantity/type of infrastructure related to PFM that has been constructed within x years.	a/b. Pandey (2005) c. Thanh et al (2003)

Human Capital
Skills and Knowledge

Level of Analysis	Impacts	Indicator	Example
Household	1. Development of training opportunities 2. Increased knowledge	1. % household members participating in training activities. *2.[Level of awareness of tech issues, business knowledge and financial management]*[2]	1. Formete and Vermaat (2001)
Forest User Group	Training opportunities and skill development.	% FUG members attending training workshops, study tours etc *(and knowledge gained)*	Nunan et al (2002)
Community	Access to educational facilities	School attendance rates (pre and post PFM and disaggregated by social group)	Klein et al (2001)
	Non-forest activities	Evidence of group formation/strengthening, particularly for income-generating purposes such as micro credit distribution/enterprise.	Belcher (2005)
	Capability	How has this project contributed to human capacity?	Kusel and Adler (2003)

Social Capital
Networks and Relationships of Trust

Level of Analysis	Impacts	Indicator	Example
Household	Changes in availability of/access to support networks.	Changes in the source of support people seek in times of need (e.g. family, community leaders, FUGs, CBOs) *[The quality and nature of that support]*	Gibbon and Pokhrel (1999)
Forest User Group	Transparency of FUG (as an institution)	a. Forms of participation in FUG b. Attendance at meetings (numbers of people) c. Stated knowledge of FUG activities	Thanh et al (2003)
Community	Social Structure of the Community	a. Number of citizens groups active in the village. b. Membership levels of CBOs c. Are traditional laws/customs on forest management still recognized in the community? Current role of village elders?	a/b. Nunan et al (2002) c. Thanh et al (2003)
	Societal Expectations	How have outcomes matched expectations?	Wollenberg (2004)
	Perceptions of well-being	How do project participants define community well-being? Has it changed as a result of PFM? What does forest health mean to participants?	Kusel and Adler (2003)

[2] Use of [] denotes thoughts of author.

		Do participants see a link between healthy forests and well being?	

Political Capital

Access to decision-making

Level of Analysis	Impacts	Indicator	Example
Household	Intra-household decision making.	*[Who holds decision making power within a household?]*	
Forest User Group	Participation	a. What organization/group/individual decides on PFM issues? (village elders, headmen, villagers) b. Who has the right to conduct agricultural/forestry activities? Who grants permission if needed? c. To whom are the local organizations accountable? d. Who is included in the FUG and who is excluded? e. Are all interests or stakeholder groups represented? f. Who decides what the relevant groups are and by what criteria? g. To what extent do local elites co-opt the FUG/PFM process? h. Who is involved in the project and how do the various parties interact? What is the process of recruitment?	a/b. Thanh et al (2003) c. Wollenberg (2004) d. Belcher (2005) e/f/g. McCarthy (2002) h. Kusel and Adler (2003)
	FUG dynamics	a. How is the FUG supported? Does it have legal status? What is the leadership structure? b. What setbacks or failures did the project encounter? How did participants address them? How was enthusiasm and participation maintained? c. Type/severity of interpersonal/cross organizational conflicts? How have they been resolved?	a/b/c. Kusel and Adler (2003)
Community	a. Rights of Extraction b. Rights of Alienation	a. To what forest products do people have a right of exploitation? What has such a right and who does not? Who grants the permission? b. Who can sell forest products? What type?	a/b/c. Thanh
	External Influences	a. Has there been an extension of central/local government control? b. Does the forest department deliver promised share of benefits (where these exist) and to whom?	Wollenberg et al (2004)

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Environmental Capital
Environmental Benefits and Services

Level of Analysis	Impacts	Indicator	Example
Household	Forest Resource Impacts	Area (ha) and forest stock (m^3)	Thanh et al (2003)
Forest User Group			
Community		What is the initial 'endowment' of the village with respect to quantity, quality and potential of forest resource?	Belcher (2005)

Points for consideration when selecting indicators include:

- Are we explicit about the concepts of poverty which we are using and how does this affect our choice of indicators?
- Are we choosing income indicators because they appear to be neater and easier to measure? Does this risk losing a multidimensional understanding of poverty?
- Are we clear about what we want to measure and why? This relates most specifically to the type of poverty we are interested in (chronic vs. transitory or relative vs. absolute) and to the level (individual, household, village etc). The 'why' refers to what the data will be used for.
- Consideration of intra-household differences is an important and oft neglected issue relating to the formation of poverty impact indicators. "An understanding of an individual's position within the household is essential to understanding the dimensions as well as the causes of disadvantage" (Maxwell, 1999).

One key issue **is how to standardize or calibrate indicators across different case-studies** which may be in very different ecological, social or cultural contexts where indicators have very different meanings in relation to poverty. In a discussion on how to compare between villages Belcher (2005) suggests a simple scoring of different indicators in each village, allowing for a summation and hence comparison between villages. This may raise the need for weighting which could for example be done by capital categories. While it is not possible to capture all of the different dimensions of poverty in conventional household surveys, information on some of the key non-monetary indicators of poverty (such as education, anthropometric status, morbidity and mortality) are often collected.

4.1.5 Contextual Data

Before impacts can be assessed, studies first need to collect all sorts of contextual information from the community level. Some of this comes from secondary data but some is also collected from key informants or group-level work in the community (e.g. about aims and objectives). Secondary data also helps establish causality (Herbert and

Shepherd, 2000) and facilitates wealth ranking and community disaggregation. Other contextual information to be taken into consideration is captured in Table 4 below.

Table 4: Contextual Information Required for Each Case

Topic	Considerations
Project Initiation	When did the project begin? What was its initial purpose? Was there a catalyzing event? Who was it initiated by?
Project Description	What needs/problems does the project address? Description of demographic, socio economic, biological or physical context.
Outcomes and Successes	Which outcomes are viewed as a success? Is the process associated with the project considered a success? What are the participants most proud of? How does the community at large view the project?
Future of the Project	What is the future of the project? What is its growth potential? Has the community defined any other needs or problems that could be addressed through expansion of the existing project or another PFM project?

After Kusel and Adler (2000)

4.2 Which Data Collection Methods?

For this review data collection techniques have been divided into four main categories: questionnaire surveys, PRA/RRA techniques, participant observation/case-study approach and the use of secondary data. To a large degree the decision on whether qualitative or quantitative data is required informs the choice of data collection methods. All of the techniques can be used to collect both quantitative and qualitative data but some are more suited to different purposes.

4.2.1 Interview Surveys

Household-level surveys are often the best way to gain comparable data to allow for quantification and to reach a representative sample (Ashley and Hussein, 2000). They do, however, need a tight focus, good design, field testing and expertise in analyzing results (Rennie and Singh, 1995). For the purposes of collecting quantitative data, sample surveys produce statistically robust data on different income groups, from which time series data can be generated and correlations can help determine reasons for change (e.g. income). They have the disadvantage, however, of tending to be directed at household heads and thus neglecting other household members (Bird, 2004). They may also not cover issues of relevance to the very poor and may overlook the destitute, who tend not to be in households at all. It is advantageous to pre-test the survey in a similar setting and allow time for modifications (Richards et al, 2003).

There are different forms of interviewing techniques including structured, unstructured and semi-structured formats, in-depth interviews and guided conversations (Lofland and Lofland, 1984:59). The semi-structured interview technique involves the use of a checklist of questions which need not be visible to the respondent and is not followed in a set sequence (Grandstaff and Grandstaff, 1987). It allows open-ended questions and various forms of probing but allows people to talk freely. The potential for the development of trust in an interview is greater in semi-structured interviewing and

unstructured interviewing (Finch, 1993) resulting in a richer quality of material than that achievable with questionnaires.

Time and location of interviews is another important consideration. Timsina (2003) found that information was more willingly offered when in surroundings in which respondents felt most comfortable and did not interrupt their daily routine. This included local tea shops, work places or common areas in the early mornings (before work) or evenings (after work). In the case of the landless, wage earners, women and other minorities, interviews took place in the early morning in their households. This does not take into consideration, however, those without a household.

4.2.2 Rapid Rural Appraisal

Useful to explore livelihood issues and stakeholder perception of a project's pros and cons, RRA methods are an effective way of reaching large numbers of people relatively quickly, gain information and explore both consensus and lack thereof.

Techniques which have been used for the assessment of PFM include:

- Group discussions, which were held with certain groups. This technique is a useful tool for the validation of findings (Devine, 1995).
- Mapping, to show the location of key features and to stimulate discussion.
- Transacts and guided walks to show key features and tenure and to stimulate discussion.
- Daily and seasonal charts about peoples' activities.
- Historical time lines to show key events and how rights and access to resources have changed.
- Venn diagrams and organizational charts to show key institutions, individuals and decision makers.

RRA is guided by participants and should consequently be highly relevant. However, information gleaned is greatly affected by the context and depends on circumstances allowing for the articulation of the poor, who may lack the eloquence to do so (Bird, 2004). As with other qualitative techniques, RRA can be criticized for non-random sampling, bias of the researcher and problems of validation (Layder, 1992:197). Furthermore, RRA techniques have been accused of naivety from an anthropological perspective. Table 5 below highlights examples of how RRA/PRA tools can be used to explore the poverty impact assessment of PFM.

Table 5: Examples of how RRA/PRA tools can be used to explore the poverty impact assessment of PFM. Adapted from the PALI technique (Ashley and Hussein, 2000).

Topics	Purpose	Activities	What can be learned	Stakeholder Equity
Wealth Ranking	Social group identification	Carry out wealth ranking according to participants own criteria. Compare with past wealth ranking if possible.	• Highlights stakeholders' priorities and perception of needs. • How and why people move in and out of poverty.	Stakeholders views of one another, evidence of discrimination/marginalization.
Current Livelihood Activities (generic)	To explore livelihood issues and stakeholder perception of PFMs pros and cons	List pros and cons (of all livelihood activities) Rank according to: - contribution to income - preference - importance to household Construct matrix of positive and negative impacts of PFM on other activities	• Role of PFM as a livelihood activity • % income derived from forestry • Non-monetary income and related values • Impact PFM has on different livelihood activities	Information can be disaggregated by stakeholder group and differences in terms of activities and impacts examined.
Current Assets and Resources	To identify livelihood assets and their relative value.	Possession scoring – what are the assets and resources you currently rely on to support your household?	• % assets derived from forest-based activities. • Relative importance and value of forest and non-forest based assets.	Differing asset ownership between social groups.
Livelihood Constraints	To identify negative influences on livelihood	Discuss- what issues prevent you from sustaining/improving your livelihood?	• May highlight role of external influences on PFM within a community	Extent to which external influences compound equity problems
Pros and Cons of PFM	Community perception of PFM impact	List pros and cons Rank pros and cons	• Direct and indirect impacts of PFM. • Priority of concerns • Significance of impacts	• Identify who bears the cost and receives benefits. • Distribution of impacts between stakeholders.
Participation in PFM	To identify differing levels of participation among stakeholders	Discuss who does/does not participate and why	• Stakeholder roles in PFM • Barriers to participation (external/internal/according to what criteria…)	Highlight level of involvement of marginalised groups
Expenditure of earnings	How have spending patterns been influenced by PFM?	Rank items of expenditure. Discuss changes in expenditure since advent of PFM. Discuss who has decision-making power over spending patterns.	• % earnings consumed by PFM (levies, membership fees etc) • Identify who benefits and why. • Impact of earnings on needs, household assets, livelihoods security.	How are expenditure benefits distributed?
Time-lines and trends	Coping and adaptive strategies over time.	Construct a time line and discuss key events and gradual trends. Ask questions re coping/adapting strategies during past events, and preparations for future changes.	• Assess vulnerability through resilience during uncontrolled events (socio-political, environmental) • Influence of external organisations (local and international NGOs) • Role of internal organisations (FUGC, CBOs, Forest Dept)	
Changes and Causes	Changes in livelihoods over time and significance (or not) of PFM as a major influence.	Construct matrix of recent major changes and their causes (as perceived by stakeholders). Rank according to most influential cause.	• Where pre-PFM data not available, this helps assess contribution that PFM has on a variety of changes within the community.	

Adapted from PALI technique (Ashley and Hussein, 2000)

Key Informants

Key informants are able to provide personal testimonies which are intimately related to the context and provide an understanding of changes as perceived by the individual. They can also be used for community disaggregation and wealth ranking purposes, as well as cross checking information gleaned from group interviews and focus groups (CARE, 2002). They are also noted to be useful where issues raised during group meetings were followed up on in the form of 'one to one' interviews (Ashley and Hussein, 2000). However, the use of key informants has been found to be prone to introduce bias into the research; unless conducted in a one-to-one setting, respondents tend to agree with one another for the purpose of saving time and face. Small key informant groups may be more replicable and cost-effective than wider scale surveys, but "tend to reduce FUG ownership and empowerment" (Richards et al, 2003). Ashley and Hussein encourage the inclusion of both project participants and non participants, in addition to those noted for their knowledge relating to the project.

Discussions with outsiders has also added greatly to an understanding of issues relating to the impact of PFM to the wider community, in terms of livelihoods, resources, problems and changes. Such outsiders may include neighbouring forest dwellers, local NGOs and forest department personnel. This information can then be compared with that of participants.

4.2.3 Participant Observation/Case Studies

In helping clarify information from surveys/RRAs, participant observation involves monitoring what people have and don't have, who does what and who doesn't. It enables understanding of motivations and perceptions and helps capture the views of women, minorities and other groups. It can, however, be time consuming and data produced may not be standardized (Bird, 2004). Case Studies of PFM impact highlight evidence of infrastructural developments, social networks, participation in decision making. Equity may be assessed by observing differences in what people do or have, when, where and how (Ashley and Hussein, 2000).

4.2.4 Secondary Data

Where it is available, secondary data can provide valuable information on a range of issues. In assessments of PFM it has been used to provide (Khare et al., 2000; Klooster, 2000; Maharajan, 1998; Nygren *et al*., 2005; Springate-Baginski *et al*., 2003; Timsina, 2003):

- Contextual information about rural livelihoods including information on community history and demography, markets, main livelihood strategies, land use, health and food security status and housing;
- Ecological information on the forest resource prior to community management;
- Historical forest use, and relationships and struggles with other forest users such as logging concessions, and the development of new forest partnerships and the implementation of PFM;
- Information on forest policy and regulations;
- Information on the characteristics of the forest, its use and management operations, pre and post implementation of PFM;

- Economic information including information on sources and quantity of Forest User Group income, wages, the value of community or business assets and spending on community development activities etc.;
- Information on trading relationships, the granting of concessions and licences for forest product extraction and marketing, including information on the parties involved, goods, area or forest products concerned, and financial details of the transactions.

Sources of such information may include the Forestry Services, local government bodies, the Forest User Group, cooperatives, community enterprises run as small businesses and project documents obtained from NGOs, conservation and development projects. Where official records are unavailable, it may be necessary to 'rummage' through project records, receipt books, etc (Ashley and Hussein, 2000).

4.3 Capturing Impact over Time and Seasonal Variation

A fundamental question raised in any impact assessment is how to assess impact over time when no baseline data are available or there is a short gap between subsequent survey periods. There are various techniques that can be used to overcome this problem. The most common technique is the use of historical recall methods (Ashley and Hussein , 2000) for example during wealth ranking to ask questions such as 'what about 5 years ago' (Shepherd, 2004). Memory recall methods can be cost-effective in the absence of recorded information but are subject to significant bias and therefore can be unreliable and requiring of triangulation (Richards et al, 2003). Other techniques include the substitution of time for space and selecting one community (without PFM) as a control against which the effect of the introduction of PFM in other communities can be assessed. Other researchers have explored trends over short time periods and made assumptions which enable extrapolation of trends, however few of the case studies have successfully managed to do this (see for example Springate-Baginski, 2003). McCarthy (2002) suggests that another methodological problem in the examination of impact is that the outcomes of PFM can take many years to emerge (e.g. contributions to ecological restoration and long-term sustainability).

The research period should be chosen to cover different seasonal periods and to capture the different seasonal activities. If this is not possible methods should be chosen to capture seasonal variation.

4.4 Replicability

The methodologies reviewed in the literature vary significantly in their replicability, as they tend to be highly contextualised and resource-dependent. Many case studies involve significant time inputs, which would be difficult to replicate within projects of differing scale/scope (e.g. Zeller, et al. 2003; DFID Nepal LFP, 1999), although a scaled-down version could be adopted. The qualitative methods are more easily replicated, given the resources required, as they demand limited technical knowledge (e.g. Smith and Sender, 1988). However, the more quantitative approach such as Principle Component Analysis (Gibbon and Pokhrel, 1999) and Logistical Regression (Rosyadi and Nuryartono, 2003) stipulate not only a certain level of literacy, but also a high degree of specialized

knowledge. This issue may call into question the participatory nature of the action research, as the expertise of outsiders may outweigh the indigenous knowledge of locals, rendering the project non-participatory and very top-down.

5. Data Analysis

5.1 The classification of units of analysis

The classification of the data collected for analysis is a key initial process of data analysis. In particular a decision has to be made on how to classify social group or units of analysis. This may be related to the initial concept of poverty and the hypothesis of the research. For example if the research question aims to explore the difference in impact of PFM between chronic and transitory poor the household sample must be classified into chronic and transitory groups for analysis.

There are a variety of methods of categorisation in the literature on PFM most of which are based around income and expenditure indicators. Other indicators which could be used, depending on the nature of the research question include possession of assets such as land, the length of time living in the area, residency and ethnicity. Rosyadi and Nuryartono (2003) divided their sample into three wealth categories to come up with conclusions on differentiated impacts on the different categories. Sunderlin, (1997) categorised households into four categories depending on their socioeconomic status related to the poverty line and for analysis the sample was divided into those who participated in the program and those who did not. Timsina (2003) further categorised her sample within wealth categories by gender and caste. Rosyadi and Nuryartono (2003) used Principle component analysis to classify respondents according to relative poverty group (the poorest, the poor, and the not so poor). This method however requires a high level of technical knowledge.

5.2 The choice between qualitative and quantitative methods

Qualitative analysis methods were used in many of the studies reviewed. This consisted of cross-tabulation and t-tests (Thanh, et al, 2003; Rosyadi & Nuryartono, 2003; Kusel & Adler, 2003) and one factorial analysis, used to test differences in financial outcomes within each relative poverty group (Rosyadi & Nuryartono, 2003). In the absence of baseline data, Sunderlin (1997) used regression analysis to predict ability and desire to participate in social forestry programmes in Indonesia on the basis of current socio-economic status. He found that this method “enables meaningful evaluation in many cases where socioeconomic evaluation is unplanned and pre-test data is unavailable”. Similar methods were used by Rosyadi & Nuryartono (2003) in predicting the effect of socioeconomic status of household on food stock and income.

A simple comparison technique was used by Zeller et al (2003) who assessed the poverty impact of microfinance programs by contrasting poverty levels (derived from data collected) with both national averages or that for non-project areas. They concluded that the proportion of poor people who are project clients is indicative of its relative success/failure in having a pro-poor impact. Thanh (2003) used a more complex comparison tool conducted through cross-tabulation of differing roles among household

members from different social groups in the local organisation of forest management. This enabled conclusions to be drawn regarding equity and participation.

Triangulation and sensitivity analysis are often used at the analysis stage to cross-check and further validate data gathered through PRA/RRA methods (e.g. Richards et al, 2003). This method is considered particularly important to ensure the quality of information gathered, as many participatory tools can easily be manipulated by informants (e.g. open ended discussions) as therefore call into question the legitimacy of results (CARE, 2002).

5.3 Attribution and Causality

The problem of attribution is often considered "the most challenging methodological issue that confronts impact assessment and poverty analysis" (Herbert and Shepherd, 2000). The separation of the effects of community-based forestry from those of other relevant causal factors or changes is an important issue for the interpretation of data. There are advantages and disadvantages in the various ways in which this problem can be overcome, although the most reliable usually combines different approaches (Table 6). The following table details some of the possibilities in achieving this.

Table 6: Methods for Overcoming the Problem of Attribution

Method	Description	Comments
Quantitative – focus on surveys and statistical analysis	Seeks to ensure that effects can be attributed to causes through experimentation. Two main approaches are: 1. Comparing 'with' and 'without' scenarios 2. Use of control groups	Difficult to identify and sample a matched control population, therefore complex statistical procedures are required. . Difficulties in overcoming 'reverse causality'. Withholding support of a control population so that it remains 'uncontaminated' may be unethical.
Inductive – focus on key informants, recording by notes or image and researcher directly involved in data collection	Seeks to provide an interpretation of the process involved in the intervention, recognizing conflicting accounts of what has happened and what has been achieved by the intervention. Causality inferred from information regarding causal change collected from beneficiaries /key informant and comparison with data from secondary sources.	Difficulty in establishing the link between cause and effect. Conclusions may be more valid than those derived from the scientific basis.
Participatory - allowing the beneficiaries to influence the assessment	Subjective perceptions useful in understanding the motivations, incentives and perceived situations of poor people, and designing programs which fit in with those perceptions and are therefore more likely to work.	PLA has grave problems with attribution, rising out of the subjectivity of its conceptualizations of impact and data used for assessment. Variables measured tend to vary from case to case and do not permit comparison. Assumption that, due to the numbers of people involved, views will be representative is naïve about local power relations. This is not considered problematic since it reflects the complexity and contingency of causality in the real world.

Adapted from Herbert and Shepherd (2000)

6. Issues to be considered further

There are various key points which are not captured by the literature examined but which need to be considered in the design of the methodology:

- The need to consider the type of data which is needed to influence decision-makers and the way in which the methods can be matched to these data needs

- As touched on in the discussion of attribution, means for distinguishing the extent to which PFM has merely legalized the status quo or the extent to which it has brought about real change is

- Methods for comparing communities which have not had the introduction of PFM with those that have and ways of using this as an way of assessing impact.

Annex 1: Glossary

Term	Meaning
CBNRM	Community-Based Natural Resource Management
CBO	Community-Based Organisation
CIFOR	Centre for International Forest Research
DFID	UK Department for International Development
FAO	Food and Agriculture Organisation of the United Nations
FLA	Forest Land Allocation (Vietnam)
FSC	Forest Stewardship Council
FUG	Forest User Group
FUGC	Forest User Group Committee
LFP	Livelihoods Forest Programme (DFID-funded project in Nepal)
NGO	Non Governmental Organisation
NTFPs	Non-Timber Forest Products
PFM	Participatory Forest Management
PLA	Participatory Learning and Action
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
SMART	Criteria for Poverty Indicators: Simple, Measurable, Adaptable, Relevant and Time-scale appropriate
VDC	Village Development Committee

Annex 2: Categories and definitions for describing forest ownership

1	**Public**	
1.1	State	Forests owned by national and state governments, or by government-owned institutions or corporations.
1.2	Local governments: regional, provincial and district level	Forests owned by regional, provincial or district governments.
1.3	Local governments: cities, municipalities, villages and other local levels of administration	Forests belonging to cities, municipalities, villages and communes. These administrative units are locally self governed and managed by a local forest administration with no or little involvement of the public. These forests should not be confused with community or group owned forests.
1.4	Other public bodies	To be specified by the resource person. (See below)
2	**Private**	
2.1	Individual	Forests owned by individuals, households and families.
2.2	Industries	Forests owned by private forest enterprises or industries.
2.3	Other	Forests belonging to religious and educational institutions, pension or investment funds, NGOs, nature conservation societies and other private institutions.
3	**Community/Group owned/ User groups**	Forests owned by a collective, a group of co-owners, a community who hold exclusive rights and share duties.
4	**Owned by indigenous or tribal people**	Indigenous and tribal people are defined as those who: 1) are regarded as indigenous on account of their descent from the population which inhabited the country, or a geographical region to which the country belongs, at a time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all their own social, economic cultural and political institutions. 2) are tribal people whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partly by their own customs or traditions or by special laws and regulations.
5	**Other types of ownership**	Forests which are not classified as any of the above mentioned categories. To be specified by the resource person (See below)

(Reeb pers. comm.)

Annex 3: References

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Annex 4: Detailed Bibliography

ID	95
Author	**Livelihoods and Forestry Program (DFID); TANGO International; Development Vision Nepal**
Title	Hill Livelihoods Baseline Study
Date	2003
Source	http://www.livelihoods.org/lessons/project_summaries/docs/LFP%20Report_Methodology_%20baseline.pdf
Keywords	Rural Livelihoods, Socio-economic, Employment, Wealth, Income-generating activities, PRA methods.
Abstract	Conducted by UK DFID LFP in collaboration with HMGN, the report assesses the links between poor people's livelihoods and forestry in the East and West Hills District of Nepal, aiming to identify and improve potential and existing livelihood opportunities.
Scope	Focus on existing livelihood characteristics and opportunities with an indirect focus on the impact of PFM, in addition to other income-generating activities. Research design build on both the program's own mandate (above) and complemented by a more general livelihoods framework.
Personnel Involved	Team consisted of 17 supervisors (professional locals and outsiders) and 34 enumerators (locals) with each district having an overall supervisor (outsider). Gender balanced maintained as much as possible, though initial female recruitment difficult. Time frame: 40 days.
Methods Used	Participatory Livelihood Assessment (developed from PRA) techniques involving in-depth household surveys.
Sample	Logistical challenges concerning political instability and remoteness of study areas resulted in use of multi-stage area probability sample plan rather than (ideal) full probability sampling. Stages included: 1. Clustering of VDC's (9-11 VDC's per cluster/3-5 clusters per district) 2. Stratification of forest condition ("good" or "degraded" taken from CFUG database). 3. Stratification of forest to household density (av # ha of forest resource/hhld resulting in two categories of >0.4 ha/hhld and <0.4 ha/hhld). 4. Selection of households (manual random selection from team-developed list). 2867 households selected (18-21 hhld/village) from 155 CFUG's within 7 districts.
PRA Exercises	Social Mapping; Seasonal Calendar; Transect walks; Wealth-Ranking; Time-Lines; Focus-Group Discussions; Key Informant Interviews; Household Case Studies; Community Group Interviews, Observation (of community meetings).
Household Interviews	Comprised of open-ended questions (see http://www.livelihoods.org/lessons/Asia/NepalForestry.pdf) formed with stakeholder participation within a semi-structured questionnaire. All household members present at time of study interviewed.
Other methods	Secondary sources e.g. district level profiles/reports from government and non-government offices.
Community disaggregation	Information was disaggregated at the analysis stage on the basis of gender, ethnicity, forest condition, asset categories and location (districts/regions).
Details of elements measured	Due to lack of baseline indicators, elements were measured using analytical framework derived from SLA. **Group Interviews and Focus Groups:** Natural Capital – Forest Type; PFM type (if applic); NTFP earnings. Financial Capital – Market access; saleable goods. Physical Capital – Community assets; Productive equipment; traction animals; infrastructural facilities. Human Capital – Schools/education; skills; health care; gender-labour dynamics; migration.

	Social Capital – Class and ethnic differences; exclusion from participation; community groups. **Household Case Studies:** Financial Capital – Income sources and expenditure; savings; investments; remittances. Human Capital – Education level and attendance (formal and informal). **Key Informants:** Social Capital – intra-community power; decision-making power; equity; marginality; existence of political parties/groups. **Venn Diagram:** Social Capital – class and ethnic differentiation; self-help group/community organisations; participation/exclusion, inter/intra-community conflict. **Transects; Maps:** Natural Capital – Water source (fresh and salt); Food production/access. **Historical Timelines:** Natural Capital – Land access, ownership and utilization; other natural resource utilization.
Indicators used	Specific baseline indicators not pre-determined, thus presumed information gathered would provide many indicators for monitoring and analysis. These are not expanded upon.
Evaluation of methods 1: resources required	- Literacy an issue and training required (time consuming). - Group/participatory work time consuming. -Guidance and quality control of field staff difficult due to lack of experience and remoteness of areas (many several hours/days to reach). - Qualitative/quantitative surveys conducted sequentially rather than iteratively (preferable) due to time constraints and localised conflict.
Evaluation of methods 2: Quality andtype of data produced	- Difficult to relate data on vulnerability and livelihoods outcomes to forestry. - Much of the qualitative information is site-specific and cannot be generalised for the whole study population.
Evaluation of methods 3: Replicability	Easily replicated given resources required (significant due to scale and scope) otherwise may be adapted to scale-down version.
Analysis and utility	Data was analysed using SPPS version 11 software. Info re by whom for whom not given.
Comments	-The use of knowledgeable individuals as information source on political issues such as decision-making power, marginality, equity etc could support elitist interests and introduce significant bias. - Whilst LFP claims to have encompassed stakeholder participation in both the design and implementation stage, the stakeholders in question appear to be local NGO personnel rather than community members. This seems to compromise the foundation of participatory research. - Study fails to provide sound evidence of indicators used to assess PFM impact and draws little or no conclusion of overall findings. LFP themselves question the logic of this approach (5.1.3 p. 30). - Distribution of, and benefits from, forest products estimated rather than quantified, thus compromising the legitimacy of its findings. - All aspects of research ultimately sanctioned by supervisor (outsider) thus placing great value on external knowledge and expertise and deriding indigenous input.

ID	**11**
Author	**Richards, M., Maharjan, M., Kanel, K.**
Title	Economics, Poverty and Transparency: Measuring Equity in Forest User Groups.
Date	2003
Source	Journal of Forest and Livelihoods vol.3(1) July 2003
Keywords	Equity Indicators, Economic Methodology,
Abstract	Presents a combination of traditional and participatory economic methodology useable for FUG's in Nepal examining equity and transparency.
Scope	6 Community Forests comprised of 90 households were studied in Baisekham FUG in Dhankuta District to assess the impact of CF on equity. Concerns over effective participation/representation led to a switch from key informant use to the more effective household survey use.
Personnel Involved	Core team of enumerators consisted of two members of an indigenous NGO (FECOFUN) and one forest ranger.
Methods Used	PRA tools
Sample	34 household (7 very poor, 10 poor, 10 mid-wealth, 7 rich) initially selected randomly but later based on accessibility due to time constraints.
PRA Exercises	**Wealth Ranking:** carried out with key informants and based on own criteria (food security) and categories emerged as very poor, poor, mid-wealth and rich. **General discussion:** with largest stakeholder group (poorest) to estimate levels of cash costs, number of FUG workdays per hhld and unit prices/values of forest products. **Household Surveys:** of forest product extraction and labour use. **Participatory Report-Back:** data handed back to groups for self-analysis and based on questions regarding type, amount and value of products collected, cash costs, collection time and return to labour.
Household Interviews	Survey form designed and pre-tested with members of nearby Dumre Sanne FUG and was considerably modified thereafter. Questions of total annual product collection were rephrased to weekly/monthly timeframes for easier respondent comprehension and to provide more accurate data.
Other methods	Much info based on memory recall.
Community disaggregation	Wealth-based stratification (very poor, poor, mid-wealth and richer) established at time of fieldwork through to analysis.
Details of elements measured	Amount collected from each source per week or month (not specified) in each main season (dry and rainy). For products not collected annually (timber) quantity consumed over last 10 years elicited and average annual estimated.
Indicators used	Indicators used: ▪ Use levels of forest resources measured by gross margins per capita (gross margin = gross income minus variable costs) ▪ Dependency on CF resources ▪ Return to labour (measured in terms of distance and time spent collecting products) Suggested indicators: ▪ Gross margin per hhld/capita (from CF and all forest sources) ▪ % of gross margin from different forest sources ▪ Gross margin per person day (all hhld members and per female day) ▪ % of collection days by women ▪ Mean hours per day spent by women and children collecting forest products ▪ Est. fuelwood consumption (kgs) per capita. Optimal indicator: ▪ Average time spent per day/week collecting a bundle of subsistence forest products (more easily measurable than economic measures but serve as proxy to most) to be divided my composite index rep hhld demand composed of hhld size and number livestock units. Progress towards increased equity indicated by gradual reduction in time per unit of hhld

	demand. ▪ Gender-based indicator would be female hours per unit of household demand.
Evaluation of methods 1: resources required	Household survey time of 30-40 mins/hhld thus not time consuming.
Evaluation of methods 2: Quality and type of data produced	Memory recall methods cost-effective in absence of recorded info but subject to significant bias and can be unreliable therefore triangulation necessary, e.g. establishing household recording systems, participant observation
Evaluation of methods 3: Replicability	Small key informant groups more replicable and cost-effective but reduce FUG ownership and empowerment.
Analysis and Utility	Data processed using excel and all household product collection levels, values, labour, inputs and gross margins calculated. Later analysis carried out including triangulation and sensitivity analysis.
Comments (MR)	- Indicators defined in top-down manner and not been negotiated with beneficiaries therefore community ownership questionable. - Indicators very 'forest-centric' – poorest may not be very dependent on forest resources so need complementing by more general indicators e.g. food security, cash income and diversity.

ID	**12**
Author	**Timsina, N.P.**
Title	Promoting Social Justice and Conserving Montane Forest Environments: A Case Study of Nepal's Community Forestry Program.
Date	2003
Source	The Geographical Journal vol.169 (3) pp. 236-242
Keywords	Nepal, Forest User Groups, Participation, Community Forestry, Social Structure
Abstract	Case study in Middle Hills, Nepal assessing the influence of PFM on inter and intra community relations.
Scope	Field study carried out in Dhungeshwori Community Forest (Eastern Dolakha district) which comprises wards 1-3 of Kavre VDC. Provides examples of how CF can promote female, poor and dalit participation in forest management, enhance social justice and improve forest resources in a locality.
Personnel Involved	Author spent two months living with the community
Methods Used	PRA Activities; Secondary Sources
Sample	Wealth-ranking exercise used to select 54 households for interview (6 rich, 23 medium, 25 poor)
PRA Exercises	**Wealth Ranking:** with the help of key informants such as school teachers, village priests, local political and women's leaders. Three broad categories formed: rich, medium and poor. **Individual Interviews:** see below. **Group Interviews:** comprised people identified as having similar interests/problems, in this case a group of Sarki (poor low caste), a group of non-Sarki, and a group of representatives from local NGOs, clubs and co-operatives. **Focus Group Discussions:** on issues of benefit sharing and participation. **Direct Observation:** of activities organised by the FUG and other relevant institutions in the village e.g. general assemblies and committee meetings.
Household Interviews	Individuals within households interviewed using semi-structured, open-ended techniques. Interviews took place in local teashops, work places or common areas (local bazaar) in the early mornings (before work) or evenings (after work). In the case of the landless, wage earners, women and scheduled caste members, interviews took place in the early morning in their households.
Other methods	Secondary sources e.g. existing literature on forest resource use/management, land/forest use policy documents, livelihoods and farming systems field reports. Triangulation used to validate findings by cross-referencing individual responses with those from group discussions and key informants.
Community disaggregation	At the fieldwork level, the community were disaggregated according to wealth rank. At the analysis stage it is according to gender, caste and poverty.
Details of elements measured	**Benefit Sharing:** from community forestry and its related resources/products. Examined predominantly within focus group discussions and additionally through participant observation. **Participation:** of the poor/marginalised in decision-making for forest resource use/management. Assessed mainly through focus group discussions and observation of FUG meetings.
Indicators used	No tangible indicators. Participation in decision-making assessed according to low-caste representation and influence in FUG committees.
Evaluation of methods 1: resources required	Resources required reflect scale of research – limited personnel and short time frame.
Evaluation of methods 2: Quality and type of data produced	Qualitative data produced sufficient to support argument for more participation in PFM. Nothing ground-breaking. No quantitative data.
Evaluation of methods 3: Replicability	Easily replicable.
Analysis and Utility	Data analysed by author for support of research hypothesis.
Comments	Lacking in qualitative evidence therefore completely open to interpretation, though

	probably a result of the small scope of the research.

	96
Author	**Sunderlin, W.D.**
Title	An ex-post methodology for measuring poor people's participation in social forestry: an example from Java, Indonesia.
Date	1997
Source	Agroforestry Systems vol.37 (3) pp297-310
Keywords	Evaluation, Social Forestry, Poverty, Forest Management, Indonesia
Abstract	Assessment of poor people's participation in, and benefits gained from, the Java Social Forestry Program. Research prompted by early concerns regarding poor non-participation.
Scope	Article proposing a methodology for evaluating the degree of inclusion of the poor in Social Forestry using ex-post data alone, in which slow change variables are used to approximate socioeconomic status of participants and non-participants to predict whether respondents partake in social forestry programs. Further to this, the proposed methodology highlights the ex-post extent of inclusion by intended beneficiaries.
Personnel Involved	Info not given. Assumed independent research on behalf of author.
Methods Used	Research methods: household survey Analysis tools: longitudinal comparison through use of slow change variables and logistical regression
Sample	4 case study sites selected where SF implemented 2 years previously. Sites A and B on poor soil land and C and D on rich soils (for agri purposes). Sampling frame consisted of village, villages or sections of villages close to the SF sites, in which all participant households were surveyed and either all or a representative fraction of non-participants were surveyed.
PRA Exercises	No PRA activities
Household Interviews	No further information given.
Other methods	Data collection on certain slow change variables at T2 that are assumed to show socioeconomic status at T1.
Community disaggregation	Households categorised at the analysis stage according to socioeconomic status: 1. Self-sufficient (monthly income < 1.5 times poverty line). 2. Near self-sufficient (1.0-1.5 times poverty line) 3. Poor (0.75 - > 1.0 poverty line) 4. very poor (> 0.75 poverty line)
Details of elements measured	Household wealth measured through gathering data on: - area/type of land owned - value of house - household goods - farm machinery - means of transportation - livestock ownership
Indicators used	Particular slow change variables used in this data analysis: - educational level of household head - area of owned paddy land - area of owned non-paddy land - original value of house
Evaluation of methods 1: resources required	Less expensive than longitudinal research as requires fieldwork at only one point in time, post implementation.
Evaluation of methods 2: Quality and type of data produced	- Power of slow change variables to predict participation status is inconsistent e.g. unclear why household head education level has low predictive power in all sites except one. - Estimating socioeconomic status at T1 less accurate than data at T2, though adequately reliable if care put into assessing possible changes over time.
Evaluation of methods 3: Replicability	Easily replicable if knowledgeable of key analytical tools mentioned.
Analysis and Utility	-Logistical regression used to predict past status on ability/desire to become a

	participant in social forestry at each site. - Enables meaningful evaluation in many cases where socioeconomic evaluation is unplanned and pre-test data has not been collected.
Comments	Papers focuses more on data analysis than collection, therefore is more relevant for drawing conclusions at the post-fieldwork stage. However research findings seem thorough and comprehensive and thus worth considering similar use of analytical tools.

ID	**97**
Author	**Rosyadi, S. and Nuryartono, N.**
Title	Does Tumpangsari Program Benefit the Poor? A Case Study in Rural Banyumas, Central Java, Indonesia
Date	2003
Source	CIFOR-Bonn International Conference on Rural Livelihoods, Forests and Biodiversity.
Keywords	Indonesia, Tumpangsari, Social Forestry
Abstract	Introduced by Dutch colonials, and re-enacted in the post-independence era to counter forest encroachment and declines in rural land holdings, the Tumpangsari program involves temporary land access for dry land farming activities in exchange for labour on forest plantations. The study assesses the extent to which this program provides socio-economic benefits to participants.
Scope	Field study conducted in 8 forest villages in the Banyumas District over an 11 month period, where programs over 3 years old existed. Authors use relative poverty groupings, dividing the participants into three wealth categories and conclude that the program was unsuccessful in targeting the poorest and as a result, participation failed to improve their access to rice (main indicator used).
Personnel Involved	No info given
Methods Used	Questionnaires with open and closed-ended questions. Ex-post facto research applied in cases where no pre-participation socio-economic data existed.
Sample	15 respondents from each sub-village, totalling 240 (equal sample of participants and non-participants.
PRA Exercises	No PRA exercises
Household Interviews	No further info given.
Other methods	None
Community disaggregation	Households divided into those who participated in the program and those who did not. Principle component analysis used to classify respondents according to relative poverty group (the poorest, the poor, and the not so poor). Criteria for doing so not provided.
Details of elements measured	Participation (in the Tumpangsari program in both the traditional form and in the social forestry form). Socioeconomic benefits derived from participation in terms of rice stock an annual income.
Indicators used	Annual rice stock (socioeconomic impacts and participation levels) and annual income (socioeconomic impact). Indicators chosen based on model of farm household that assumes that due to a limited interaction with the market, production and resource decisions are heavily based on non-profit considerations (Shiferaw and Holden, 1997).
Evaluation of methods 1: resources required	High degree of technical knowledge required for analysis stage. 11 month time frame
Evaluation of methods 2: Quality and type of data produced	Paper does not elaborate on methods used: participation examined in terms of who is/is not part of the program, and fails to look beyond this (why people do/do not participate, community disaggregation of participation. Paper also fails to acknowledge how annual income is assessed or criteria for defining income (formal/informal/cash/other). Data therefore rests on rice stock (see below)
Evaluation of methods 3: Replicability	Using rice stocks as indicators of socioeconomic well being is only applicable in areas where rice is the staple, excluding many dry forests and other agro-climatic regions. Not easily replicable by community members due to literacy issues and technical knowledge required.
Analysis and Utility	Qualitative analysis consisting of cross-tabulation and t-tests, to test differences of means of socioeconomic characteristics of households. Regression analysis was used to predict effect of socioeconomic status of households on rice stock and annual income. One factorial analysis used to test differences of means of financial

	outcomes and access to forest resources within each relative poverty group. Data analysed using SPSS Software Version 10 and Limdep 7.0.
Comments	Paper fails to elaborate on most aspects of the methodology, preferring to detail data analysis stage, making it difficult to assess on all levels.

ID	**98**
Author	**Zeller, M., Sharma, M., Henry, C. and Lapenu, C.**
Title	An operational method for assessing the poverty outreach performance of development projects: Results from four case studies in Africa, Asia and Latin America.
Date	2003
Source	Proceedings of the 25th International Conference of Agricultural Economists, Durban, South Africa. http://www.iaae-agecon.org/conf/durban_papers/papers/004.pdf
Keywords	Poverty, targeting, evaluation
Abstract	Presents an operational method which constructs a poverty index using principle component analysis, based on a range of indicators that describes different dimensions of poverty and for which credible information can be quickly and inexpensively obtained.
Scope	Method used in Nicaragua, Kenya, Madagascar and India as part of a two year research project which has since been successfully utilised in over 20 project assessments. Primarily for use in assessing impact of micro finance projects but deemed applicable to other development areas.
Methods Used	Principle Component Analysis used to identify the most important indicators in order to calculate an aggregate index of relative poverty for a specific sample household. Two groups of indicators developed (in relation to welfare and consumption) and tested with a generic questionnaire
Sample	In each case study area, 200 client households and 300 non-client households randomly selected using cluster sampling.
PRA Exercises	None
Household Interviews	Generic questionnaire used. Details not elaborated upon.
Other methods	None
Community disaggregation	Poverty level established at analysis stage
Details of elements measured	See below
Indicators used	**Human Resources** • Education level of household head • Maximum education level in household • % adults who are wage labourers • % literate adults in household **Dwelling** • Value of dwelling • Roof/walls made of permanent material • Quality of flooring material • Electrical Connection • Source of cooking fuel • Latrines in house • Number of rooms per person • Access to water Structure of house • Irrigated land owned • Number of TVs/radios/fans/VCRs • Value of radio/electrical devices/vehicles • Value of assets per person/adult **Food Security and Vulnerability** • Number of meals served in last 2 days • Episodes of hunger in last 30 days/12 months • Numbers of days with luxury food

	• Frequency of purchase of basic good • Food stock in house • Use of cooking oil **Miscellaneous Indicators** • Per person clothing expenditure
Evaluation of methods 1: resources required	For the principle component analysis, a great degree of technical knowledge of its use and application.
Evaluation of methods 2: Quality andtype of data produced	Method relies heavily on consumption indicators (rather than income) because consumption over time (seasons/years) is more stable than income and households provide information more easily on what they consume than on what they earn. % poorest group who are project clients indicates its relative success/failure in providing benefits for this group. Their over-representation indicates the projects failure in assisting the less poor. This does not seem to be an adequate assessment of data.
Evaluation of methods 3: Replicability	Time period of two years indicates significant input of time and other resources which may hinder replicability within projects of differing scale/scope.
Analysis and Utility	• % poorest group who are project clients indicates its relative success/failure in providing benefits for this group. Their over-representation indicates the projects failure in assisting the less poor. This does not seem to be an adequate assessment of data. • Comparison of poverty level (derived from data) with national averages or areas outside project boundaries.
Comments	• All depends on definitions of indicators and what they actually indicate. E.g. exactly how much cooking oil used indicates a certain level of poverty? How much food stock in house is considered • Indicators seem very context specific. E.g. Surely in S.S. Africa the question would be 'number of people per room' rather than 'number of rooms per person'. Same goes for electrical devices and luxury goods. • Indicators require further definition. What is a luxury good? What is a basic good? • Does not seem to provide information on absolute level of poverty.

ID	**99**
Author	**Gibbon, M. and Pokhrel, D.**
Title	Social Network Analysis, Social Capital and their Policy Implications
Date	1999
Source	PLA Notes (1999) Issue 36 pp.29-33, IIED London.
Keywords	Social Network Analysis, Nepal, Empowerment, Social Capital
Abstract	Describes how the participatory approach of Social Network Analysis can be used to understand social capital and to assess its strength and influence on local level policy.
Scope	Research undertaken in Ward 3 of Dhankuta District, Eastern Nepal over a three week period in January 1998. One of the tools in the needs' assessment stage was social network analysis, which took place at the start of the research and also after eighteen months. This time gap enabled changes in relationships and linkages to be clearly seen.
Methods Used	Social network analysis as an indicator of social capital
Sample	Women's Community Group
PRA Exercises	Social Network Analysis by means of mapping exercise during group interaction.
Household Interviews	None
Other methods	Needs assessment (as defined by community)
Community disaggregation	None
Details of elements measured	Support networks (financial, social, medical)
Indicators used	Where do people go to seek different types of support? Family, extended family, other individuals, formal/informal community groups/ further a field?
Evaluation of methods 1: resources required	Very few resources required. Local language proficiency.
Evaluation of methods 2: Quality and type of data produced	Pretty basic indicator which only elaborates on a few aspects of social capital
Evaluation of methods 3: Replicability	Easily replicable. May highlight strong/weak relationships in community after PFM implementation but would rely upon recall method for pre-implementation period.
Analysis and Utility	Used as basis for needs assessment and as a springboard for community centred development initiatives.
Comments	To be used as possible indicator of social capital benefits

ID	**100**
Author	**Smith, S. and Sender, J.**
Title	Investigating Poverty : an example from Tanzania
Date	1988
Source	RRA Notes (1988) Issue 2, pp.18-20
Keywords	Tanzania, Poverty, Poverty Indicator
Abstract	Focus on differentiation and class formation among households involved identification of the poorest of the poor, and methods used to distinguish the destitute from the not-so-poor.
Scope	Research undertaken in Lushoto District, Tanga Region, Tanzania in 1986.
Methods Used	Location of poorest by following up parents of absentee schoolchildren. Possession Score then took place to further differentiate socio-economic standing.
Sample	100 households selected from records of school absenteeism among 4 primary schools with known low attendance. Children absent from either Standard 3 or 6 on a total of more than 50% of the school days from the previous year.
PRA Exercises	Possession Score
Household Interviews	Interviews took place with sample and involved detailed information of every resident and every child and spouse of every resident.
Other methods	None
Community disaggregation	Poverty indicators (below) used to disaggregate community along socioeconomic lines at the fieldwork stage.
Details of elements measured	Possession of certain material assets indicating well-being level.
Indicators used	Initial indicator was absenteeism from primary school (indicating the priority for labour over education). Ownership of the following possessions indicated higher level of well-being: • Metal roof • Non-mud walls • Watch • Light • Radio • Bicycle • Number of pairs of shoes • Number of beds/rooms/mattresses/chairs/stools/coats/sweaters
Evaluation of methods 1: resources required	Access to school records essential, unless relying upon knowledge/thoughts of key informants such as school headteachers (bias!).
Evaluation of methods 2: Quality and type of data produced	According to author, items on possession score (relevant to this review as indicators of poverty or non-poverty) clearly constituted major improvements in well-being. Possession Score used instead of any measure of income as an indicator of socioeconomic status.
Evaluation of methods 3: Replicability	Easy to replicate but needs serious contextualising.
Analysis and Utility	Information can be used as means of poverty/wealth ranking within a PFM community, but can only be used as a gauge of poverty impact when compared with pre-PFM data.
Comment	Can be used as means to identify poorest in community and assess levels of social inclusion/exclusion. Can go beyond school absenteeism to that of medical clinic attendance and other community-based organisations.

ID	**101**
Author	**Thanh, T.N., Tan, N.Q., Sikor, T.**
Title	Local Impact Assessment of Forest Land Allocation: Manual
Date	2003
Source	Dak Lak Department of Agriculture and Rural Development
Keywords	Vietnam, Allocation, Evaluation
Abstract	Manual describing methods for assessing the impact of the FLA program in Dak Lak region of Vietnam that has been applied and tested over a one year period.
Scope	Assessment focuses on the village level and accords priority to understanding the local outcomes of FLA, particularly with regard to participation, cause and effect of changes in forest condition and benefits. It aims to be both effective and feasible, in terms of the human and financial resources available.
Methods Used	PRA activities; Household Interviews
Sample	
PRA Exercises	**Forest Walks –** overview degree of changes in forest resources, type and accessibility. Combined with results from group discussion/mapping. **Village Walks** – level of usage of forest products, socioeconomic status. Best to have assistance of knowledgeable local. **Participatory Mapping** – situation of land and forest use focussing on forest management (changes thereof) and conflicts arising from this. **Group Discussions** – awareness on factors that impact on forest resources. Important issues selected prior to discussion. **Interviews with State Forest Enterprise staff** – (or equivalent) find out about allocation process and general situation of forest usage/management. **Key Informant Interviews –** more in depth info on issues raised in GDs. Openness and relaxed atmosphere imperative.
Household Interviews	Detailed data on use of forest resources, tenure rights, household resources, main sources of income. • 20 households per village (2) evenly selected on basis of participation (in FLA program) and non-participation. • Classification of household economy into rich, medium and poor groups (with help of village headman). • Several households whose heads are on some recognised position in the village selected.
Other methods	Observation – in field, group meetings Secondary sources – FLA documents
Community disaggregation	Equal number of participants and non-participants for household survey.
Details of elements measured	See below
Indicators used	Forest Resources – area (ha) and stock (m^3) Benefits (income) – area cultivated land, agricultural output, timber, NTFPs; support received through targeted programs. Benefits (other) – stated spiritual relation with forest Potential values of forest – timber stock and forest area at time of allocation; state support entitlement. Right of withdrawl – to what products do people have right of exploitation? Who does/does not have right? Who grants permission? Right of alienation – who can sell products? What products can/cannot be sold? Right of exclusion – can participants stop others from entering forest? In what case and for what kind of resources? Punishments? By whom? Right of management – who has right to clear fields, intercrop, conduct thinning? Permission required? From whom? Conflict – types of conflict by actors involved, severity, solution? Household dependence – land area under cultivation and income from crops; off-farm income, average income per capita

	Household resources – number of labourers, official position and skill, education level of household head Changes in forest resources – comparison of land quality on allocated and neighbouring forest; comparison of quantity/quality of timber products Decision making in allocation – what group/individual decides on form of allocation? Procedures applied for deciding form of forest allocation. Transparency in process – forms of participation, attendance at meetings, stated knowledge of processes/policies. Role of locals in distribution – who decides? What criteria applied? Local evaluation of distribution? Equitable?
Evaluation of methods 1: resources required	14 labour days (per village) 1 team leader 2 enumerators

ID	**102**
Author	**Jonathan Kusel and Elisa Adler (editors)**
Title	Forest Communities, Community Forests
Date	2003
Source	Rowman and Littlefield Publishers, Inc., Maryland, USA. 301pp.
Keywords	Rural Livelihoods, Conflict, Employment, Environment, Democracy, USA.
Abstract	The book presents 12 case studies from across the USA, which examine the link between community well-being and forest ecosystem health in both urban and rural communities and in different regions of the country. The cases are organised around three themes. Three cases in Part I 'Investing in Natural Capital, Investing in Community', describe work to reverse patterns of decline and under-investment in the land and communities. Part II 'From Process to Practice', includes five cases in which residents organised and focused on developing good processes to tackle paralysing policy gridlock and social conflict. In the four cases in Part III, 'Stewarding the Land', residents focus on making a difference on the ground and in people's minds; by working through the 'heart' they address community health as well as ecosystem health.
Scope	These case studies were commissioned by the Communities Committee of the Seventh American Forest Congress (1996) to gain a better understanding of how community involvement in forestry was working and what could be learned from past work. The cases were selected to represent the broadest possible variety of forest communities. Each case study aims to understand the issues facing each forest community – its social structure, its capacity, and its history in general and with forest agencies and business in particular. Many of the cases focus on communities whose well-being is tied directly to resource-extraction activities, such as timber harvesting. Case research focuses on the people and the land involved in a community forestry project. It studies the successes and failures of each project, notes the effects of the project on the larger ecological and socio-economic community, and documents the organizational and collaborative processes people have used to keep projects going despite setbacks and failures.
Personnel Involved	Each case study was prepared by one or two professional researchers, mostly from the environmental and/or sociological field. Overall guidance was provided by the Communities Committee of the Seventh American Forest Congress.
Methods Used	Each case study used a checklist of questions (see below) organised around 9 issues. The aim was to give an accurate (rather than an enthusiastic) picture of what had worked and what hadn't (to allow for lesson-learning).
Sample	12 studies were selected out of a pool of 25 candidates that highlighted community-based partnership activities demonstrating a reciprocal relationship between communities and forests. Selection criteria included: (i) Place based: Community-based activities could be located in a geographically defined space adjacent to or near a community. (ii) Long-term operation: at least 3-5 years of group or collaborative effort. (iii) Inclusive involvement: Groups or collaborative efforts must be open to diverse perspectives, encourage debate, and have a relatively diverse membership. (iv) Geographic distribution: cases should represent all major regions in the USA. (v) Urban and Rural: both to be represented.
Evaluation of methods 3: Replicability	No critical discussion of methods (or time/resources) is provided. Clearly dependent on good researchers with a common vision. Most researchers very familiar with community forestry if not necessarily in the case study region.
Analysis and utility	Qualitative analysis.

Bibliography							
ID	Type	Author	Title	Date	Source	Keywords	Abstract
1	**Case Study**	Formete,T. & Vermaat,J.	Community Forestry and Poverty Alleviation in Cameroon	2001	Rural Development Forestry Network Paper 25h(i)	Incomes, Ownership, Training, Efficiency, Poverty Alleviation, Cameroon	Study of four FUG's concluding that PFM has the potential to alleviate poverty and improve livelihoods, subject to certain conditions 1) enforced legal protection from outside 'incursions', 2) community ownership of the planning and organisation process, 3) available technical and management skills, 4) access to finance. The 4 case studies demonstrate progressively more successful instances of CF. Forests are logged by the communities and value added to the timber, with the proceeds spent mostly on community projects in the most successful cases. There is further potential for the exploitation of NTFPs which would help specific social groups such as women. These objectives may be achieved when 1) the legal framework is protected to safeguard communities from abuse by outsiders such as industrial loggers and village elites, and pertaining to benefit sharing and community development planning. 2) development of community organisation and management guidelines to allow communities to organise themselves and their administrative systems coherently and to maintain full ownership of planning and implementation activities. 3) establishment of guidelines to enable communities to
2	**Case Study**	Gardner, A.A., DeMarco, J., and Asanga, C.A.,	A conservative partnership: Community Forestry at Kilum-Ijim, Cameroon	2001	Rural Development Forestry Network Paper 25h(ii)	Livelihood activities,Parnership,Training, Income generation, Cameroon	Examines a partnership between local forest users and the conservation community and the potential CF has for protecting the forest for the benefit of multiple stakeholders I.e. for biodiversity conservation and as part of the livelihoods of local people. The project is located in the Bamenda Highlands region and involves 44 communities setting up community forests in the surrounding Kilum-Ijum Forest. This process is supported by the Kilum-Ijum project, first established by a conservation NGO, Birdlife International in 1987. The project has provided training in agricultural and other livelihoods activities to relieve pressure on the forest land and is also supporting the applications for community forests, both financially and through mediation.
3	**Discourse**	Thin,N. & van Gardingen,P,	Legal, Institutional and Policy Issues Affecting to Common Pool Resources: Forestry	2003	Edinburgh Centre for Tropical Forests (ECFT/DFID)	Common Pool Resources, Sustainable Livelihoods Analysis, Social Capital, Institutions	Examines CPR management of forests in four countries using the SLA. Concludes that CPR's do impact upon poverty alleviation and question how existing policy can be made more conducive for pro-poor and anti-poverty CPR regimes.
4	**Case Study**	Lewis, T.& Horn, J.et al	Small and Medium Scale Enterprises in the Forestry Sector in South Africa: An Analysis of Key Issues	2004	International Institute for Environment & Development (IIED); Institute for Natural Resources (SA)	Small/medium enterprises, Non-Timber Forest Products (NTFP), Profitability	Analyses the development and of small/medium enterprises in the South African Forestry Sector. Profitability is assessed and the contribution this makes to rural livelihoods.
5	**Discourse**	Maharjan, M.R.	Policy Implications for Equitable Cost and Benefit Sharing in Community Forestry in Nepal		W:\Forestry\CARE PFM\Papers	Social justice, Equity, Sustainable, Community Forest User Groups (CFUG's), Nepal	An overview of past and current PFM policy in Nepal. Concluding that the opportunity costs remain high for marginalised groups and any benefits accrued are distributed inequitably.
6	**Discourse**	Arnold, J.E.M.	Forestry, Poverty and Aid	2001	CIFOR Occasional Paper 33 (CIFOR)	Devolution, Subsistence, Dependence, Rights	Presents the case for an approach to forestry aid focussing on supplying subsistence and survival needs of the poor in addition to improving incomes. Warns of the risks of devolution in disturbing power relations resulting in limited pro-poor impact.
7	**Case Study**	Wily,L.A.	Moving Forward in African Community Forestry: Trading Power not Use Rights	1999	Society & Natural Resources vol.12 (1) p49-61 (IIED)	Community-based, forest-local communities,juristiction, power, responsibility	Analyses two examples of CBNRM in Tanzania where authority has been devolved to community level. Author argues that authority should always be vested in the community with the state acting merely as advisor. Any other form of PFM/JFM which retains control cannot obtain the same level of benefits as autonomous CBNRM.
8	**Case Study**	Springate-Baginski,O., Yadav, N., Dev, O.P., and Soussan, J.,	Institutional Development of Forest User Groups in Nepal: Processes & Indicators	2003	Forest & Livelihoods vol.3(1) p21-36 (ODI/Forest Action)	Forest User Group (FUG), Institutional Development, Forest Management, Equity, Nepal	Examines institutional development of FUG's in Nepal and means of assessment. Argues that income raised within FUG's tends to be under-utilised with the exception of a few community development activities. Distribution of forest products often inequitable, with similar inequities apparent favouring wealthier members.
9	**Case Study**	Yadav, N.P, Dev, O.P., Springate-Baginski, O., and Soussan, J.	Forest Management and Utilization Under Community Forestry	2003	Forest & Livelihoods vol.3(1) p37-50 (ODI/Forest Action)	Forest Resources, Participatory assessment, Decision-making, Forest Management, Community forestry, forest regeneration, Equity, Fuelwood, Timber, Poles, Fodder, Forest product distribution, Nepal	Examines the impact of community forestry on forest resources including processes of management, particularly inequity and participation. Finds a positive impact on community-wide income, with profits redirected into social development programs. Non-income benefits said to include forest regeneration (though no evidence pre-PFM given). However, inequity said to remain high due to lack of participation by poor/landless.

Bibliography							
ID	Type	Author	Title	Date	Source	Keywords	Abstract
10	**Case Study**	Dev, O.M., Yadav, N.P., Springate-Baginski, O., and Soussan J.,	Impacts of Community Forestry on Livelihoods in the Middle Hills of Nepal	2003	Forest & Livelihoods vol.3(1) p64-77 (ODI/Forest Action)	Process-indicators, Institutional Processes, Decision-Making, Livelihood Impacts, Nepal	Analyses the institutional arrangement of FUG's and the impact this has on livelihoods. A livelihoods systems approach is adopted in assessing this and concludes that income improvement is dependent upon access (to products, markets etc). Non-income impacts are said to include skill development, improved social cohesion within and between FUG's and reduced threat of loss of forest product supplies. Questions exist, however, over the restriction of forest use, distribution of products and the equity issues such questions entail.
11	**Methodology**	Richards,M. et al	Economics, Poverty and Transparency: Measuring Equity in Forest User Groups	2003	Forest & Livelihoods vol.3(1) p91-104 (ODI/Forest Action)	Equity Indicators, Participatory Economic Calculations, Opportunity Costs, Nepal	Develops an economic methodology, usable by Forest User Groups, for increased equity transparency in CF in Nepal. Concerns over effective participation/representation led to a switch from key informant use to household survey use. The main indicator for inequity was labour collection time (reflecting shorter distances to collect forest products for wealthier households. A more suitable indicator suggested is time needed to collect bundle of subsistence forest products per unit of household demand.
12	**Case Study**	Timsina, N.P.	Promoting Social Justice and Conserving Montane Forest Environments: a case study of Nepal's Community Forestry Program	2003	The Geographical Journal vol.169 (3) p236-242	Community Forestry Policy, Forest User Groups, Social Structure, Poor and Disadvantaged People, Social Justice, Nepal	Provides examples of CF programs promoting participation of women, the poor and marginalised. Also found cases of enhanced social justice and resources regeneration. However, also demonstrates the power of elitist domination of FUG's and the constraints and challenges this entails.
13	**Case Study**	Neupane, H.	Contested Impact of Community Forestry on Equity: Some Evidence from Nepal	2003	Forest & Livelihoods vol.2 (2) p55-62	Community Forestry, Equity, Livelihoods, Forest Management, Nepal	Discusses six key factors affecting ways benefits from CF are generated and distributed. Six factors analysed: 1. Limited support from District Forest Office 2. Limited access of committee members to new info/knowledge 3. Limited knowledge and techniques for CF management 4. Limited access of the poor in FUG decision-making 5. Inappropriate arrangements for forest products distribution 6. Emphasis on forest protection, rather than management.
14	**Case Study**	Thoms, C.A., Karmacharya, M.B., and Karna, B.K.,	Exclusion Isn't Easy: Lessons from a Leasehold Forest	2003	Forest & Livelihoods vol.2 (2) p48-54	Leasehold Forestry, Exclusion, Collective Action, Poverty Alleviation, Devolution, Nepal	Critically examines a leasehold forestry project in Nepal, arguing that exclusion by small groups is difficult, especially for the very poor. Concludes that CF would reap more benefits than Leasehold Forestry. If implemented well, CF can help the poorest of the poor to meet their forest product needs, without creating resentment towards the poorest.
15	**Case Study**	Malla, Y.B.	Impact of Community Forestry Policy on Rural Livelihoods and Food Security in Nepal	2000	Unasylva vol.51 (202) p37-45	Forest Products, Income, Subsistence, Food Security, Livelihoods, Nepal.	Examines the question: Is PFM incompatible with securing livelihoods from the forest? Analysis concludes that CF fails to provide the very poor with a secure livelihood and in many cases compounds their vulnerability and powerlessness. Argues for a revision of current PFM policy, possibly encompassing a combination of Community and Leasehold Forestry.
16	**Case Study**	Maharjan, M.R.	The Flow and Distribution of Costs and Benefits in the Chuliban Community Forest, Dhankuta District, Nepal	1998	Rural Development Forestry Network Paper 23e	Forest Management, Participation, Cost-Benefit Analysis, Nepal.	Case study highlighting importance of social/economic indicators (in addition to usual environmental indicators) as a measure of sustainability. Distribution of such costs/benefits among different forest users a particularly critical factor that could lead to the long-term success/failure of the FUG. Conclusions and recommendations include: management of the forest for increased productivity, a more equitable distribution system for forest products and income generating activities could see more interest from women and poorer forest users; focusing on disadvantaged users including women and the poor will increase the sustainability of the CF; marketing of surplus forest products could benefit the wider community as well as the FUG through community development activities; a cost benefit analysis may be helpful to the community in decision making about the community forest.

Bibliography							
ID	Type	Author	Title	Date	Source	Keywords	Abstract
17	**Case Study**	Malla, Y.B., Neupane, H.R., and Branney, P.J.	Why aren't poor people benefiting more from community forestry?	2003	Forest & Livelihoods vol.3(1) p78-90 July 2003	Community forestry, Nepal, Equity, Forest products	Assesses levels of participation, understanding of and benefits received from CF in 4FUGs in the west of Nepal. Concludes that the poor may be disadvantaged by CF, predominantly due to dominance of decision making by wealthier households and management of forests below their productive level. Awareness of CF and FUG institutional issues is also low, particularly amongst the poorest group. Main conclusions: 1) generally priveleged households obtain a greater share of benefits from community forests. Distribution systems that assumes that FUGs are homogenous discriminate against the needs of the poor. 2) only a small proportion of forest products are currently supplied from community forests. Private on farm tree resources are important for meeting additional requiremets - another factor discriminating against the poor who have less land and therefore on farm tree resources. 3) FUG committees and their decision making do not adequately represent the needs of the poor.
18	**Case Study**	Upreti, B.R.,	Social Transformation through Community Forestry: Experiences and Lessons from Nepal	2000	http://www.mtnforum.org/resources/library/upreb00a.htm	community forestry, Nepal, equity	Examines the status of community forestry in the hills of Nepal through use of secondary data and primary data collected from 2 hill districts in central Nepal where the Nepal-Swiss Community Forestry Project has been working. Reviews the problems of implementing CF. The project promoted specific inclusion of women, the poor and low castes in CF, and has improved the implementation of CF in terms of equity in product distribution and decision making. However social transformation may as yet be ahead of poverty reduction.
19	**Discourse**	Springate-Baginski,O., Dev, O.P., Yadav, N.,and Soussan, J.,	Community Forest Management in the Middle Hills of Nepal: the Changing Context	2003	Forest & Livelihoods vol.3(1) p5-20 July 2003	Community forestry, Forest policy, Institutions, Nepal	Provides an overview of the policy context of community forestry in Nepal and the forest resource base. Describes the formation of 11 FUGs in the Middle Hills and analyses the role of the Forestry Department in formation and post-formation of FUGs. Identifies strengths, weakness, opportunities and constraints.
20	**Case Study**	Kaimowitz, D., Pacheco, P., Johnson, J., Pávez, I., Vallejos, C., and Vélez, R., Kaimowitz, Pablo Pacheco, James Johnson, Iciar Pávez, Christian Vallejos and Róger Vélez.	Local Governments and Forests in the Bolivian Lowlands	1999	Rural Development Forestry Network paper 24b	Governmental decentralisation, indigenous territories, equity, logging concessions, Bolivia	Bolivia embarked on a decentralization programme in 1994. It approved a 'Popular Participation' law strengthening municipal governments and attempting to make them more democratic. In 1996 it passed a Forestry Law giving municipal governments an explicit role in forest management and a right to receive a portion of forest revenues. Municipal governments are expected to administer up to 20% of public forests as municipal forest reserves to be exploited by local community groups (ASLs) and have a role in ensuring that timber concessions and sawmills comply with forestry regulations. In return the municipal governments are to receive 25% royalties from concessions and the revenue generated from forest clearing permits. This article reviews the progress that has been made so far in forest decentralization through case studies of 4 municipalities
21	**Case Study**	Kigenyi, F., Gondo, P., and Mugabe, J.,	Practice before policy: an analysis of policy and institutional changes enabling community involvement in forest management in Eastern and Southern Africa	2002	IUCN-EARO, Nairobi. Forest and Social Perspectives in Conservation No. 10.	Forest policy, forest legislation, community based forest management, Malawi, Tanzania, Kenya, Uganda, Zimbabwe, Zambia, Mozambique	In Eastern and Southern Africa exclusion of local communities has been incapable of ensuring sustainable forest management. More participatory forest management is now being developed and the most significant changes in policy and legislation have taken place in the last 10 years. However, legislative changes have not kept pace with policy reforms and in many cases participatory forestry initiatives have developed where supporting policy and legislation have not yet been put into place. Donors and NGOs have provided much of the impetus for these new community based forest management approaches. Outlines some shortcomings of current policy in the region, how forest and non-forest policy has contributed to forest degradation, and reviews the inadequacies of new forest policies. Concludes that insufficient use has been made of lessons learnt in other regions.
22	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Vietnam context		http://www.recoftc.org		Provides an overview of the state of CF in Vietnam.
23	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Thailand context		http://www.recoftc.org		Provides an overview of the state of CF in Thailand.

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24	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Philippines context		http://www.recoftc.org		Provides an overview of the state of CF in the Philippines.
25	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Laos context		http://www.recoftc.org		Provides an overview of the state of CF in Laos.
26	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Indonesia context		http://www.recoftc.org		Provides an overview of the state of CF in Indonesia.
27	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	India context		http://www.recoftc.org		Provides an overview of the state of CF in India.
28	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	China context		http://www.recoftc.org		Provides an overview of the state of CF in China.
29	**Typology**	Regional Community Forestry Training Centre for Asia and the Pacific website	Cambodia context		http://www.recoftc.org		Provides an overview of the state of CF in Cambodia.
30	**Case Study**	Suryadi, S.,	Community forestry institutionalized: never or ever: the community forestry program at Sesaot village in Nusa Tenggara Barat Province of Indonesia	2000	LP3ES, unpublished Pp220-238 http://www.recoftc.org	community forest, Governmental decentralisation, Taungya, Forest protection, Indonesia	Indonesia has undergone massive deforestation, until 1998 at a rate of 1.7 million ha pa. Attempts at reafforestation have failed and this has been attributed to the failure to enforce concessionaires to replant. Nevertheless the government has never recognized this but has blamed forest damage on the poverty of communities. Government forestry policy and regulation continues to lay greater emphasis on timber management, and obtaining financial resources for the state than on improving livelihoods and forest conservation. There are clear laws, regulations and institutions, but government has failed in law enforcement permitting large concessionaires to extract timber illegally and this is a major factor in forest degradation. Political reform has included decentralisation to regional and district levels to reduce national disintegration resulting from centralization of power, monopolization of economic development and alienation of regional aspirations. However, despite clear articulation in the decentralization law, government program to empower communities at village level has not been significant. The basic forestry law includes some inconsistencies and overlapping responsibilities, still
31	**Discourse**	Brown, D.,	Principles and Practice of Forest Co-management: evidence from West-Central Africa	1999	European Union Tropical Forestry Paper 2, Overseas Development Institute, London.	Forest co-management, Ghana, Cameroon, Concessions, Forest co-management, participation, Forest legislation, Tropical forests, Timber, Tenure	The paper discusses some of the difficulties of forest co-management and identifies pointers to improve the design of development assisted interventions. In tropical moist forest areas of SSA imbalances of power between industrial and non-industrial forest users, and questionable levels of political will in state agencies present barriers to meaningful community participation. Changes to land tenure systems may be hazardous and do not necessarily guarantee improved access to the poor. Social complexity in the modern world makes these areas unstable in social terms and not necessarily conducive to community solidarity and joint action. The paper uses case studies in the high forest zones of Ghana and Cameroon to discuss problems faced with collaborative forest management in national contexts. It argues against re-creation of traditional resource management systems which assume the existence of effective traditional community leaders who represent the interests of the community. This is in doubt, and complicated by the presence of social heterogeneity due to immigration. The ability of local government authorities to control resources is weakened by the large areas they cover and

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ID	Type	Author	Title	Date	Source	Keywords	Abstract
32	**Discourse**	Scherr, S.J., White, A., and Kaimowitz, D.,	A new agenda for forest conservation and poverty reduction: making markets work for low-income producers	2004	Forest Trends, Washington, D.C.	Forest products, Forestry certification, Forest markets, Forest legislation, Concessions, Community forestry, Farm forestry, Timber	A much longer version of the next entry - which is a policy brief.
33	**Discourse**	Scherr, S.J., White, A., and Kaimowitz, D.,	Making markets work for forest communities	2002	Forest Trends, Washington, D.C.	Forest products, Forestry certification, Forest markets, Forest legislation, Concessions, Community forestry, Farm forestry, Timber	There are three seemingly contradictory goals in forestry at the start of the 21st century: conserving forests, meeting fast-growing demand for forest products, promoting sustainable development to reduce rural poverty. There has been emphasis in development assistance programs on forests as safety-nets for low-income forest dwellers enabling the poor to meet their subsistence needs. Less has been done to help local people exploit their forest assets in a sustainable manner to take advantage of the growing demand for forest products. This policy brief identifies the most promising market opportunities for local producers in developing countries, illustrating possible business models with real life examples, and presenting a set of strategies for realizing that potential.
34	**Typology**	Klein, M., Salla, B., and Kok, J.,	Attempts to establish community forests in Lomie, Cameroon	2001	Rural Development Forestry Network Paper 25f (ii)	Community forestry, equity, timber, Forest management plan, moist tropical forests, Cameroon	Describes the process involved in establishing a community forest, and attempts to cost this up. Findings are taken from the SDDL project of the SNV in Lomie administrative district, Eastern Province of Cameroon
35	**Typology**	Auzel, Ph., Nguenang, G.M., Feteke, R., and Delving, W.,	Small-scale logging in community forests in Cameroon: towards ecologically more sustainable and socially more acceptable compromises	2001	Rural Development Forestry Network Paper 25f(i)	Community forestry, Cameroon, timer, moist tropical forests, income generation, small/medium enterprises	There has been considerable entrepreneurship within the informal sector involving artisanal sawing with a chain saw. This article examines the potential of small-scale logging as a means of sustainabley exploiting community forests. The Forestry Law 1994 states 3 methods to exploit timber resources from community forests: by sale of standing volume, by individual felling authorisation, by logging permit, but none of these offers a satisfactory means to sustainabley exploit timber resources, and exploitation for commercial use, would furthermore, require establishing a contract with a registered exploiter. Estimated potential income from small-scale logging of community forests based on a 30 year rotation and an income of 30,000 CFA per m3 for sawn timber would be 9 to 18 million CFA pa for a 1500 – 2500 ha community forest (270 – 360 million CFA over a 30 year rotation) and 27 to 36 million CFA pa for a 3000 – 5000 ha community forest (710 – 1080 million CFA over a 30 year rotation). By contrast, income from Sale of Standing Volume, which has been the standard practice to date, for a 2500 ha forest on a one off basis, at a rate of 1000 CFA per m3 of timber removed is estimated as 5 –
36	**Typology**	Djeumo, A.,	The development of community forests in Cameroon: origins, current situation and constraints	2001	Rural Development Forestry Network Paper 25b(i)	Community forestry, Cameroon, timber, moist tropical forests, forest legislation, forest management	Assesses the status of community forestry in Cameroon 7 years after the 1994 Forest Law first made community forestry possible. Highlights the key constraints which are socio-cultural (the notion of community and formation of 'legal entities' for the purposes of community forestry), institutional and financial - particularly relating to the costs of development of the application file and management plan required to establish a community forest.
37	**Typology**	Bray, D.B.,	Mexican Community Forestry: Perspectives on Common Property Enterprises and Asset-Building	2004	Paper presented at the International Conference on Rural Livelihoods, Forests and Biodiversity. May 19-23, 2003, Bonn, Germany. Electronic Proceedings, CIFOR. http://www.cifor.cgiar.org/publications/corporate/cd-roms/bonn_results/index.	Community forestry, Mexico, common property	Outlines the Common Property Regime in Mexico under which community forestry enterprises have developed. Assesses the extent to which these enterprises are profit and contribute to the social and economic development of the community.
38	**Case Study**	Klooster, D.,	Institutional Choice, Community, and Struggle: A Case Study of Forest Co-Management in Mexico	2000	World Development, 28, 1, 1-20	Community forestry, timber, tenure, sustainable forestry, forestry certification, small scale forest enterprises, equity.	This paper surveys the evolution of theory on change in commons management and briefly describes the institutional choice approach. It assesses the utility of this approach in explaining observed processes of change in a case study of success and failure amongst forest owning communities in Mexico.

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ID	Type	Author	Title	Date	Source	Keywords	Abstract
39	**Discourse**	Wily,L.A.,	Making woodland management more democratic: cases from Eastern and Southern Africa	2000	Drylands Issue Paper No. 99. International Institute for Environment and Development, London, UK.		Looks at changing power relations between the state and the people in Africa in land and natural resources, particularly woodlands. Looks at the extent to which communities are gaining authority over woodlands, including rights of ownership and looks at the extent to which community level institutions are emerging to support these altered patterns of forest ownership and control. Efforts to interest local populations in woodland management are only 5-10 years old in Eastern and Southern Africa and have been largely in the context of donor funded projects. Distinguishes between different types of community involvement in forest management as in other Wiley papers. Argues that community stewardship of forest resources is the only way to ensure conservation on a sustainable basis. Possibly a shorter version of Wiley and Mbaya.
40	**Case Study**	Wily, L.A.,	Forest management and democracy in East and Southern Africa: lessons from Tanzania	2001	Gatekeeper Series No. 99, IIED, London, UK.		Looks at the benefits deriving in Tanzania where forest management is being handed over from the state to the people, and argues that offering custodial rather than access rights to communities provides the most effective incentives for forest management.
41	**Case Study**	Nygren, A.,	Community-based forest management within the context of institutional decentralization in Honduras	2005	World Development, 33, 4, 639-655	Governmental decentralisation, equity, Forest management, gender, Small-scale forest enterprise, timber, NTFPs, Honduras	Case study of an internationally highlighted success in decentralized forest management - the municipality of Lepaterique in Honduras. The case study demonstrates the unevenness of the success story and resulting inequities. One conclusion is that decentralization in Honduras as in Bolivia and Mexico has enabled local people to voice their resource claims and protest more openly as conflicts over resource interests become more transparent, even though corruption and mismanagement remains.
42	**Case Study**	Gombya-Ssembajjwe, W.S., and Banana, Y.A.,	Community participation in forest management: the case of Buto-buvuma Forest Reserve, Mpigi district, Uganda		Proceedings of the International Workshop on Community Forestry in Africa, 26-30 April, 1999, Banjul, the Gambia. Participatory forest management: a strategy for sustainable forest management in Africa.Pp 63-70	Community forestry, equity, Uganda, forest protection, degraded forests	Community forestry in Uganda takes 4 forms: 1)establishment and management of local forest reserves by local authorities for local benefits, 2)collaborative forest management of State forest reserves, 3)private farm forestry on private land or hired public land, 4)local community management of small forests of historical or cultural value. The paper looks at a case study of collaborative forest management. It is largely unsuccessful due to lack of legal status and authority to exclude outsiders from the forest, low level of incentives to forest protection resulting from inequitable costs and benefits.
43	**Typology**	Khare, A., Sarin, M., Saxena, N.C., Palit, S., Bathla, S., Vania, F., and Satyanarayana, M.,	Joint Forest Management: policy, practice and prospects. Policy that works for forests and people series no. 3.	2000	World Wide Fund for Nature-India, New Delhi and International Institute for Environment and Development, London	Community forestry, timber, Forest policy, Forest legislation, Equity, NTFPs	Assesses forest policy and JFM in India.
44	**Case Study**	Rosyadi, S., Birner, R., and Zeller, M.,	Creating political capital to promote devolution in the forestry sector - a case study of the forest communities in Banyumas district, Central Java, Indonesia	2005	Forest Policy and Economics, 7, 213-226	Indonesia, Governmental decentralization, collaborative forest management, social capital	Case study of a pioneering attempt at CFM in Indonesia. Looks at how a change in government and devolution opened up the forest debate, and how social capital and political capital were used in negotiating a new form of forest management.
45	**Case Study**	Conroy, C., Mishra, A., and Rai, A.,	Learning from self-initiated community forestry management in Orissa, India	2002	Forest Policy and Economics, 4, 227-237	India, community forestry, forest protection, equity, gender, forest reserves	Research on the difference between self initiated forest protection in Orissa and JFM. Provides reasons why communities motivated to carry out forest protection. Suggests conditions necessary for successful forest management.
46	**Discourse**	Carney, D.,	Implementing the Sustainable Rural Livelihoods Approach	1998	In D. Carney (ed.), Sustainable Rural Livelihoods: What contribution can we make? Department for International Development, London.		Overview of Sustainable Rural Livelihoods approach
47	**Case Study**	Nguyen, T.Q,	Forest Devolution in Dak Lak, Vietnam: processes of benefit differentiation among households	2004	Paper prepared for seminars at London University College and Institute of Development studies in October 2004		
48	**Case Study**	Nguyen, T.Q.,	Forest devolution in Vietnam: differentiation in benefits from forest among local households		Draft paper submitted to Forest Policy and Economics.		
49	**Typology**	Baral, J.C., and Thapa, Y.B.,	Nepal's leasehold forestry for the poor: looking at the unintended consequences	2003	Mountain Forum on-line resources http://www.mtnforum.org/resources/library/barax03b.htm	Nepal, leasehold forestry	Discussion of the success of leasehold forestry in 2 districts of the Western region of Nepal

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50	**Discourse**	World Bank	World Development Report 2000/2001: Attacking Poverty	2001	Oxford University Press, New York	Poverty	
51	**Discourse**	Brown, D., and Schreckenberg, K.,	Community forestry: facing up to the challenge in Cameroon	2001	Rural Development Forestry Network Paper 25a	Cameroon	
52	**Discourse**	Oyono, P.R.,	Profiling local-level outcomes of environmental decentralizations: the case of Cameroon's forests in the Congo Basin.	2005	Journal of Environment and Development 14, 2, 1-21.	Cameroon	
53	**Methodology**	Belcher, B.,	Monitoring Livelihood Impacts of Community Forest Management: Definitions, Criteria and Indicators. (Draft for Discussion Feb. 2005)	2005	CIFOR, Bogor	livelihoods, India, indicators, framework	Presents a framework developed by CIFOR for assessing the impacts of JFM in Jharkhand state in India in conjunction with the Forestry Department during the course of a World Bank assisted project to implement JFM.
54	**Discourse**	Shiva, V., Sharatchandra, H.C. and Bandyopadhyay, J.	Social, Economic and Ecological Impact of Social Forestry in Kolar	1981	Indian Institute of Management, Bangalore, India.	India, social forestry	A major early critique of social forestry based on an analysis of secondary information and primary data obtained through a short field-study in Kolar District of Karnataka between December 1980 and February 1981. The study concludes that the primary objective of social forestry had not been achieved, i.e. the subsistence forest product requirements of the poorest rural communities were not being met.
55	**Discourse**	Shepherd, G.,	Forestry, social forestry, fuelwood and the environment: a tour of the horizon.	1990	Social Forestry Network Paper 11a	India, social forestry	Provides a critique of village tree planting programmes aimed primarily at fuelwood production, with particular attention to Karnataka state in India.
56	**Discourse**	Arnold, M.,	Identifying links between forests and poverty	2002	Unpublished paper presented at the ECT/IIED Forestry and Poverty Reduction Workshop, Edinburgh, 13 June 2002	Forestry, poverty	Short paper and presentation discussing different ways of defining poverty, who the forest poor are and the role of forests in reducing poverty.
57	**Discourse**	Arnold, J.E.M.,	25 years of community forestry	2001	FAO, Rome	Community forestry	A fairly long paper that provides an overview of community forestry in the past 25 years and its role in rural livelihoods, and identifies some key issues that require addressing in the coming years.
58	**Discourse**	Glasmeier, A.K., and Farrigan, T.,	Understanding community forestry: a qualitative meta-study of the concept, the process, and its potential for poverty alleviation in the United States case	2005	The Geographical Journal vol.171 (1) p56-69	participatory forest management, USA, global	A meta-analysis of community forestry (very broadly defined in this paper), particularly relevant to the US, and elsewhere focusing more on older cases, particularly social forestry. Some discussion of the issues involved in assessing the impacts of CF on livelihoods.
59	**Discourse**	Reeb, pers. Comm			FAO, Rome		Provision of a working definition of PFM and CF (email). Provision of a set of annexes for defining forest ownership, tenure and management
60	**Methodology**	Forest Stewardship Council	FSC Principles and Criteria for Forest Stewardship	2004	Forest Stewardship Council	Certification, methods	The FSC's ten principles and criteria for forest management.
61	**Methodology**	CIFOR C and I Team	The CIFOR Criteria and Indicators Generic Template	1999	Centre for International Forestry Research, Jakarta, Indonesia		
62	**Methodology**	Prabhu, R., Colfer, C.J.P., and Dudley, R.G.,	Guidelines for Developing, testing and selecting criteria and indicators for sustainable forest management.	1999	Centre for International Forestry Research, Jakarta, Indonesia		
63	**Methodology**	Prabhu, R., Colfer, C., and Shepherd, G.,	Criteria and indicators for sustainable forest management: new findings from CIFOR's forest management unit level research	1998	Rural Development Forestry Network paper 23a	methods, criteria and indicators	Discusses work of CIFOR in developing and testing a set of generic criteria and indicators for sustainable forest management.

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64	**Case Study**	Baker, M.,	Against the odds. (Re)building community through forestry on the Hoopa Reservation.	2003	In Kusel and Adler (eds). Forest Communities, Community Forests. Rowman & Littlefield Publishers, Inc., Maryland, USA. 301pp. Pp 27-54	Rural Livelihoods, Conflict, Employment, Environment, Democracy, USA	The book presents 12 case studies from across the USA, which examine the link between community well-being and forest ecosystem health in both urban and rural communities and in different regions of the country. The cases are organised around three themes. Three cases in Part I 'Investing in Natural Capital, Investing in Community', describe work to reverse patterns of decline and under-investment in the land and communities. Part II 'From Process to Practice', includes five cases in which residents organised and focused on developing good processes to tackle paralysing policy gridlock and social conflict. In the four cases in Part III, 'Stewarding the Land', residents focus on making a difference on the ground and in people's minds; by working through the 'heart' they address community health as well as ecosystem health.
65	**Case Study**	Jeanrenaud, S.,	Communities and forest management in Western Europe.	2001	IUCN, Gland. 150pp.	Italy, Scotland	
66	**Typology**	Nebel, G., Jacobsen, J.B., Quevedo, R., and Helles, F.,	A strategic view of commercially based community forestry in indigenous territories in the lowlands of Bolivia	2003	A paper presented at the International Conference on Rural Livelihoods, Forests and Biodiversity, 19-23 May, 2003, Bonn, Germany. CIFOR, Jakarta, Indonesia.	Bolivia, small-scale forest enterprise, timber	Evaluates 3 scenarios for commercial exploitation of land claimed by indigenous peoples in Bolivia: sale of standing timber, own extraction of timber, own extraction and sawing of timber. The later scenario holds the higher economic and employment potential, but there are barriers in terms of the skills, knowledge and capital required and difficulties in market positioning.
67	**Discourse**	Lok-Dessallien, R.,	Review of Poverty Concepts and indicators.	n.d. post 1997	SEPED series on poverty reduction, UNDP http://www.undp.org/poverty/publications/pov_red/Review_of_Poverty_Concepts.pdf		
68	**Discourse**	CPRC	The Chronic Poverty Report 2004 - 05	2005	The Chronic Poverty Research Centre, University of Manchester, UK.		
69	**Discourse**	Arnold, M.,	Identifying links between forests and poverty	2002	Paper presented at the Forestry and Poverty Reduction Workshop, Edinburgh 13 June 2002, Edinburgh Centre for Tropical Forests/International Institute of Environment and Development		
70	**Discourse**	DFID	Poverty: Bridging the Gap – Guidance Notes	2001	Department for International Development, London, UK		
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