Section III: Theory

Chapter 4: Collective action, Embeddedness and Equity in Community Forestry

4.1 Introduction

The poor outcomes that followed decades of intrusive natural resource management strategies and planned development have forced policy makers and scholars to reconsider the role of communities in resource use and conservation (Agrawal & Gibson 1999). Empirical evidence has been put forward that local users' groups are capable of managing natural resources through collective action (Ostrom 1990; Bromley 1992b; Hobley 1996). Collective action is believed to further progressive social change that brings about meaningful participation, decentralisation and conservation (Chambers & McBeth 1992). In the debate over sustainable use and management of natural resources, the collective action approach has gained significant attention, but there is limited understanding on the resource management system, its processes and outcomes in terms of their embeddedness.

This chapter identifies and addresses the theoretical questions surrounding collective action processes and outcomes in natural resource management, particularly in CF. The relevant literature on the theory of collective action and Common Property Regimes (CPR), economic sociology and political ecology and social justice and sustainability are reviewed. The chapter argues that the understanding of collective action processes and outcomes is better informed by the concept of embeddedness.

The chapter is divided into five sections. First, the rise of social science research in forestry in parallel with the development of CF and sustainable development is briefly discussed. Then, relevant literature related to the emergence and evolution of collective action in natural resource management is reviewed, and the gaps and silences discussed. Within this section, the concept of embeddedness is elaborated and highlighted. I then outline a conceptual framework for analysing collective action processes and outcomes in CF. The next section discusses equity and environmental sustainability as criteria for assessing the outcomes of collective action. I conclude by highlighting the relevance of the concept of embeddedness.

4.2 Social Science and Forestry

Forests and people are often interdependent. History shows that wood was a key resource underpinning many civilisations (Lane & McDonald 2002). Traditional forestry research was concerned with the management of land for the purpose of wood production (Kimmins 2000; Mather 2001). The development of methods of quantification along with a growing focus on making profits from the practice of forestry meant that the discipline was established with a tradition of quantitative resource management (Lowood 1990). The forestry discipline's conventional views of use and management of forests are based on sustained yield principles, emerging from a paradigm influenced by western economic philosophy and scientific theory (Gilmour & Fisher 1991). Scientific forestry developed as an academic discipline within natural sciences. Social science studies were largely omitted from forestry.

The rise of social science research in forestry is generally linked with a change in dominant development paradigm and resultant impacts on the development of forestry. Even in the 1970s, sociologists and anthropologists were rarely asked to contribute, as there were "frequent hostilities towards social science and social scientists held by many technical personnel, such as engineers, agronomists, foresters and livestock breeders" (Sachrer 1986, p.253). It took social scientists a long time to apply themselves to the study of forestry and natural resources (Messerschmidt 1994).

Many disciplines within social science have now made important contributions in the study of indigenous knowledge, social values, peoples' attitudes and public involvement in forest management. Anthropologists and sociologists substantially contributed towards a better understanding of traditional and indigenous resource management (see Campbell et al. 1987; Molnar 1989; Chambers 1995; Messerschmidt 1995; Fisher & Gilmour 1997). Multidisciplinary social science research in forestry increased along with post-development critiques to development (e.g. Escobar 1995; Blaikie 2000) and the emergence of the concept of sustainable development (WCED 1987). The World Bank also emphasised people's participation in forestry projects (see World Bank 1997). Some scholars believe that decentralisation, devolution and participation are necessary for better resource management (Stiefel & Wolfe 1994; Ribot 1999; Li 2002).

Social science researchers are involved in the analysis of collective action and property right issues. Many political scientists, anthropologists, economists and policy makers have focussed on collective action, property rights and community-based natural resource management (Olson 1965; Ciriacy-Wantrup & Bishop 1975; Ostrom 1990; Bromley 1992b; Cleaver 2002; Ribot 2003). Many theorists have also studied the issues of power (Hecht & Cockburn 1990; Friedmann 1992; Peluso 1992; Sachs 1992; Redcliff 1997). Political ecological analyses are also popular in forestry

and other land management issues (e. g. Blaikie & Brookfield 1987; Bryant 1997; Fairhead & Leach 1998; Brown et al. 2002b).

One of the notable developments within social science research is the critical analysis of CPRs (Common Property Regimes). Critics argue that some CPR approaches romanticise communities and tend to overstate the assets that communities are believed to possess (Li 1996; Mosse 1997; Agrawal & Gibson 1999; Cleaver 2002; Li 2002). Many studies of collective action in CPR are criticised as being narrowly focused on issues of property rights and for the analysis being-driven by self-interest (e. g. Petrzelka & Bell 2000). Many writers have emphasised the need for a deeper analysis to understand CPR in terms of social, economic and political relations (Peters 1987; Fisher 1994; Mosse 1997; McCay & Jentoft 1998; Petrzelka & Bell 2000; Cleaver 2002). The next section critically reviews relevant literature associated with the emergence, evolution and outcomes of collective action related to natural resource management.

4.3 The emergence and evolution of collective action

4.3.1 Collective action, community forestry and common property

Why and how people act together to sustain the forest and improve livelihoods are important questions in the study of human-environment relationship concerning the management of forests. Community forestry is one of several approaches that has been increasingly accepted and recognised as suitable for the sustainable management and utilisation of forest resources, particularly in developing countries (FAO 1978; Shepherd 1985; Victor et al. 1998). Collective action involves the coordination of efforts of individuals. The Oxford Dictionary of Sociology defines collective action as the "action taken by a group (either directly or indirectly on its behalf through an organisation) in pursuit of members' shared interests" (Marshall 1998). There are many other definitions, but what most definitions have in common is that collective action requires the involvement of a group of people, it requires a shared interest within the group and it involves some kind of voluntary common action that works in pursuit of that interest. However, the problem with the definitions is that members of a community have multiple interests and it is misleading to assume that there is a presence of a clear interest of the community (see Turner 1999; Campbell 2001). Moreover, collective interests do not necessarily produce collective action (Heckathorn 1996). Additionally, collective action does not necessarily require an organisation, although organisations may make collective action more effective or efficient for some tasks (Meinzen-Dick et al. 1999). In this thesis, I use collective action to describe the processes and consequences of voluntary collaborative decision making at the local level in CF, but acknowledge

the importance of sustained collective action between local forest users and other organisations, governments or other form of human associations.

Sustained collective action in CF primarily depends on the group of users who make rules and decision making structures to institutionalise and control the access to and use of the forest. However, there is an underlying assumption that security of access is essential for a group of users to effectively control and manage resources. In such cases, collective action requires CPR and hence, the forest can be defined as a common pool resource and CF be linked with CPR.

Forests as common pool resources

Forests are common pool resources because they share attributes of common goods namely: "a) the difficulty of excluding individuals from benefiting from a good [forest] and b) the subtractability of the benefits consumed by one individual from those available to others" (Ostrom et al. 1994, p.6). The forest is a "resource system" that is capable of producing a flow of "resource units" (Ostrom 1990, p.30). This means that the forest resource is a stock and forest resource units are the flow. Although the forest is a renewable resource, it generates finite quantities of resource units. The renewability is slow and therefore, use of resource units subtracts from the quantity of the resource. The forest can easily be degraded and even destroyed (Ostrom et al. 2002). On the other hand, there may be many forest users who need forest products. Excluding potential beneficiaries is not easy. Fencing or protecting the border of the forest from intrusion is either not feasible or very costly (McKean 2000). There are, therefore, problems that relate to over, under or mis-appropriation of resource units. In this context, some users may harvest forest products independently without contributing towards its protection. This is called the free rider problem.

Links between Community Forestry (CF) and Common Property Regimes (CPR)

Community forestry is linked with CPR because arrangements of CF (i.e. bundle of rules, rights and property), in an ideal situation, are devised and controlled equally by a group of people (Richards 1997; Ostrom et al. 2002). Here, rules are institutions that are humanly devised constraints that structure political, economic and social interaction. They consist of both "informal constraints…and formal rules…devised by human beings to create order and reduce uncertainty" (North 1991, p.97). Rules prescribe duties and create authority, and rights are these authorities exercised to undertake particular actions (Schlager & Ostrom 1992). Property rights involve the authority to undertake particular actions:

> Property is a benefit [or income] stream and a property right is a claim to a benefit stream that the state will agree to protect through the assignment of duty to others who may covet, or somehow interfere with the benefit stream. (Bromley 1992a, p.2)

Besides CPR, the forest can also be managed under various property regimes, namely; private property, state property, and open access or non-property (Feeny et al. 1990; Bromley 1992b; Seabright 1993). When the forest is managed under the private property regime, the property rights are vested in the individual who owns and controls the forest. In case of state property regime, the forests are formally under state ownership. The state enforces the rules for access, use and conservation. Heltberg (2002) argues that when governments fail to effectively enforce rules, state property may become de-facto private or open access. Open access denotes the lack of ownership and control where there can be no exclusion. Anyone may reap the benefits and it is prone to over-use and degradation (Ciriacy-Wantrup & Bishop 1975; Pokharel 1997). The different property rights discussed above are not mutually exclusive. The management of CF as a CPR faces continuous challenges from rival property rights. De-facto property rights (locally recognised rights) may also lead to what is in effect, a CPR, even if a forest is formally the state forest.

Which property rights are appropriate for forest management?

There is enormous debate on theories for the appropriate property right arrangements to manage natural resources. For many years, it was thought that when individuals share ownership of resources with others, they are prone to over-use those resources (Gordon 1954; Demsetz 1967; Hardin 1968). Two major solutions have been proposed; state control and management (Ophuls 1973) or privatisation (Demsetz 1967).

There are, however, many writers who suggest that decentralised collective management of CPRs by their users can be an appropriate system for overcoming 'The Tragedy of the Commons' (Jodha 1986; Wade 1988; Berkes 1989; Ostrom 1990; Li 2002; Ostrom 2003). Advocates of CPR argue that Hardin confused common property with open access, failing to distinguish between common property and no property (Ciriacy-Wantrup & Bishop 1975; McKean 2000). The tragedy of the commons results not from the sharing of the rights, but the absence of rights.

While collective action is central to a CPR, it cannot be assumed into existence (Meinzen-Dick et al. 1999). There are social, economic and political forces that hinder collective action to emerge. Additionally, collective action may not always produce socially desirable outcomes. Despite the impressive growth of theory and practice, questions surrounding the emergence, evolution and consequences of collective action remain disputed (White & Runge 1995; Heckathorn 1996).

4.3.2 Theories of collective action

The theories of collective action explain why and how collective action emerges, evolves and produces certain outcomes. They define the problems and how they can be addressed. The theories are based on the notion of interdependence. The pursuit of self-interest by people with same

interests was believed to generate collective action (Ghatak 1978; Taylor 1992; Grossman & Kreuger 1995; Pearce & Barbier 2000). Traditionally, it was assumed that interdependent individuals motivate themselves to act collectively and produce collective outcomes (Pandey & Yadama 1990). However, critics argue that interdependent individuals do not necessarily produce collective action. Rational individuals pursuing their self-interest may actually harm collective interests (Olson 1965). The following theories and empirical evidences explain this dilemma in natural resource management which are discussed in three sections:

a) Zero-contribution thesis[1] – Olson, Hardin and Associates

b) Contribution thesis[2] – Ostrom, Oakerson and Associates

c) The embeddedness thesis[3]

a) Zero-contribution thesis – Olson, Hardin and Associates

The zero-contribution thesis draws principally from the rational choice tradition; the idea that individuals act in their own self-interest. Probably the two most influential works are Olson's 1965 book, *The Logic of Collective Action: Public Goods and the Theory of Groups*, and Hardin's 1968 article in *Science*, "The Tragedy of the Commons". Olson (1965) challenged the presumption that the possibility of benefit for a group would be sufficient to generate collective action to achieve that benefit; instead, he argued:

> Unless the number of individuals is quite small, unless there is coercion or some other special device to make individuals act in their common interest, rational self-interested individuals will not act to achieve their common or group interests. (Olson 1965, p.2)

In his analysis, free riding is a problem in all but the smallest groups. In small groups:

> each member, or at least some one of them, has an incentive to see that the collective good is provided, even if he has to bear the full burden of providing himself. (Olson 1965, p.50)

Olson's argument that a small and asymmetrical group tends towards collective action, is not consistently supported by empirical evidence. For instance, Hardin (1982) argues that an individual's net benefit as a fraction of group benefit, does not necessarily decrease with the increase in the group size. Udehn (1993) suggests that individuals' benefits increase with group size. Some researchers found that smaller size is better (Cernea 1988;Baland & Platteau 1996), while others saw smaller groups less able to undertake the level of monitoring needed to protect resources (e. g. Agrawal 2000). Similarly, empirical evidence reveals that the impact of group heterogeneity on collective action is ambiguous (Blomquist & Schlager 1998; Baland & Platteau 1999; Bardhan & Dayton-Johnson 2000; Veldeld 2000). Some analysts also argue that there is a

[1] Since the rational self-interested individuals tend to avoid contributing but to free riding on others' contribution, this argument, formulated by Olson, Hardin and followers, became well known as the "Zero-contribution thesis" (Ostrom 2000).

[2] Since the arguments are emerged as the reaction to the Zero-contribution thesis, I use the term Contribution Thesis.

[3] As a reaction to previous two theses: Zero-contribution and Contribution, I use embeddedness 'thesis' as a theory that respond to both theses. Detailed discussion will be presented later.

higher probability to find a small group of highly resourceful and interested individuals (critical mass) willing to support collective action (Oliver et al. 1985; Macy 1990).

While Olson asserts that a rational individual pursuing his or her own self-interest will free ride at the expense of the group's welfare, he tends to avoid the social nature of human life, in which people work together for the benefit of others (Petrzelka & Bell 2000). Some analysts even deny that a free-rider problem significantly affects collective action. For example, Klandermans (1988, p.89) attributes most non-participation in collective action not to free riding, but "to an expectation that collective action will fail". Uphoff (1992) argues that individuals may choose not to cooperate because they do not want to be taken advantage of by free riders. In this context, motivation can be better understood if we look at individuals' behaviour being embedded in social relationships (Peters 1987; Fisher 1994).

The Tragedy of the Commons

Hardin (1968) echoed Olson's logic of collective action by providing an example of an English pasture that is open to all. He examined the situation from the perspective of a rational herder, assuming that herders on a commons will seek to increase their herd size as much as possible until overgrazing sets in. Each herder receives a direct benefit from his own animals and suffers delayed costs from the deterioration of the commons when his and others cattle overgraze. The individual's rational action results in collectively irrational outcomes. Hardin concluded:

> The inherent logic of the commons remorselessly generates tragedy … each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all. (Hardin, 1968, p.1244)

Since users are viewed as being trapped in these dilemmas, recommendations were made that external authorities must impose a different set of institutions on such settings. Some recommend private property as the most efficient form of ownership (Demsetz 1967; Posner 1977; Simmons et al 1996), while others recommend government ownership and control (Ophuls 1973). Hardin recommends 'mutual coercion, mutually agreed upon' as a solution to the cooperation problem. Ophuls, one of Hardin's strong supporters, asserts that because the tragedy of the commons and environmental problems cannot not be solved through co-operation, the use of coercive power by the government to manage resources is justified (Ciriacy-Wantrup & Bishop 1975; Bromley & Cernea 1989).

However, many theorists note Hardin's fundamental confusion between a free for all open access situation and a common property resource regime where internally informed rules can discourage over-use (Bromley & Cernea 1989; McKean 2000). In responding to Hardin, some writers used

examples of failed state-managed access regimes to call for a return to local, collectively organised management settings (Berkes 1989; Ostrom 1990; Li 1996; McKean 2000; Ostrom 2003). Others oppose Hardin's pessimistic prediction of tragedy and argue in favour of collective action and common property (e.g. Dawes 1980).

b) Contribution thesis - Ostrom, Oakerson and Associates

The strong reactions to the zero-contribution thesis comes from CPR theorists such as Ostrom, Oakerson and others, who primarily draw on institutional economics to argue against the assumption that CPRs are inherently inefficient. They argue that the zero-contribution thesis fails to account for factors which encourage collective action and self-regulating capabilities of user groups (Runge 1986). Geographers, political scientists and anthropologists argue that many societies have devised, maintained or adapted collective arrangements to manage common pool resources (Blaikie & Brookfield 1987; Ostrom 1990; Gibson et al. 2000; Rangan & Lane 2001; Ostrom 2002; Menzies 2003). Collective action and CPR therefore should not be discarded as an option for managing natural resources.

Ostrom and others – Conditions for successful collective action

Ostrom (1990), in her seminal work; *Governing the Commons: The Evolution of Institutions for Collective Actions*, strongly criticises the assumption that self-interested rational individuals will not cooperate. Instead, she argues for the importance of institutional development as a basis for collective action. Her work is focused on:

> … how a group of principals who are in an interdependent situation can organise and govern themselves to obtain continuing joint benefits when all face temptations to free-ride, shirk, or otherwise act opportunistically. (Ostrom 1990, p.29)

She analysed successful and unsuccessful cases to identify the factors that impede or enhance the capabilities of individuals to govern CPRs. She produced a list of eight design principles that are "associated with the establishment of coordinated or organised strategies for managing common-pool resources" (Ostrom 1992, p.294). Ostrom and others suggest that collective action is possible among self-interested individuals, but it needs to be formalised so that individuals are constrained to behave collectively.

Many theorists share Ostrom's argument of individuals being capable of collective action in natural resource management (McCay & Acheson 1987; McKean 1995; Arnold 2001a; Agrawal 2002; Casari & Plott 2003) The list of conditions for successful collective action have been developed by Wade (1988), Ostrom (1990) and Baland and Platteau (1996). Text box 4.1 provides an overview of these principles developed by some key theorists.

Text-box 4.1 Conditions for successful collective action by key CPR theorists

Robert Wade's (1988) factors underlying the effectiveness of collective action can be summarised as: The nature of the resource - small size and well defined boundaries The characteristics of the user group – small size, well defined boundaries and past successful experience and Interdependence among group members in terms of social reputation (mutual obligation) The high level of dependence of users on resource and overlap between users' residence and resource location The low cost of exclusion technology Locally devised rules Noticeability of cheating and ease of monitoring and enforcement The central government should not undermine local authority
Eleanor Ostrom's design principles for long-enduring common-pool institutions (1990): Clearly defined boundaries of the user group and resource Congruence between allocation and access rules and local conditions Users' ability to modify the operational rules through collective-choice arrangements Monitoring of management system Graduated sanctions Availability of conflict resolution mechanisms Management rights of resource users not challenged by external agents Nested enterprises
Jean-Marie Baland and Jean-Philippe Platteau's facilitating conditions for collective action (1996): The characteristics of the user groups - small size, shared norms, past successful experiences of cooperation, appropriate leadership, interdependence among group members, heterogeneity of endowments, homogeneity of identities and interest Settlement close to the resource Fairness in allocation of benefits from common resources Rules - local devised rules, simple and easy to understand, ease of enforcement and accountability of monitors and other officials to users Supportive external sanctioning institutions External aids to compensate local users for conservation activities

Ostrom has further developed a theory of common pool resources and collective action. She lists the attributes of CPRs and its appropriators, which "are associated with an increased likelihood of self-organization" (Ostrom 2000b, p.40). The attributes outlined in Text box 4.2 are positively related to the emergence of collective action, while the design principles outlined in Text box 4.1 are the conditions that are more likely to produce a robust institution necessary for the success of collective action.

Text-box 4.2 Attributes associated with an increased likelihood of self-organisation

Attributes of the Resource:

Feasible improvement: Resource conditions are not at a point of deterioration such that it is useless to organize or so under-utilized that little advantages results from organizing.
Indicators: Reliable and valid indicators of the condition of the resource system are frequently available at reasonable costs.
Predictability: The flow of resource units is relatively predictable.
Spatial extent: The resource system is sufficiently small, given the transportation and communication technology in use, that users can develop accurate knowledge of external boundaries and internal microenvironments.

Attributes of the users:

Salience: Appropriators are dependent on the resource for a major portion of their livelihood or other important activity.
Common Understanding: Appropriators have a shared image of how system operates, and how their actions affect each other and the resource system.
Low Discount rates: Appropriators use a sufficiently low discount rate in relation to future benefits to be achieved from the resource.
Trusts and reciprocity: Appropriators trust one another to keep promises and relate to one another with reciprocity.
Autonomy: Appropriators are able to determine access and harvesting rules without external authorities countermanding them.
Prior Organizational experience: Appropriators have learned at least minimal skills of organization or leadership through participating in other local associations or studying ways that neighbouring groups have organize.

Source: (Ostrom 2000b, p.40)

Ostrom's design principles and the theory of common pool resource are becoming increasingly popular in the analysis of CPR and being used by many international organisations. Despite this, they are criticised as being normative and prescriptive blueprint criteria for success (Steins & Edwards 1999), and too focussed on internal dynamics of resource management, while ignoring the wider political economy (Klooster 1997; Steins & Edwards 1999). Critics also point out that the principles are inattentive to issues of conflict and power (Mosse 1997; Tucker 1999; Leach et al. 1999; Lynch 1999; Rangan & Lane 2001), and fail to account the important role of the state to organise collective action and manage local resources, particularly when the resource is scarce and in high demand (Johnson & Forsyth 2002). The state is not necessarily a disinterested party in natural resource management (Li 1996; Brown 1998; Klooster 2002; Li 2002). Ostrom's work remains affiliated to rational choice perspective, failing to account for the historical, social, economic and political processes within which CPRs are embedded (Petrzelka & Bell 2000; Cleaver 2000). However, the design principles and theories of common pool resource are useful tools for understanding the emergence and evolution of collective action.

Oakerson and associates – Framework for analysing the CPR

Some literature on CPR is focussed on developing analytical frameworks to study the interaction of resources, groups of users, institutions and outcomes of CPR. A popular framework, developed by Oakerson (1986; 1992), analyses the common property regime and its outcomes by exploring

patterns of interaction between (a) the physical and technical characteristics of the resource and (b) the decision making arrangements. Scherr et al (1995) and Edwards and Steins (1998; 1999) added the social characteristics of the user community and contextual factors into the framework respectively. A synthesised framework will be discussed later.

Some common critiques

The explanations given by Olson, Hardin, Ostrom, Oakerson and others remain problematic because they all draw mainly from a narrow rational choice tradition. The problem is their underlying assumption that individuals are rational actors who behave in their best self-interest to maximise material economic gain (Herring 1990; Petrzelka & Bell 2000; Granovetter & Swedberg 2001). Trust, norms and power all influence actions and thereby offset pure self-interest (Petrzelka & Bell 2000). Actions always take place in a broader social context that affect the action of individuals and interferes with self-interest (Granovetter & Swedberg 2001).

Critics also argue against the assumption that humans can be reduced to autonomous, profit maximising individuals and that their economic behaviour can be extracted from social relations and culture (Herring 1990; Uphoff 1992; Fisher 1994). In the context of CPR, extracting or separating economic actions from social relations is misleading because CPR is a social phenomena, not an isolated activity (Petrzelka & Bell 2000). Responding to Ostrom's point of economic interdependence, Fisher (1994, p.69) argues that:

> People are interdependent in many ways; resource management is just part of this interdependence and cooperation is encouraged not just by relatively narrow economic interdependence but by the overall interdependence between people.

The underlying implication of the above critiques is that many scholars have been disappointed by the self interest-driven, instrumental and reductionist approach of economic analysis and the rational choice tradition. While many of these critical analysts often base their arguments on the notion of embeddedness, they rarely explicitly discuss the concept of embeddedness.

c) The Embeddedness thesis

The president of the International Association for the Study of Common Property (IASCP) admitted that "The tragedy-of-the-commons theory … has come under attack from an "embeddedness" perspective, which places situation and context as primary" (McCay 2000, p.3). There are increasing calls for the recognition of the concept of embeddedness within the CPR analysis. For example, Peters (1987, p.193) argues that "without keener sense of the relations in which individual users are embedded, we cannot penetrate the dynamics of a commons, which is necessarily a social system". Similarly, Fisher (1994, p.70) stresses that it is important for "looking at embedded social relationships in understanding the commons". Mosse (1997, p.467) argues that

the CPR analysis should be based on "more historically and politically grounded understanding of resources, rights and entitlements". Some analysts have criticised the CPR analysis for not giving sufficient attention to contextual factors or local and global dynamic forces affecting the choice of the actors (McKean 1997; Klooster 1997; Mehta et al. 1999; Edwards & Steins 1999; Cleaver 2000).

This thesis analyses CF through the embeddedness perspective. It is therefore important to understand what is meant by embeddedness and how it is used in this thesis.

The notion of embeddedness

The notion of embeddedness was a key concept of anthropology (but is not so now). Malinowski (1926) highlighted the importance of social context and discussed why people conform to social rules in the absence of formal legal system. He explained cooperation in terms of reciprocity that occurs in the context of kinship, religious and other obligations. The concept of embeddedness was explicitly popularised during the 1950s in Economic Sociology by Karl Polanyi who argued that "man's economy, as a rule is enmeshed in his social relationships" (Polanyi et al 1957, p.46). Drawing on a term developed by Geertz (1973), McCay and Jentoft ((1998) stress the role of "thick description", indicating an ethnographic and careful specification of the systems of resource use and their embeddedness within historical, social and political relations and environmental conditions. During the 1980s, Granovetter (1985) revitalised the concept of embeddedness. His work represented the birth of New Economic sociology which advocates that "many economic problems … can be better analysed by taking sociological considerations into account" (Granovetter & Swedberg 2001, p.2). The 'new' and 'old' economic sociology has been distinguished by:

> the new version was sharply critical of neoclassical economics, whereas the older was respectful; and it was interested in bread-and-butter economic issues, such as market and price formation, whereas the older economic sociology focussed much on its attention on what was at the boundaries of the economy. (Granovetter & Swedberg 2001 p.6)

Granovetter (1985, p.504) argued that economic action is embedded "in networks of interpersonal relations". Later, he used the expression "structural embeddedness" to indicate that not only do personal relations matter, but also the "structure of the overall network of relations" (Granovetter 1990, p.98-99). Network refers to "a regular set of contacts or social connections among individuals and groups" (Granovetter & Swedberg 2001, p.11). Embedded, here, has two parts. The first is that analyses of economic behaviours should focus on the social dimensions of those behaviours, suggesting that all economies are in someway embedded in other and larger structures. The second is that cultural systems differ in the extent to which economic transactions are embedded in social life and constructs of culture.

Typology of embeddedness

Zurin and DiMaggio (1990) widened Granovetter's conception of embeddedness and defined embeddedness as social structural, cognitive, cultural and political structure of decision situations in economic contexts. The definition points to the connection of individuals to their surroundings. Their typology included four types of embeddedness:

1. Social structural embeddedness: Following Granovettor, they define it as "the contextualisation of economic exchange in patterns of ongoing interpersonal relations" (p.18). It refers to networks of social interaction in which action takes place. The structure of relations is crucial for the explanations of outcomes.
2. Cognitive embeddedness: Refers to the ways in which the structure regularise mental processes and limit the exercise of economic reasoning. It is a structural, mental process that directs the economic logic and calls for attention to the limited ability of both human and corporate actors.
3. Cultural embeddedness: Refers to "the role of shared collective understandings in shaping economic strategies and goals" (p.17).
4. Political embeddedness: Refers to "the manner in which economic institutions and decisions are shaped by a struggle for power that involves economic actors and non-market institutions" (p.20). Political embeddedness is associated with the power asymmetries between actors and their consequences. Power asymmetries may be derived from laws, property rights and collective bargaining and unequal distribution of resources.

There is also ecological embeddedness, which refers to "the extent to which a manager is rooted in the land" (Whiteman & Cooper 2000, p.1265). Ecologically embedded means "a manager is to personally identify with the land, to adhere to belief of ecological respect, reciprocity and caretaking, to actively gather ecological information and to be physically located in the ecosystem" (p.1265).

Schweitzer (1993) classifies embeddedness into two conceptual facets: a) vertical facet, and b) horizontal facet. Vertical facet relates to "hierarchical linkages of individuals and corporate actors at the local level to the larger society, economy and polity of which they are part" (Schatzki 1993, p.740). The larger context constraints local action, but also by providing new opportunities, allows local manoeuvring at local levels. Larger units, such as society, economy and culture, can then be understood as the collective outcomes of individuals' networked activities. On the other hand, horizontal facet refers to "the interpenetration of societal/cultural domains" (ibid, p.740).

Gaps and silences

Despite the burgeoning literature on embeddedness, it is surprising that the focus of what has become known as the embeddedness perspective, has been limited on network, relations and economic action (Swedberg 1997). However, embeddedness refers not only to social relations, but as Peters (1987, p.178) contends:

> … definitions of rights, of relative claims, of appropriate uses and users are not only embedded in specific historical sets of political and economic structures but also in cultural systems of meanings, symbols and values.

Although the concept of embeddedness is useful for understanding the sociological failings of neoclassical schemes, "it does not explain concretely how social ties affect economic outcomes" (Uzzi 1996, p.674). Granovetter and others generally use the concept in the analysis of economic action as if economic interests are most important to be embedded in the social context. However, the notion of embeddedness can equally be useful for many non-economic actions and can be extended to collective action in the analysis of CPR. In this sense, collective action in CPR can be a form of social action, which is embedded in social, economic and political contexts across different scales.

For this thesis, embeddedness is a concept to study the local level collective decision making and implementation processes and outcomes of CF. The concept facilitates the analysis of CF as being situated in the local context (socio-cultural, economic and historical), which is also influenced by the historically changing state forestry policies and government and non-government institutions at different levels. In this study, the concept primarily attends to the local context and the hierarchical linkages between the local and wider context in shaping local level collective action. This focus implies that context, power and scale are central themes within the study. The focus of the study generally relates to Schweitzer's vertical facet and Zurin and DiMaggio's political embeddedness, and to a lesser extent, social and cultural embeddedness. Embeddedness is closely related to political ecology (McCay 2002), which is important because the study of power, scale and context associated with natural resource management are the key themes of political ecology.

Political ecology

Political ecology provides useful insights into the importance of focussing on an analysis of decision making at different levels and the relationships between them. In its general sense, it is an outgrowth of ecological and social science that combines social and political investigation with environmental processes (Bryant 1992; Batterbury et al. 1997). It:

> … combines the concerns of ecology with a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself. (Blaikie & Brookfield 1987, p.17)

Early political ecological analyses were focused on land-based explanation of environmental change, focussing more on political control over natural resources and less on ecological processes (e.g. Blaikie & Brookfield 1987; Bryant 1992, 1997). The focus has now shifted to discursive relations between human and their environment and in narratives that support power relations which in turn maintain hegemony over people and the environment (Stott & Sullivan 2000). Many writers have highlighted the use of environmental orthodoxies or myths in policy making, despite the accumulation of evidence to suggest they are flawed (Fairhead & Leach 1995; Forsyth 2003). These orthodoxies are translated into policies and subsequently, these policies impose unnecessary restrictions on the livelihoods of marginalised people (Forsyth 2003).

A critical issue in political ecology is that state policies are not developed in a political and economic vacuum, but "result from struggle between competing actors seeking to influence policy formulation … [policy content] often facilitating the interests of powerful economic elites" (Bryant 1992, p.18). The impacts of policies depend more on the manner, in which the policy is implemented than its content because social divisions are fully recognised during the implementation (ibid). Responding to the lack of local specificity in third world political ecology, Batterbury (1997; 2001) promoted a 'local political ecology' that focussed on local decision making processes and contextualising these decisions in wider social and political systems. It has been recognised that villagers do not operate in isolation to the wider economy, but their decisions are made in response to the local availability of natural resources (Bryant 1992; Peet & Watts 1993).

Political ecological analysis is useful for the study of collective action and decision making at the local level for three reasons. First, there is increasing conflict between the global move towards decentralisation and devolution, giving rise to community-based natural resource management, while the discourses of global environmental change promote global approaches to environmental problems (Dryzek 1997). Second, the political ecological analysis helps to understand the impacts of decisions taken at different levels, in terms of the environmental change and the livelihoods of local communities. Decisions taken at the higher levels are less likely to take into account the variation of social and ecological variations at the local level (Adger et al. 2002). Third, the political analysis helps to distinguish between those who make decisions, those who enforce and monitor them and those who are subjected to decisions (ibid). If the voices and priorities of the recipients are not engaged in the decision making process, effective implementation is less likely. The best option to address the mismatch between decision makers and decision recipients is the use of inclusive decision making processes, in which multiple interests are negotiated (Holmes & Scoones 2000).

Political ecology, participation and decentralisation

Participation is a key concept within political ecology. It is a process that has been identified as the paradigm from below (Chambers 1983; 1995). According to Ribot (1996, p.40):

> Community or popular participation is about communities having decision-making powers or control over resources that affect the community as a whole, such as forests and grazing commons or community development.

A crucial element of the above definition is about power which must be devolved to a body, representing and accountable to the community. The community's decisions may then internalise social and ecological costs or assure equitable decision-making and use (ibid).

The Brundtland Report places participation at the heart of sustainable development:

> …the recognition of traditional rights must go hand in hand with measures to protect the local institutions that enforce responsibility in resource use. And this recognition must also give local communities a decisive voice in the decisions about resource use in their area. (Brundtland 1988, p.115-116)

Sherry Arnstein was one of the first to critique participation in terms of the concept of power. She developed a "ladder of participation" as a model, in which she discussed different degrees of involvement of participants and application of decision-making power (Arnstein 1969). While Arnstein herself admits that the ladder is a simplified model of participation, it captures the important point that there are different types of participation, but genuine participate requires decision making power. Many people can be disempowered in decision making processes if their participation is not emphasised. The ladder is outlined in Table 4.1.

Table 4.1 Arnstein's ladder of participation

8	Citizen control	Degrees of citizen control
7	Delegated power	
6	Partnership	
5	Placation	Degrees of tokenism
4	Consultation	
3	Informing	
2	Therapy	Non-participation
1	Manipulation	

Source: Arnstein (1969, p.217)

Nelson and Wright (1995).p. 7-8) identify two types of participation: 'participation as a means' i.e. a process of achieving the aims of a project more efficiently, effectively or cheaply, and 'participation as ends' i.e. a process of giving control of a development agenda to a community or group. In a participatory policy, such as CF, the participation can ideally be considered as an ends.

However, in practice, it is generally seen as a means to achieve certain outcomes by focusing on lower levels of the ladder.

One of the major hurdles in collective action and CF is the problem of elite domination. Many well-intended projects fail when local elites misrepresent community interests and seize control of the project (Cernea 1993). Without effective participation, the participatory policies, such as CF may become a form of "covert privatisation" that lead to centralised resource control, yet existing within common property ownership (Anderson 2000).

The question of power to influence forest management decisions is important. Fisher (2003b, p.20) explains the relation between power, decision making and implementation in CF:

> Power can be thought of as the capacity to have a meaningful (effective) input into making and implementing decisions about how forests are used and managed. Having a meaningful role does not mean that an actor makes all decisions, but rather his/her interests are given serious attention in negotiations. Meaningful decision-making also involves implementation. If a decision cannot be implemented or enforced, then the role in decision-making does not involve effective power.

The issues of power and control in forest management are essentially related to the popular shift in forest policy towards decentralisation and devolution. Decentralisation can be understood as the relocation of administrative functions away from the central location, while devolution as the relocation of power away from the central location (Fisher 2000a). The main arguments in favour of decentralisation are that it produces more just and equitable outcomes, and that, localised control is more functional than state control (Friedmann 1998; Agrawal 2000). Additionally, devolution of authority to local communities and voluntary associations provides an effective means of harnessing local knowledge and agency in both plan making and implementation (Cocks 2003a). However, decentralised environmental governance is complex because it requires the devolution of real powers over the disposition of productive resources and the resolution of divergent interests among a hosts of actors (Agrawal & Ribot 1999). Critics argue that decentralisation makes an anti-state discourse and agenda that as such, fails to recognise the importance of the State as a mediating force for effective policy formulation and implementation (Hutchcroft 2001).

There are problems with the move towards decentralisation and devolution in natural resource management. Decentralisation and devolution require both power transfers and accountable representation (Ribot 2002). However, in many cases, governments carry out decentralisation of responsibilities with a limited devolution of power in the management of forests (Fisher 2000a). Fisher (2000a) outlines three ways to misapply devolution and decentralisation in forest management. First, forest management responsibilities are often transferred without accompanying transfer of power to make meaningful decisions required for implementation. Second,

responsibilities and sometimes authorities are devolved to the wrong people, such as to an elite group. Third, decentralisation and devolution are based on a standard organisational model of local organisations ignoring local conditions. Current decentralisation reforms are characterised by a transfer of extremely limited and overly specified power to local institutions, under tight central-government oversight (Ribot 2002).

One of the major concerns of decentralisation and devolution is the reluctance of the state agencies to transfer genuine power to communities. This reluctance is often justified based on the alleged lack of community capacities to manage the forest. However, this reluctance is sometimes due to the desire to maintain power and authority over valuable resources (Fisher 2003b). Therefore, as Ribot (2001) argues, to achieve the social and ecological benefits of broad citizen participation, decentralisation requires local authorities, who are downwardly accountable to the local populations, and who hold sufficient and appropriate power over nature. Choosing representative and accountable local institutions is key for equity, justice and efficiency (Ribot 2002). Supporting change in the forestry sector requires changes at a number of levels; policy and political environment, the natural resource management agencies and the local users (Hobley & Shields 2000). Forest governance has not changed much because efforts have concentrated on the capacity of users, the content of the policy and the capacity of the agencies, rather than putting adequate effort into the whole system (Fisher 2003b). Clearly, the embeddedness approach is useful to aid the holistic understanding of problems and possible solutions.

Embeddedness, collective action and CPR: some empirical evidence

Studies show that social capital facilitates collective action (Coleman 1988; Putnam et al. 1993; Ostrom 1999; Dasgupta & Serageldin 2000; Pretty & Ward 2001; Krishna 2004). Social capital is defined as “the shared knowledge, understandings, norms, rules, and expectations about patterns of interactions that groups of individuals bring to a recurrent activity” (Ostrom 1999). This includes both horizontal ties among a group (sometimes referred to as bonding social capital), as well as vertical ties between different groups (referred to as bridging social capital). Social ties are viewed as important assets and an instrument to build other form of assets. Relations of trust, reciprocity, common rules, norms and sanctions, networks and connectedness are indicated as important mechanisms for building social capital assets (Pretty & Ward 2001).

Some CPR scholars have emphasised the analysis of CPR within the social context. Mearns (1996) studied a common grazing system in Mongolia and analysed the herders and their involvement in other agricultural communal activities. He emphasised the need to look at the commons within the social context of other activities carried out by the herders. Ireson (1991, p.12) discusses CPRs in a Laotian village and observes that there are difficulties in maintaining collective activity as social

and economic differences increase. He concludes that the degradation of the CPR occurs because wealthier villagers "may become willing to risk village displeasure [as] they no longer need to depend on village assistance". Similarly, Wade (1988) suggests that CPRs persist in communities that exhibit social bonds, respect for local leadership, repeated social interaction among members, shared cultural norms and cooperative social institutions.

Mosse (1997) analyses an indigenous community managed tank irrigation system in South India and argues that successful collective action does not imply collective responsibility for managing wider resources. Indigenous forms of collective action eroded or declined over time in India, but this made the appearance of new forms of association possible. The emergence of new associations has often established new linkages to external authority, which have demanded a more responsive role of state agencies. Thus, there is a need for a better state, not a reduced state (Li 1996).

Mosse (1997, p.499) also argues that the formal organisations based on the principle of equal rights are often in contradiction with the indigenous systems of social relations. Therefore, he argues that it is crucial to understand the existing systems of use being supported by "structure of authority and not democratic decision making … [which] serve to express and reproduce the authority and the accompanying gender and caste exclusions". Any attempts to establish alternative democratic and accountable institutions often result in co-option of new institutions by local leaders or the reproduction of existing caste and gender structures inside new organisations. Alternatively, the new organisations may be sidelined or undermined through powerful local resistance.

Cleaver (2000, p.381) analyses the management of communal water resources in Zimbabwe and finds that collective action is "frequently ad hoc, variable and not necessarily output-maximising". Her analysis shows that institutions are not necessarily weak but may be highly robust because they are interlinked with the social and historical milieu. She argues that "collective management … is more partial, changeable and evolving and less attributable to single factors" (Cleaver 2002; p.361). Further, she insists that institutional arrangements derived from the default blue-print criteria "fail to recognise the depth of social and cultural embeddedness of decision-making and co-operative relations" (p.28).

Fisher (1994, p.76) analyses a community forest in Nepal and shows that even if there are conflicts, agreement on rules and consensus is possible because people are enmeshed in webs of social relationships such as kinship ties, shared ritual obligations and concerns, a variety of labour relations and personal friendships. He argues:

> to explain conformity to rules, we need to look at the social system as a whole, including the elements of economic interdependence and other social relationships which are less overtly economic.

Taylor (2001, p.59) analyses two CF cases from Mexico through an embeddedness perspective. He finds both cases faced crises created by internal and external structural pressures. However, they both overcame the crises by restructuring the complex interactions between structural pressures and social agency. He argues:

> community forestry organisations … are best understood as historical processes rather than as static arrangements of incentives and procedures, and as being embedded in levels of context ranging from local to global.

The theoretical perspective and empirical analyses on embeddedness do not lead to any default model or framework in analysing CPR. However, they do not deny the pragmatic importance of the framework, provided that they are demanded by the nature and resources of the study. Here, I have synthesised a framework which is roughly followed in the analysis as a heuristic tool to order information and facilitate understanding in a flexible manner.

4.3.3 Conceptual framework for analysing collective action and CF

The framework synthesised below is used to analyse the emergence, evolution and outcomes of collective action in CF (Figure 4.1). It is based on previous studies; Meinzen-Dick et al (2004), Edward and Steins (1998) and White and Runge (1995). While Meinzen-Dick et al (2004) extended a framework originally developed by Bain (1959) in industrial organisation theory, the frameworks by Edward and Steins (1998) and by White and Runge (1995) are based on previous works on common property, political ecology and institutional innovation and change. The emergence and evolution of collective action and factors that influence collective action (i.e. contextual and situational) are presented in the results as indicated by blue text, while the analysis will focus on the red text (see Figure 4.1). The focus of the analysis is on understanding why and how people cooperate (or not to cooperate), why and why collective action continues to exist and if collective action produces equitable outcomes.

Collective action in CF can be assessed in three interrelated elements; structure, conduct and performance, which can be further divided into determining variables, structure of entities, collective action and outcomes (Meinzen-Dick et al. 2004). A number of factors influence the structure of groups, organisations or other entities which influence collective action and collective action influences the performance or outcomes. The outcomes can in turn influence collective action, structure and determining variables. The dashed lines indicate that feedback loops and co-movements of variables are likely to occur in a dynamic setting, in which collective action occurs.

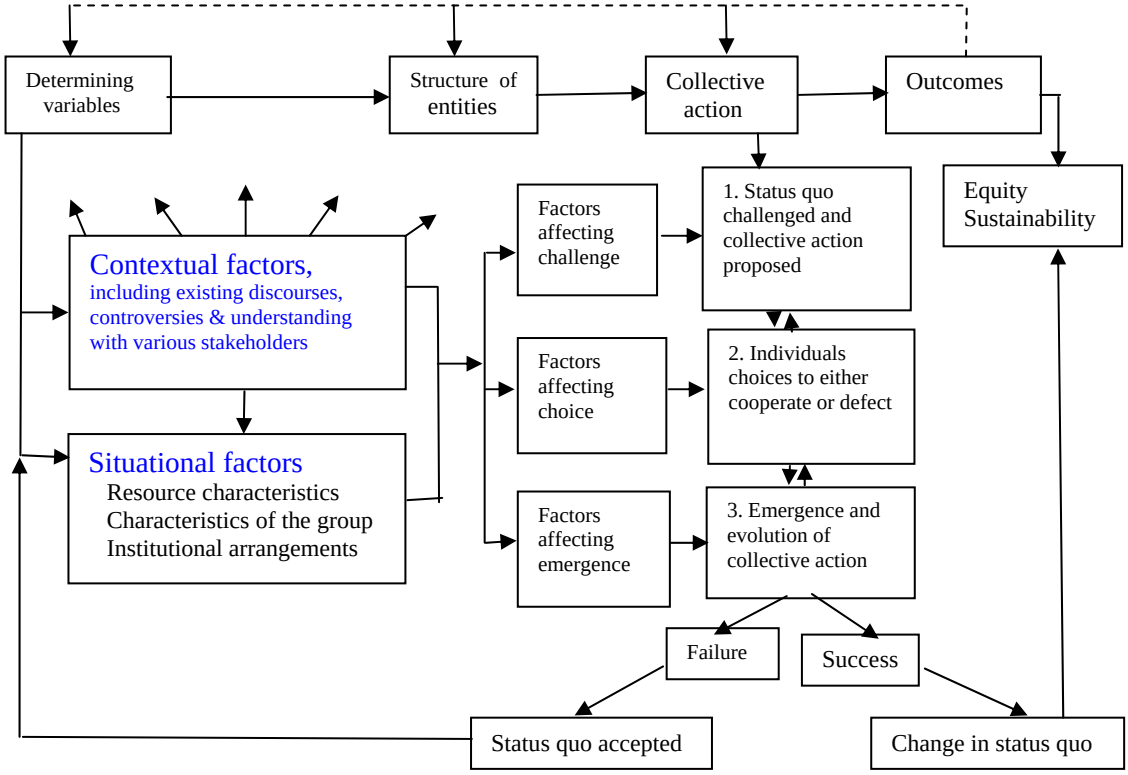

Figure 4.1 Conceptual framework for analysing the emergence, evolution and performance of collective action.

(Developed from White & Runge 1995; Edwards and Steins 1998; Meinzen-Dick et al 2004).

A large number of variables affect collective action and their feedback relationships among variables of interests (Agrawal 2001a). Edward and Steins (1998) divided these factors into two types; contextual factors and situational factors which influence action strategies and patterns of interaction of individuals and outcomes. Contextual factors are exogenous to the resource management regime and beyond the control of the users. These are important, but have traditionally been considered as given (Steins 1997). They include geography, history, society, culture, economy, politics and certain controversies, dilemmas or discourses that establish the rationale for collective action. Even if such discourses and dilemma are false or ambiguous, they influence the origin and evolution of collective action. These factors affect all aspects of collective action (indicated by multiple arrows) by defining the demand for and supply of the resources and establish the choice sets from which individuals can select strategies to cooperate, or not cooperate.

The situational factors are the internal factors that are under the direct control of the forest users. They constitute a) resource, b) user group and c) institutions associated with the management regime. Resource characteristics involve resource condition and resource availability, which directly as well as indirectly affect collective action processes and outcomes. According to Oakerson (1986; 1992), problems of the CPR are rooted in constraints given in nature or inherent in available technology, which can be evaluated through various concepts[4]such as jointness, exclusion and indivisibility. Edwards and Steins (1998) argue that collective action is influenced by the characteristics of the users such as networks of social relations, the meaning stakeholders attribute to the resource management system, ethnicity, caste, income groups, gender and religions. Decisions and action strategies are also influenced by and expectations of how others behave (Oakerson 1992). Institutions regulate resource use, access, allocation and compliance. In terms of multiple use decision-making arrangements, Kiser and Ostrom (1982) give three levels of analysis; the operational level rules, collective choice rules, and constitutional rules. These rules are nested so that the rules affecting operational choice are made within a set of collective choice rules, which are made within a set of constitutional rules (see Appendix C-1). Although well-established rules are necessary, they are not sufficient for successful collective action (Steins 1997).

White and Runge (1995) discuss the emergence and evolution of collective action in three phases. First, the emergence of collective action needs a challenge to the status quo, which is a normative assertion that the existing situation is either inefficient, unfair or both (Dahlman 1979). Many factors affect the challenge by creating or redistributing rights and duties and bring new collective action (White and Runge 1995). The initiation of collective action may be endogenous to the groups or supplied by an external source (White & Runge 1995). This could be stimulated by shifts in ideology, knowledge, power or resources (Hayami & Ruttan 1985). Second, individual resource users choose to cooperate (or to defect) depending on various factors shaping their choice, including the expected behaviour of the other participants and the probability attached to certain outcomes. In the third phase, collective action subsequently emerges and evolves.

If collective action is emerged and evolved, certain outcomes are produced which can change the status quo. If the collective action does not emerge or fails to continue, the existing situation persists (i.e. Status quo accepted). The outcome may result in the development of new rules, relationships, physical impacts and establishment of new management regime (i.e. change in status quo). These become part of the prevailing socio-physical endowment. Dragun (1983) argues that such changes in status quo are determined by prevailing systems of authority, which define who

[4] Oakerson (1986) defines jointness as the degree of subtractability; or the jointness of consumption of a resource system, which refers to the extent to which users are capable of subtracting the welfare or enjoyment of other users, while excludability refers to the extent to which or the degree of difficulty with which outsiders can be excluded and potential users are controlled. On the other hand, indivisibility refers the possibility of a resource not lending itself to subdivision amongst private property owners.

has the right to accrue benefits, and who is liable to bear costs. Oakerson (1986) suggests that efficiency and equity can be used to evaluate the outcomes of collective action. The optimum level of use of the commons leads to efficiency, while excessive use leads to resource depletion and degradation and the under-use of the resource can distract users in collective action, possibly leading to the breakdown of the institution. Equity, on the other hand, means the fairness of returns for users' contribution to the management of the commons. Oakerson (1986) states that equity problems are exacerbated by asymmetries among users, which create opportunities for some to benefit at the expense of others. Runge (1986) argues that fairness is a critical feature of successful collective action. Institutional change that improves efficiency cannot be separated from improving redistribution (Bardhan 1993). Berkes (1989) suggests sustainability as an important criterion for the evaluation of resource management outcomes, referring to the socially optimum level of output of a resource system that can be sustained in perpetuity.

Although efficiency and equity are two criteria acknowledged by many authors (e.g. Ostrom 1990; Oakerson 1992; Ostrom et al. 1994; Agrawal 2001a), it is efficiency that takes precedence over equity in most CPR research (e.g. Bardhan 1993; Baland & Platteau 1996; Heltberg 2001; Bardhan et al. 2002; Baland et al. 2002). Efficiency generally refers to managing the CPR in such a way that optimum outcomes are produced from limited resources used. However, I diverge from this usual mode of analysis and analyse outcomes in terms of equity and environmental sustainability. I do not propose this as an alternative to the analysis of efficiency. The reason for this deviation is that pursuing efficiency and ignoring equity may cause long-term inefficiency due to a decline in the motivation of people to participate in CF. The correction of such behaviour would then incur the costs of remedial action, and thus inefficiency. I fully acknowledge that the same phenomenon can occur if the management single-mindedly focus on equity and ignore efficiency. I use an approach, what Feeny (1994) called 'back-solving', to analyse CF, in which I first identify the outcome of forest management and then, more importantly, the reasons behind the outcome. To evaluate why specific outcomes are produced, an initial answer can be found by studying the pattern of interaction among resource users. Then, the analysis must ascertain how situational and contextual factors affect interaction patterns (Oakerson 1986). While this framework contains limitations associated with the rational choice tradition, it does not require following the tradition. Instead, the framework is flexible to diagnose problems of CF that is used with the concept of embeddedness for this study.

4.4 Outcomes of collective action: Equity and sustainability

4.4.1 Collective action and equity

Equity is a normative concept that has an important place in social thinking and is associated with many social, economic and environmental issues. Concern over equity is "one of the fundamental principles of community involvement in forest management" (Anon 2003, p.1), and is generally considered as the legitimate basis for community-based natural resource management (Li 1996). Equity is particularly important because CF in Nepal has emerged as a crucial component to alleviate poverty.

Defining equity

Many assumptions are made about equity without actually defining it. Central to the equity debate is the concern that the poor, women and minorities are exposed disproportionately to high levels of risk (Ringquist 1998; ESRC GEC Programme 2001). Traditionally, equity has been narrowly understood as a concept that focuses on the distributional consequences of decisions. However, its scope has widened including procedural, geographic and social equity (Bullard & Johnson 2000). Some people consider equity in distribution, decision-making and fund allocation (Chhetri & Nurse 1992; Bosma 1995). Fisher (1989) argues that equity involves getting a fair share, not necessarily an equal share. Messerschmitt (1981) argues that equity may be defined differently in hierarchical societies, where unequal outcomes are not necessarily seen as inequitable. The important point remains that an equitable system should not further disadvantage the poor (Gilmour & Fisher 1991).

While equity can be defined various ways, for this thesis, it refers to fairness in decision making processes (procedural equity), and fair outcomes of such decisions (distributional equity). These two are interconnected. The formal provision of equality, which is a guiding principle in Nepalese CF, can lead to unfair outcomes in two major ways. Firstly, it is extremely difficult to implement formal equality principle in semi-feudal societies in Nepal with deep rooted socio-cultural and economical hierarchies and interdependencies. The formal provisions are likely to be manipulated by community elites during implementation processes through informal norms and practices. Secondly, even when the equality principle is implemented, it ignores the fundamental fact that it can disadvantage the poor, women and minorities. For instance, giving equal shares of fuelwood to poor and wealthy households does not mean that they will get a suitable or sufficient quantity of fuelwood to meet their needs. When fuelwood needs are not met, the wealthy are able to meet the gap from their private lands or from the market. However, the poor households are unable to do so. In this sense, equality principle may actually disadvantage the disadvantaged groups.

Therefore, equity cannot be equated to equality because equality principles may be biased against the poor and minorities. In the context of CF, the processes and consequences may be fair when positive discrimination is given to the poor, women and other disadvantaged groups, both in processes and distribution. This discrimination is important because the poor, women and other disadvantaged groups in Nepal are socio-economically and politically worse off than other groups of the society.

i) Distributional equity

Distributional equity generally refers to "the physical movement of goods to people" (Seymour-Smith 1986, p.79). More specifically, it refers to distributional consequences of decisions. In this thesis, the distributional equity is not the same as having an equal share, but it is a positive discrimination to the poor, women, lower caste and other socio-culturally, economically and politically disadvantaged groups.

People's judgements of distributive fairness are based on the 'need' principle (Deutsch 2000). However, people do not always respond positively to outcomes, in which they have voiced their opinions, especially when the procedures result in repeated unfavourable outcomes. People show "frustration"; the frustration effect (Tyler 1994; Deutsch 2000). Once the impression of fairness is established, it is extremely difficult to change (Deutsch 2000). In this context, it is important to note that procedural and distributive equity are interconnected and therefore, one needs to analyse them together.

ii) Procedural equity

Procedural equity refers to affirmative action, in which poor, women and other disadvantaged groups have greater access to, and influence over, the way decisions are made and implemented. For instance, the locations, timing and procedures for decision making may be organised so they are more suited to the poor and disadvantaged groups than to others. The rationale for this differential treatment is that if the processes are unfair and already disadvantaged groups are not influential in the decision making, the outcomes are likely to be unfair.

Previous studies found that two key factors are influential in procedural fairness. First, the most important is 'voice effects', which suggest that a procedure is fair when people are given the opportunity to voice their opinions (Lind et al. 1990). Overall, if procedures are seen to be fair, then it is more likely that the outcomes will also be perceived to be fair (Lind & Earley 1992; Deutsch 2000). Procedural justice is a more pervasive concern than fair outcomes (Paavola & Adger 2002). Second is 'dignitary effects', which propose that the processes are fair when people evaluate procedures based on trust, neutrality and standing of the organisation responsible for

developing and implementing a decision (Deutsch 2000). The perceptions of procedural fairness are important as they influence how the community evaluates the government authorities and others and the decisions that they make (ibid).

Justice and equity

Justice is the indifferent (but often equal) treatment to different people. It generally attends to the questions associated with distribution of goods and services. Justice can be interpreted as a rationale for equity. Theories of justice are important to understand equity issues. One of the most influential contributions in the theory of justice is given by Rawls (1971, p.303):

> All social primary goods – liberty and opportunity, income and wealth, and the bases of self-respect – are to be distributed equally unless an unequal distribution of any or all of these goods is to the advantage of the least favoured.

Following Rawls, inequalities should be tolerated only if people will work for the advantage of least well-off. The need-based distribution was also highlighted by Galston (1986), who argued that basic needs of goods and services are to be fulfilled on the basis of needs, but the opportunities are to be allocated through a competition, in which all have a fair chance to participate. On the other hand, some writers opposed the distribution according to the need, but argued that to do justice is to distribute in accordance with ability and hard work (see Taylor 1988a).

Walzer (1983) asserted that the road to an egalitarian society not only depends on equal opportunity and equality of outcomes, but on the equality of conditions or circumstances which influence the opportunities and the outcomes. He argued; "[an] equal start is also important in addition to [an] open road … today's inequalities of opportunities derive from yesterday's victories and defeats" (ibid, p.144).

Justice is also interpreted on the basis of entitlement (see Nozick 1974; Sen 1999). It is argued that things come into the world already attached to people having entitlements over them. The justice depends upon where this comes about (Nozick 1974).

Equality and equity

Equality and equity are two different concepts. Equality broadly refers to the same (i.e. equal) in size, amount, value and number of the matter under consideration, while equity refers to fairness. In theoretical studies, theorists suggest that equality and equity carry different ideas and are related differently in different situations. Parfit (1991) claims that equality and priority are distinct ideas, the fundamental difference between them is that equality is relational in terms of how each person level compared with the level of other people, whereas priority is not. These two concepts are

however not rival because they occupy different places in the moral thinking (Norman 1999). These two concepts are related because both or either of them can be used in CF.

The underlying issue is not about whether these two concepts are related, but how they are related and whether should we aim for equity as giving priority to the less well off or equality as giving equally to all, as a basis for resource management?

In this thesis, I refer to the equality as a principle of giving equal access, rights, shares and opportunities to all forest users, but equity as a principle of giving priority given to the poor and minorities relative to other users within the community.

Equity is generally considered as superior to equality. Parfit (1991, p.19), who formulated the 'Priority View', argues that "Benefiting people matters more, the worse off these people are". He adds; "equality is the default: what we should aim for when we cannot justify distributing unequally" (p.15). While Parfit has not argued for or against priority or equality, he implies that priority is a more useful concept than equality. The explicit emphasis on priority comes from Raz (1986), who stated that "egalitarian principles often lead to waste" (p.227). He argued in favour of priority based on the argument of "concern":

> … what makes us care about various inequalities is not the inequality but the concern identified by the underlying principle. It is the hunger of the hungry, the need of the needy, the suffering of the ill, and so on. The fact that they are worse off in the relevant respect than their neighbours is relevant. But it is relevant not as an independent evil of inequality. Its relevance is in showing that their hunger is greater, their need more pressing, their suffering more hurtful, and therefore our concern for the hungry, the needy, the suffering, and not our concern for equality, makes us give them the priority. (Raz 1986, p.240)

4.4.2 Collective action and sustainable development

One important objective of natural resource management is whether the initiative contributes to sustainable development. The acceptance of sustainable development as a concept, and a goal, in forest and other natural resource management has created support for a forest policy shift, which highlights the role of local communities in conservation and management of the forest as a complex natural resource system (Carvalho 2001). This thesis assesses and highlights views of local forest users in regards to forest conservation and management and compares their views with that of other actors. It is therefore important to clarify what sustainable development means and how it can be achieved.

The Brundtland Report (WCED 1987) popularised the concept in academic and policy vocabulary, and in the political mainstream. The underlying argument of the report was the notion of equity with the concept of human needs (Sachs 1992). The concept has been endorsed by subsequent United Nations Conferences. *Agenda 21,* a plan of actions to be implemented by each member

country of the United Nations to achieve sustainable development, has been set out for required actions to be undertaken at different scales (local, national, regional and global) to 'balance' economic growth and conservation for achieving sustainable development.

The most commonly used definition of sustainable development is that given by the 'World Commission on Environment and Development'*:*

> Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (WCED 1987, p.87)

Many critiques have emerged from the notion of 'needs' and 'development' and they diverge and conflicts on the issues of 'what to be sustained'. This definition was criticised as an oxymoron (Redcliff 1995), sustaining economic development and making the wealthy better off, not focussed on the conservation of resources (Sachs 1992). Brundtland's approach was criticised as deliberate ambiguity to gain widespread acceptance (Wackernagael & Rees 1996).

While the concept has a connotation of something desirable and long lasting, there is neither consensus to define it, nor on a policy prescription to achieve it (Hatzius 1996). The notion is characterised by diverse interpretations and definitional dilemma. The appeal of the notion of sustainable development is "reconciling divergent views to design environmentally friendly development…palatable to different interests" (Conca et al. 1995, p.207) and to give importance on the permanence of growth and development (Pearce 1993). The dilemma is further eluded as denoting sustainable development as "almost anything that anyone wants, so that beneath its covers lies a multitude of sins" (Giddings et al. 2002, p.188).

Two key problems are obvious in the notion of sustainable development. First, advocates on ecological limits focus on resource limits, but often fail to address social and economic dimensions of sustainability (Carvalho 2001). Second, needs perspective pays little attention to the question of resource limits and carrying capacity (Farrell & Hart 1998; UNDP 1994). These two foci; the ecology focus and economy focus, are often grouped into strong and weak sustainability respectively (see Sagoff 1988; Daly & Cobb 1989; Daly 1989; Grossman & Kreuger 1995; Burgess & Barbier 2002).

CF attempts to integrate the concepts of strong and weak sustainability to link conservation of resources with the development needs of rural populations dependent on the resources (Gilmour 1995). However, integrating conservation and development objectives on an equal basis is proving to be especially difficult, but often one objective, usually conservation predominates among foresters (Warner 1997). This orientation has come from the primary criteria used for evaluating a forest agency in terms of how it manages the resource for which it is responsible. The criteria have

shifted from that of fund generation to the expansion of forest cover, more recently from afforestation to the maintenance or improvement of biological diversity (ibid). As a forest agency is evaluated for its effectiveness based on its success in forest conservation, the agency is likely to stress the importance of conservation to communities. Forest agencies emphasise the conservation objectives, and communities and other stakeholders the development objectives (Wood et al. 1995).

4.5 Conclusion

This chapter explained the theoretical questions surrounding collective action processes and outcomes in natural resource management, particularly in CF. The chapter argued that the understanding of collective action processes and outcomes is best informed by the concept of embeddedness. The political ecological analysis is highlighted to account for issues related to context, scale and power relations that impinge on local level decision making and implementation processes. Moreover, responding to persisting dominance of economic efficiency criteria used to analyse the outcome of CPR, this thesis proposes to analyse it with equity and to lesser extent, sustainability criteria. The discussion showed that equity is not the same as equality and there is a need for priority in the distribution of community forestry benefits.

These theoretical explanations are important for the study and analysis of community forestry in Nepal. The next chapter discusses how this research was conducted.