Adaptive Collaborative Management of Community Forests in Asia

Experiences from Nepal, Indonesia and the Philippines

Edited by

Robert Fisher, Ravi Prabhu and Cynthia McDougall

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Foreword

THE EASY 'SOLUTIONS' OFFERED by centralised resource management no longer work, and the era of top-down decision making is all but over. Some of the new directions that have been proposed include learning-based approaches in place of set management prescriptions, using a broader range of knowledge (including local and indigenous knowledge), dealing with uncertainty and complexity, and of course the sharing of management power and responsibility. Resource management has become not a search for the optimal solution but an ongoing learning and collaboration process for shared problem solving.

Adaptive management is a way of dealing with uncertainty and complexity; collaborative management is about sharing management power and responsibility. Adaptive management and collaborative management have been evolving towards a common ground. Adaptive management, without user collaboration, would become a sterile technocratic process; collaborative management, without a learning loop, eventually withers. In our recent book, *Adaptive Co-Management: Collaboration, Learning and Multi-Level Governance* (University of British Columbia Press, 2007), we found that time-tested collaborative management necessarily becomes adaptive collaborative management, not only in forestry but in a diversity of resource management areas.

For forest-dependent peoples of Southeast Asia and elsewhere, making a living in a rapidly changing, globalised world requires continual learning, adaptation and collaboration. Managing forests in a rapidly changing world also requires a process of deliberate social learning and collaborative

problem solving. The development of flexible, participatory governance systems that can learn from experience and generate knowledge to cope with change is an important mechanism for adaptation and resilience. In a world characterized by unpredictable shocks and stresses, forest users and managers need alternatives and backup options. Social learning helps generate these options, building resilience in linked systems of forests and people.

This volume contributes to a deeper understanding of the issues around deliberate social learning and collaboration, with chapters on four Asian cases. The Center for International Forestry Research is a world leader in this area; CIFOR researchers have been investigating adaptive collaborative management at least since 2000. The cases in this book aim to demonstrate what adaptive collaborative management is and how it can be applied in practice.

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Acknowledgements

IN EARLY 1999, two streams of research in CIFOR flowed together to form what would become the Adaptive Collaborative Management Research programme. The first had its origins in research carried out on criteria and indicators for sustainable forest management, which inevitably led to questions about adaptive management, collaboration, conflict and empowerment. The second arose from an examination of the livelihoods of local people in forest areas, and conservation areas in particular. Both of those streams are represented in this book, and we acknowledge their contributions to the research and thinking that inform these pages.

We begin by thanking the Asian Development Bank, the International Tropical Timber Organization, the Department for International Development (U.K.), the International Development Research Centre, the Ford Foundation and CIFOR for providing the financial support that made this research possible. We also thank the Department for International Development and the World Bank for providing the financial support for production of this book.

Concepts like adaptive collaborative management (ACM) emerge over time, a process that in our case has been passionate and fulfilling. All the authors of this book thank our colleagues Carol Colfer, Jack Ruitenbeek and Chimere Diaw, who acted, reflected and learnt with us as we clarified our thinking on ACM. Don Gilmour, Peter Frost and Irene Guijt added intellectual sophistication to our thinking and were indispensable members of our International Steering Committee. Doris Capistrano has been supportive throughout, making sure that this work saw the light of day as a

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Chapter 1.

Introduction: People, Forests and the Need for Adaptation

Robert Fisher, Ravi Prabhu and Cynthia McDougall

TOWARDS THE END of the first decade of the twenty-first century, media reports globally are filled with warnings of actual and impending impacts of climate change on human and natural systems. The energy crisis is apparent in spiralling costs of fossil fuel and a race to find alternative energy sources; biofuels are under discussion and cereal prices have more than doubled as a result. Massive demographic and land-use shifts are taking place as a result of migration, population growth, urbanisation, pandemics, the expansion of agriculture and shifts in tenure systems.

Those changes and stresses reverberate in forest areas across Asia, where the expansion of palm oil plantations, indiscriminate logging and clearance of forests following migration put both forests and the communities that depend on them under pressure. Yet the desire to help communicate the challenges of forest-dependent communities in a globalised world is only part of what has compelled us to write this book. The other reason for writing about research on small communities in Asia is that the struggle of these communities—as they seek to govern complex forest systems more effectively, equitably and responsibly—is a good metaphor for what

is happening to human beings and our planet, in this first decade of the twenty-first century.

In this book we take the position that in a world as complex as ours, buffeted as it will be by shocks, surprises and uncertainty of all kinds, the best we can do as managers or 'stewards' is to let go of the notion of control, fixed plans and solutions. Instead, we need to take our cue from the natural world and from communities such as those described in this book, and try to be inclusively, intentionally and proactively adaptive. How best we might do this is the question we ask ourselves throughout this book, as we examine empirical evidence from case studies in Asia. We, the forest researchers and forest communities involved, can offer insights on adaptation that can help others interested in managing forests and improving the livelihoods of poor people. We also believe there are lessons to be learnt for the stewardship of the planet we inhabit.

How people became important in forest management in Asia

In the second half of the nineteenth century, state-controlled forests in Asia came under management by forest services staffed by scientifically trained foresters. This approach was first evident in India, with the establishment of the Indian Forest Service after the German botanist Dietrich Brandis was invited by India's colonial masters in 1860 to make the management of Pegu's rich teak forests more sustainable. It quickly spread to most other Asian countries.

During the late 1960s and the 1970s, challenges to this approach arose in some parts of Asia, as it became clear that state control had often been ineffective and that forest cover was rapidly decreasing. It was commonly thought that the main cause of deforestation in the so-called developing countries was pressure from rural people, particularly resulting from a high rate of population increase. Consequently, it was assumed, involving rural people in forest management activities (defined as protection of forests and plantation of new forests) would help reverse, or at least arrest, the decline.

We now know that the assumptions about causes were simplistic, as were the proposed solutions. Pressure from rural people was only one of a host of other factors, such as excessive commercial logging, lack of legal access

to forest resources by forest users, market demands and the absence of sustainable management practices, all of which had detrimental effects on forests.

The move to involve people in forestry activities began with the assumption that if rural people were part of the problem, then meeting some of their needs for forest products and involving them in forest management activities were part of the solution. As early as 1978, some of the ideas behind what was generically called community forestry were presented in *Forestry for Local Community Development* (FAO 1978). By this time, experiments in 'community forestry' were beginning in Nepal, and some other countries were experimenting with the concept of 'social forestry'.

Since the 1970s, people-oriented approaches to forestry have emerged and matured in Asia, variously described as community forestry, community-based forest management, social forestry and joint forest management. The initial focus on involving communities in government programmes for reforestation and forest protection has gradually evolved towards more devolution of decision-making power (at least at the level of policy discourse and rhetoric, but less obviously in practice) and more active use of forests by the local communities. From a relatively naive effort to 'educate' forest-dependent peoples about the importance of trees and reorganise existing social arrangements for forestry activities, community forestry programmes have become much more sophisticated, focusing on real decision-making authority at the local level, changes in forest governance, and devolution of previously denied rights and responsibilities.

Devolution of forest management is now a stated policy objective in many countries, but how much devolution has really occurred? A recent study in several countries shows that far from devolving management authority to the people who actually use and need the forests at the local level, devolution policies have sometimes actually decreased local control of forests (Edmunds and Wollenberg 2003). For example, a case study of Orissa found that existing local forest management systems were pushed to conform to rules under the state's Joint Forest Management programme, reducing the decision-making role of communities (Sarin *et al.* 2003). Whether this pattern holds generally is not certain, although anecdotal and other evidence suggests that devolution has had limited effect (for overviews, see Fisher 1999; Fisher *et al.* 2000; Colfer and Capistrano 2005). Given that one rationale for devolution policies is that they will better meet local needs for forest products, especially those of poor and marginalised

groups, by the late 1980s and early 1990s unsettling evidence emerged that even long-established community forestry programmes, such as Nepal's (see Malla 2000), have provided limited benefits to the poor and may have even made the poor worse off (e.g., Edmunds and Wollenberg 2003 and Malla 2000 for Nepal, and Sarin *et al.* 2003 for India).

It is important to recognise that the objectives of different actors may be incompatible and that control of forest management is inherently political. In this context, conflict is to be expected. However, political processes are essentially about mediating between conflicting objectives and reaching workable compromises, so the existence of conflict should not be a cause for despair.

In response to complexity: Adaptive collaborative management

Forests are complex, both as ecosystems and in terms of the factors involved in meeting the diverse objectives of society. Different types of forest, of course, vary in the level of ecological complexity they exhibit. Tropical forests, with large numbers of plant and animal species, are particularly complex, especially taking into account the complex social and economic relations among forest users and owners. While some scientists aspire to forest management regimes based on assumed equilibrium, many ecologists now recognise (and have recognised for some time) that ecosystems are dynamic, that equilibrium is little more than a convenient fiction at best, and that an adaptive approach is more appropriate. Adaptive management, one approach to ecosystem management, recognises the limits of our understanding of natural systems and accepts that change and variation are intrinsic to ecosystem. It enables managers to proceed without resolving all uncertainties in advance, while explicitly recognising change and variability (Walters 1986; Holling and Meffe 1996; Lee 1999). It is a management approach that involves conscious learning based on action and the observed consequences of action.

Checkland (1985) differentiates between 'hard' and 'soft' systems. By hard systems he means systems designed (or engineered) to have a clearly defined outcome. Soft systems have no clearly defined outcome, and in fact, different actors within the system will have differing objectives and purposes. This concept applies to the process of conscious management of ecosystems by

human beings. Whereas systems management involves management of complex interactions by actors with differing, even opposing objectives, what is called for is decision-making based on negotiation around these differing objectives. Linear thinking based on supposedly clear objectives doesn't work[1] because real-world forest management involves soft systems, with competing societal objectives. Collaboration becomes essential.

In recent years, an enormous amount of literature has been produced on the broad subject of collaboration in natural resource management. Collaborative management of protected areas has been one major area of concern (Borrini-Feyerabend 1997); collaborative management of forests has been another (Fisher 1995). Associated with this research is work on pluralist approaches to natural resources management in general, and forest management in particular (Anderson *et al.* 1998). There are differing views on who should be involved in collaborative arrangements for forest management. One view holds that the main partners should be local communities (however defined) and the state authorities legally responsible for forests. In Asia these forest authorities usually have legal authority over most forests, despite the traditional claims of the people who live in and near forests. This type of collaborative management is reflected in the Indian model of joint forest management and the approaches to community forestry evident in forest management programmes in Nepal and the Philippines.

Increasingly, such community-based approaches are being seen as too narrow and it is recognised that the constituencies interested in forest management are more diverse. Stakeholders may include both nonlocal groups with direct economic interests in forests (such as logging companies and nontimber forest products merchants) and those with less immediate interests, such as conservationists and the wider population that depends on forests' environmental services (clean air and water). Although multiple interests are fundamental to contemporary forest management, there are good reasons for concern that calls for pluralism and the national interest can become excuses for disempowering marginalised stakeholders, including local communities whose rights have long been ignored (Fisher 2003a). Perversely, calls for pluralism risk reinforcing (or in some cases, returning to) the status quo, in which forests are controlled by state authorities and powerful economic interests.

Calls for pluralist forest management have raised questions about the need to develop processes and fora that permit stakeholder negotiation and, at

the same time, empower weaker stakeholders within these processes (e.g., Wollenberg *et al.* 2001; Colfer *et al.* 1999). We make the assumption that better collaborative learning can lead to better and fairer forest management decisions, but this raises a serious question: Can collaborative learning really address direct conflicts of interest? Using empirical evidence, we explore this question further in subsequent chapters.

In the research project we discuss here, we used the terms 'adaptive collaborative management' (ACM) and 'adaptive comanagement' to signify management that merges the principles of scientific adaptive management with collaborative management, as well as various principles of social learning and participatory approaches. The concepts, elements and roots of ACM are examined in Chapter 2 of this volume.

The practice of ACM seeks to create better (more equitable and more sustainable) ways of helping the multiple interests involved in forest management make collaborative decisions. The assumption is that collaborative learning, involving various stakeholders, can lead to better and fairer management decisions.

This book is based on the hypothesis that the provision of opportunities for collaborative learning, negotiation and planning, involving different actors, can contribute to better management of complexity and better negotiation between people with differing and competing objectives for forest management. It presents an analysis arising from the Adaptive Collaborative Management Research Project implemented by the Center for International Forestry Research (CIFOR) in three countries in Asia.

The Adaptive Collaborative Management Research Project

The ACM Research Project tested several approaches for promoting, strengthening and institutionalising active and collaborative learning for forest management in Nepal, the Philippines and Indonesia. The project was hosted and led by CIFOR and was carried out in partnership with multiple national, district and local partners and researchers in the three countries between April 1999 and September 2002. It was part of a wider ACM programme[2] that carried out similar research in Africa, Latin America and Central Asia.

The project attempted to answer three basic research questions:

1. Can an adaptive collaborative management approach be effectively catalysed and sustained in community forestry systems? If so, under what conditions is it needed and what factors and conditions affect its uptake, impacts and institutionalisation?
2. What strategies, processes, arrangements and tools can catalyse and sustain management and governance based in social learning and collaboration among diverse stakeholders?
3. What are the influences of an ACM approach on people and forests in community forestry systems, including effects on institutions, social capital, livelihoods and forest condition or value?

In each country and each site, the three questions were nested among several other, more site- and stakeholder-specific questions. The project used action research because it makes little sense to study questions about collaboration, learning and improvement passively. ACM is a relatively new approach. Although closely related to other learning-based approaches to management (and explicitly based on a combination of collaborative management and adaptive management), ACM seeks to test a unique concept and identify, develop and test practical processes and tools for its application. Without taking specific action to introduce and facilitate local implementation of the approach and its supporting processes, we could not have critically assessed its utility.

An initial problem was to identify a research methodology that would enable the project to combine action and rigorous observation and analysis of processes and outcomes. In fact, the ACM project used a mixture of methods, from conventional surveys through action research and participatory action research (PAR). Of the three, PAR was probably the most important and characterised much of the outcome of the three years of research.

Action research consciously attempts to combine research with action. It can be thought of as a form of applied research. However, applied research typically separates research and application into distinct phases: the research is carried out and then applied (Fisher and Jackson 1999). In action research, the learning part (research) is carried out as part of the action: the action leads to learning, and the new learning informs future action steps. This process is generally thought of in terms of repeated cycles of planning, action, observation and reflection, leading to new

cycles of revised planning, action, observation and reflection (Kemmis and McTaggart 1988).

Action research as an explicit methodology was originally developed by the social psychologist Kurt Lewin in the context of community projects in post–World War II United States (Lewin 1946). It has subsequently been applied in a wide variety of fields, including rural development, natural resources management (Fisher and Jackson 1999) and organisational change (Greenwood and Levin 1998).

Collaboration and participation have sometimes been seen as defining characteristics of action research, with some authors specifically arguing that all action research must be participatory (Kemmis and McTaggart 1988). This is somewhat problematic. Although it is difficult to see how action research could occur without collaboration (at least in the reflection stage) among members of a core research group, it is quite possible that an action research process could occur without the active involvement of wider groups of stakeholders in the formal research itself. For this reason it seems desirable to differentiate between action research and participatory action research (Fisher 2003b). The ACM project relied on a mixture of PAR, action research and more conventional extractive and comparative research to deliver insights that would be useful and generalisable. PAR was introduced when groups were working on certain aspects of ACM, such as improving action planning or collaborative monitoring approaches (see Guijt 2007), or seeking to exploit an opportunity for income generation, conflict management or forest improvement. Action research[3] was generally used to promote, implement and test the application of ACM in forest management. More conventional research methods were used for context studies, historical timelines and comparisons of results across sites.

How can we demonstrate the validity and credibility of our findings? How can we show that ACM interventions lead to changes in the lives of poor people or the forests they depend upon? We would argue that it is not possible to conclusively demonstrate any causal connection between an ACM process and an outcome. As Hume showed in the eighteenth century[4], causality is a major challenge for science and philosophy. According to Hume, we can only intuit a causal connection because two events regularly occur close together in time. The challenge applies not only to qualitative research but also to quantitative research. Statistical correlation does not prove a causal relationship. Regardless of whether causality can ever be proven (a still-vexing philosophical question), we would argue that, to show that causal

connections are plausible, it is necessary to suggest a mechanism or process by which two events can be connected. In other words, we need to establish plausible causal connections between ACM interventions and outcomes[5]. For example, if stakeholders consciously negotiated management objectives and agreed on actions, and if those actions subsequently occurred, the identifiable consequences could reasonably be assumed to be a result of the process. This cannot be absolutely certain, but is a reasonable conclusion.

Box 1-1

Causality: An extract from the International Steering Committee (2000) report

While there may be some scope for quantitative data collection and analysis in the project, most of the data collected will be qualitative, and often in the form of process documentation. As the project is intended to test and improve the application of the ACM process, such documentation is essential and there is no likely way that quantitative analysis can deal with the core issues. To some extent the team seems to be apologetic about this, and consequently seems to be trying to treat qualitative data as if it were quantitative.

Assuming an adequate timeframe for meaningful change, quantitative (or 'objective') data may demonstrate that a change in forest condition or human well being has occurred. However, they cannot demonstrate the cause of this change. Indeed, there is no methodology that can demonstrate the causes of such change with certainty. The best that can be done is to apply something like the sort of analysis used by practitioners of historical sciences (such as palaeontology or history), who examine events in order to establish *plausible causal connections*.

Selection of Project Sites

Nepal, the Philippines and Indonesia were selected for the Adaptive Collaborative Management Research Project for several reasons. Both Nepal and the Philippines have long histories of efforts to promote management of forests by communities, and the experiences of both countries have been extensive and well documented. Devolution policies in these two countries were well established and implemented to various extents. Indonesia, in contrast, has centralised management of forests,

but this offered opportunities for learning and comparisons with the other countries. However, during the project period, following political changes in Indonesia in 1998, decentralisation became important; again, the learning opportunities were significant. Detailed background on the three countries is presented in the corresponding case study chapters.

Other factors involved in the selection were the existence of willing partners for research and initiatives to which the ACM project could add value. ACM was not intended to replace existing programmes, however. Rather, the ACM researchers sought to develop ways to incorporate conscious adaptive collaborative learning processes in existing forest management programmes and projects.

Within each country, several sites were selected based on preliminary studies and consultations with partners and other stakeholders. Some of the factors considered during the site selection were the following:

- the presence of a local forest-dependent community and at least one other stakeholder;
- conflict or uncertainty among stakeholders over how the forest should be managed;
- the status of devolution policy (the type of decision making allowed to local communities);
- the nature and power of the other stakeholders (e.g., conservation organisations, timber interests, government agencies);
- other communities living in or near the forest;
- the willingness of the communities to participate in the study;
- the forest type or quality; and
- the policy or management synergy to be gained by including the site in the study.

This was not a random sample of sites with different characteristics, since the aim was to test ACM in situations with real complexities and real conflicts. The selection did encompass a variety of sites, each with a different set of complexities.

In each country, partners were identified and teams established to work in the selected sites. There were two teams in each country. The project was coordinated and administered centrally at CIFOR in Indonesia, but each site team exercised a fair amount of freedom in interpreting and applying the commonly agreed research framework (goals, objectives and methods) to ensure that the approach remained locally as well as globally

relevant. Further details on site selection and team composition are given in Chapters 3–6.

Steps in the Research

The conceptual model and overall methodology underlying the research are presented in Chapter 2. In brief, the research process had nine major steps, as shown below. Steps 1, 2, 7, 8 and 9 involved conventional research and analysis—surveys, semistructured interviews and other extractive forms of data collection—carried out in partnership with local people and organisations. In all cases the information was shared and discussed with members of the community and their representatives. The data provided an opportunity both for the local community to reflect on themselves and their forests and for the 'external' researchers to understand the situation and begin the process of building trust. Steps 3–6 were iterative and involved both action research and participatory action research.

1. The basis for the research: agreements with national partners on ACM and the focus of the research.
2. Background studies to understand the context and build trust:
    a. Site selection study;
    b. Stakeholder analysis;
    c. Historical trends;
    d. Biophysical assessment;
    e. Human well-being assessment; and
    f. Assessment of adaptiveness and collaboration.
3. At selected sites, participatory action research on problems and opportunities identified by site partners.
4. Action research and participatory action research on approaches to enhance communication, collaboration and learning that arise out of step 3.
5. Ongoing monitoring and analysis of the impacts of steps 3 and 4.
6. Feedback and reflection related to steps 3, 4 and 5.
7. Reassessment of the background studies.
8. Final analysis and synthesis of reports.
9. Identification of next steps and follow-on activities and research.

Structure of the Book

This chapter has provided a brief introduction to the project, its rationale and its overall shape. Chapter 2 explores in more detail the concepts underlying the ACM Asia project, focusing particularly on adaptive collaborative management, social learning and action learning. It describes the intellectual origins of these concepts.

Chapters 3, 4, 5 and 6 focus on the studies in the three countries. Two chapters deal with separate studies in Indonesia, cases of very different origins and thrusts. One of these studies (Jambi and Pasir, Chapter 4) followed the same approach as in Nepal and the Philippines; the other (Malinau, in East Kalimantan, Chapter 5), of older origin, was cast within the same research paradigm but with an evolving research framework. Each case study shows why ACM was seen as having potential value in the country context, describes the history of the project in that country and recounts how the project operated to foster change and how improved (more adaptive and collaborative) decision making led to better outcomes. The chapters consider challenges, outcomes and lessons from the country case studies and explore thematic issues of relevance to the broader application of adaptive collaborative management.

Chapter 7 presents the conclusions of the book. It looks at the case studies in terms of the answers they provide to the three project research questions—what conditions favour the adoption and success of ACM, what strategies and arrangements can sustain management and governance based in social learning and collaboration, and how does ACM affect the social, economic and ecological conditions of people and forests in community forestry systems. It also pays particular attention to the extent to which ACM has led to changes in learning process and the extent to which it has been institutionalised: What has changed, and will the changes persist?

Endnotes

1 Checkland has developed 'soft systems methodology' (SSM) as a method for developing shared objectives among actors with differing objectives. This book proposes ACM as an alternative method for doing the same thing.

2 In Asia the research was supported initially by the Asian Development Bank, under RETA 5812, and CIFOR, and later by the Department for International Development (DFID) and the International Development Research Centre. In Africa

the research was supported by the European Commission (under its tropical forest budget line), DFID and CIFOR. In Latin America the research was supported by the US Agency for International Development and CIFOR.

3 A source of confusion lies in the way the term action research has sometimes been used to refer to a process combining learning and action for change, without any real focus on research in the sense of production of public knowledge. We prefer to think of this sort of process as action learning (not unlike ACM) and reserve the terms action research and participatory action research for action learning processes where one outcome is the production of generalisable knowledge for application beyond the immediate context of action (Fisher and Jackson 1999).

4 David Hume, *Treatise of Human Nature*.

5 Following discussions with the project's Steering Committee in Nepal in November 2000, the ACM Asia team adopted the phrase 'plausible causal connections' as an informal motto.

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Chapter 2.

Adaptive Collaborative Management: A Conceptual Model

Ravi Prabhu, Cynthia McDougall and Robert Fisher

IN THE PREVIOUS CHAPTER we discussed the importance of flexibility in decision making, management and action, and we argued that this is especially critical in the sphere of forests because so much is unknown and changing. John H. Holland (1998: 248), who popularised genetic algorithms and is one of the world's leading researchers of complex adaptive systems—such as forests—formulated the following question to guide his own investigations into the behaviour of such systems: 'How can the interactions of agents produce an aggregate entity that is more flexible and adaptive than its component agents?'

Although Holland used the question as a frame within which to explore the phenomenon of emergence, it could easily serve as the driving question for forest management in the new millennium. It was in response to this question that the CIFOR and partner research teams explored concepts, processes and tools for flexibility, innovation—and ultimately effectiveness and equity—under the heading of an adaptive collaborative management (ACM) approach to forestry.

In this chapter we explore the ACM approach as conceptualised, observed, facilitated and analysed by the research teams. The first section offers a brief overview of the approach from the perspective of practice. Specifically, we outline the guideposts that facilitators followed in catalysing ACM during the participatory action research, and we give a brief example of an ACM approach in action. The rest of the chapter is devoted to explaining, by way of a model (Box 2-1), how an ACM approach functions from a conceptual perspective. The model breaks down the approach into conceptual phases, highlighting the purpose of each phase as well as its theoretical roots, and then reintegrates the parts to illustrate the synergy of the phases in relation to Holland's question, posed above.

Box 2-1. Roles of models

Holland (1998) has suggested three roles for models: making correct predictions about the world, rigorously demonstrating that something is possible, and exploring and explaining, each of which is validated by the cogency and relevance of the ideas it produces. We present our model of an ACM approach in the sense of the third role: as a tool to explore and explain. Specifically, we are exploring and explaining the factors and forces underpinning innovation and emergence in the complex system of managed forests.

Overview of adaptive collaborative management

This section first outlines the three anchors of an ACM approach: *communication and creation of a vision, social learning and joint action*. It then describes those anchors' constituent elements, which function as guideposts for practitioners designing and facilitating context-specific ACM processes.

As defined by the CIFOR and partner research teams, adaptive collaborative management is an 'engine' for adaptation and innovation. It is a quality-adding approach to forest management and governance, whereby stakeholders—the people or groups who use, control or in some way have interests in a forest—engage in a process of effective social interaction in which they negotiate a vision for the forest. The actors consciously undertake deliberate and shared learning in developing and implementing their plans for their forests. In doing so, they jointly observe and reflect on the outcomes of plans—especially the unexpected—and the

process of planning, and together, they then continually seek and negotiate innovations and improvements in understanding, plans, processes and implementation. In other words, the essence of an ACM approach is that management and governance are rooted in a process of conscious and intentional learning by a group of people dealing with a shared area of concern, with the intention of innovating for improvement or goal achievement. To move this definition towards practice, we can understand an ACM approach as having three anchors:

- communication and creation of a shared vision;
- learning among stakeholders; and
- joint or collective action.

Communication and creation of shared vision

ACM stresses the importance of a vision in forest management. As Holland (1998) emphasises, innovation is unlikely to result when actors simply gather more facts and incrementally revise hypotheses. Rather, it usually requires the selection of a goal—or vision—at the outset. In ACM, the vision is not a fixed point to be achieved (and its nonattainment to be deemed failure). Rather, the vision serves as a reference point for forest actors as they navigate their way through decision making and actions in management and governance. As such, it relates closely to reflection and self-monitoring, as described further in the following sections. Furthermore, the approach assumes that the vision itself is revised and refined along with learning and the unfolding of opportunities.

That the vision is shared by the forest actors is necessary for the shared ownership of processes, decisions and outcomes. The concept of a shared vision draws from experiences in the field of collaborative forest management and relates to the overlapping interests, rights and responsibilities of forest actors.

Communication is critical in ACM, not only for enabling the shared vision to emerge, but also because effective communication is the foundation for creating a whole that is greater than the sum of its parts. Effective communication enables diverse actors to share—and ultimately negotiate and create synergies from—their worldviews, goals, values and knowledge.

Learning among stakeholders

It appears obvious that managers must base their decisions on learning. How is the 'learning among stakeholders' in ACM different from the normal learning carried out by all managers? One difference is that ACM requires that those involved seek and apply knowledge actively and deliberately, rather than incidentally or passively. For example, forest managers can identify uncertainties (such as nursery management techniques for bamboo) while in the planning processes and then fill in those knowledge gaps in the planning or implementation stage of their work (through analysis of past and ongoing management experiences and outcomes). Thus learning is an intentional outcome of the managing process, and it is fed back into that process. In a traditional management process, learning tends to be a by-product of the management activities, and it may or may not be internalised, whereas in ACM, the learning process (and the uptake of the learning) becomes part of the management routine—that is, it becomes institutionalised.

In ACM, learning also means that forest managers actively seek to adjust and improve their *existing* knowledge, incrementally sharpening and enhancing their understanding of the forest system. One example of this would be stakeholders building and applying an ongoing monitoring and feedback process.

It also includes learning at a higher level rather than simply the learning of facts, the kind of learning that enables stakeholders to reframe their perspectives—or some part of their worldview. This level of learning can be understood as 'transformative learning' (Van der Veen 2000; Loevinsohn *et al.* 2000). One example would be the use of shared 'learning questions' by forest managers about their own governance processes, reflections and ultimately shifts in ways of interacting.

Finally, as implied in the above paragraphs, one significant attribute of learning in an ACM approach is that it is not only individual learning of facts, but also (and especially) *social learning*—a process in which 'multiple stakeholders bring together their different knowledge, experiences, perspectives, values and capacities for a process of communication and critical reflection as a means of jointly understanding and addressing shared challenges and potential options' (McDougall *et al.* 2002:28). Although this adds complexity to the process, it also potentially adds richness because of

the diverse interpretations of experience, knowledge and learning. (Social learning is further explored in the subsequent sections of this chapter).

In sum, in ACM, gathering information and negotiating outcomes take place as part of a single integrated and collaborative learning process. Learning is not, after all, just about collecting information, but about deciding what it means. Where the information means different things to different people, the attribution of meaning works best if it is discussed and negotiated interactively.

Joint or collective action

By definition, adaptive collaborative management involves action that is agreed upon and supported by multiple actors. The need for joint or collective action reflects the complex nature of forests, people's overlapping interests, rights and responsibilities, and the resulting potential for tensions between local, meso and national levels of governance as well as between private, government and civil society institutions. Even within one local area, the 'common property' nature of community forests (whether legally designed community forests or not) demands that if actions are to be acceptable to most forest actors, they will need to be jointly agreed, if not jointly carried out.

One foundational aspect of joint or collective action (and the whole governance and management process) is the need to assemble the 'right' actors. This is challenging, not in the least because the definition of those actors is subjective as well as time, context and issue dependent.

Wollenberg *et al.* (2001) identify problems associated with collective action ('collective agreements'), including the fact that transaction costs in achieving them may in some cases outweigh their immediate gains. Furthermore, they point out that the more powerful members in a group tend to take over and control such agreements. They note that it 'takes more time, human energy, and material resources to identify all the relevant forest interest groups, develop platforms on which their interests can be accommodated effectively, and coordinate interests in a way that respects the legitimacy and autonomy of each of them than it does to simply manage forests as though they were the sole responsibility of the government' (Wollenberg *et al.* 2001).

Guideposts for practice: elements of ACM

The three anchors described above can be further elaborated as seven elements:

1. All relevant stakeholders are involved in decision making and negotiation and have the 'space' and capacity to make themselves heard.
2. Stakeholders effectively communicate and transfer knowledge and skills (in multiple directions).
3. Stakeholders implement actions together, as appropriate.
4. Stakeholders seek to effectively manage conflict.
5. There is shared intentional (i.e., social) learning[1] and experimentation in the forest management process, and this learning is consciously applied as the basis for refinements in community forestry management activities and processes.
6. Planning and decision making include attention to relationships within and between human and natural systems.
7. Planning and decision making clearly reflect links to the 'desired future' and take into account current trends and the inevitability of surprise and uncertainty[2].

Although all of those elements are necessary for ACM to work effectively, they are not a series of steps or a fixed sequence of linear actions, but rather, interrelated guideposts for practitioners to use as they develop (and enable the evolution of) forest management and governance processes appropriate to specific contexts. Processes based on them are continual and iterative. Box 2-2 briefly compares a relatively linear approach to local level forest management and governance with the ACM approach that emerged during the participatory action research phase of the project in Nepal. Processes and tools supportive of ACM are discussed in each country chapter in this volume and then synthesised in the final chapter.

An ACM approach involves important shifts in roles and in the thinking of different actors. This is clearly illustrated at the local level. The role of 'outside experts', such as researchers, is significantly different in an ACM approach from their role in a traditional 'extractive' approach to research. In the traditional approach, the generation of information means data collection for the purposes of interest to the outside experts, and the information may or may not be of interest to the groups from whom the information is being extracted. The outside experts arrive, quiz the local

stakeholders and depart, then combine the disparate bits of information and views into a report and send back their recommendations (or, sometimes, make the recommendations to others). In an ACM approach, any outside experts help generate information for internal use, and only secondarily for external use, and they interact with the local stakeholders in a facilitated process. The process of linking and making sense of different perspectives and knowledge takes place interactively, with direction from and the active involvement of local actors. Local actors become proactive in identifying and accessing needed information and knowledge, and this increases their power.

Box 2-2. Traditional versus adaptive collaborative management

In the background studies of the CIFOR and partner project in Nepal, the research teams observed several commonalities in the forest management and governance processes and institutions that preceded the ACM approach:

- Forest user group committees, the main decision-making bodies, were dominated by men from local elites.
- Decision making was restricted to a small group or an individual
- Full assemblies of members, if held, were often used for rubber-stamping or disseminating committee decisions.
- Decision making was based largely on existing information and beliefs.
- There were no mechanisms feeding back lessons from the implementation of plans into the planning process.

During the participatory action research phase, the facilitators tried to catalyse the following:

- the involvement of all relevant stakeholders;
- effective communication in multiple directions;
- joint actions;
- effective conflict management;
- the application of shared intentional learning to management;
- the use of a systems view of human and natural systems; and
- decision making that incorporated visioning and took into account uncertainty.

One institutional change that emerged across the research sites during the ACM projects involved the locus for decision making: it moved from the committees of elite men to involve community members at the hamlet level. The result was a corresponding increase in two-way information flow between forest users and the committee, and more people had ownership of the decisions taken. The processes that emerged contrasted noticeably with the more linear 'committee —› assembly —› implementation (or not)' sequence of events. In the ACM approach (as synthesised across the sites), forest user group members developed an agreed shared vision of the future and then used that to create 'indicators' for their group.

ACM calls for a similar shift for government and NGO 'service providers', who in traditional approaches to forest management and development typically direct planning and decision making in local forest management, providing 'blueprints', 'answers', 'knowledge' or technical directives. Instead, these outside experts become collaborators and colearners who contribute to the local processes and plans in response to the needs of local actors (Box 2-3). They may take leadership roles in facilitating meetings and catalysing ACM, but leadership is also—and most importantly—drawn and developed from within local communities themselves. The facilitators—whether insiders or outsiders—help to link perspectives, goals and knowledge from different sources and engender a learning orientation in the management processes and plans.

Box 2-3. New roles for external actors

Although a change in the traditional roles of outside 'experts' in community forestry is necessary, this shift poses a dual challenge for bureaucracies. For example, in Nepal, government forest offices are traditionally (and legally) responsible for policing forests according to community forest user groups' operational plans and principles of nonharm to community forests. With a shift towards increasingly community-led forest management and an ACM approach, they are also being asked to play a facilitative role, yet without exerting undue influence in the direction of their own interests. In addition, technical foresters are being asked to step outside their technical roles and become facilitators. Given that effective facilitation requires a distinct set of skill and attitudes, this can be problematic and needs on-going consideration.

Conceptual model

In this section, we return to the challenge articulated in Holland's (1998) question at the beginning of this chapter: 'How can the interactions of agents produce an aggregate entity that is more flexible and adaptive than its component agents?' Our intention here is to offer an explanatory model of how innovation emerges from human agency. In doing so, we follow Holland (1998) on the construction of such models and suggest that the cogency and relevance of a model be tested on the extent to which it (a) discovers relevant and plausible building blocks and (b) constructs coherent, relevant combinations of those building blocks. In spelling out this challenge for our model, we are responding to the need in natural

resource management to elucidate causal forces of innovation and emergent phenomena in complex adaptive systems involving human agency.

Three phases of adaptive collaborative management

An adaptive collaborative management approach cannot be captured in a series of steps or a prescription. However, practitioners can design context-specific processes around the three anchors and the seven guideposts listed above. In deconstructing the approach for the purpose of conceptual understanding—that is, exploring ACM as a model relating to innovation in a complex human system—we illustrate an ACM approach as three broad phases. Because of the cyclical nature of the approach and the long-term nature of forest management, these phases are enmeshed with one another, and once each phase begins, it continues in parallel, and intertwined, with the other phases. Because of this circularity there is no single beginning point or easily defined end. For the purpose of this discussion, we explore the phases in an order that reflects, in general terms, the flow of processes during the participatory action research component of the CIFOR and partners' ACM project. We begin by describing a phase centred on processes of communication aimed at reaching shared understanding. The second phase is dominated by the development of human relationships and networks around the management of the resources, and it continues into a third phase dominated by actions that have material consequences (Figure 2-1).

In selecting and defining the three phases in this manner, we follow Habermas (1981) and the three forms of action he identifies:

1. Communicative action aimed at the generation of understanding or meaning;
2. Strategic action aimed at dealing with relationships or 'form'; and
3. Instrumental (or material) action that takes place in the external world and affects matter.

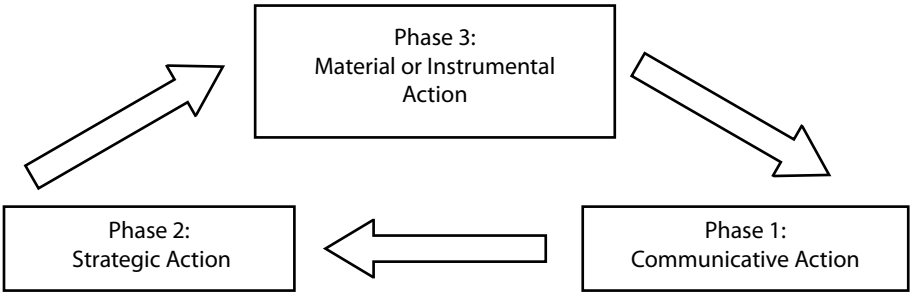

Figure 2-1. *ACM perspective on Habermas's (1981) three forms of action*

The sections below explore these three phases in more depth, drawing links to theory from natural resource management and other relevant fields. The model is not an attempt to present an all-encompassing theoretical framework to explain human agency or behaviour. It does provide a theoretical framework within which facilitation of processes embodying the paradigm shift required by an ACM approach becomes understandable and replicable. The spark that ignites the framework is communication.

Phase 1. Communicative action: emergence of a shared vision

In this phase, visions for the management of the resource are articulated, external facilitators (if any) negotiate their 'entry' into a community, and the attitudes and beliefs (mental models) of all concerned stakeholders related to management of the resource are explored and made visible. To define the space within which communicative action takes place, we use three sets of processes (Figure 2-2):

- leadership and facilitation;
- exploration of attitudes, beliefs and perceptions (mental models) of stakeholders relevant to resource management; and
- communication among the stakeholders.

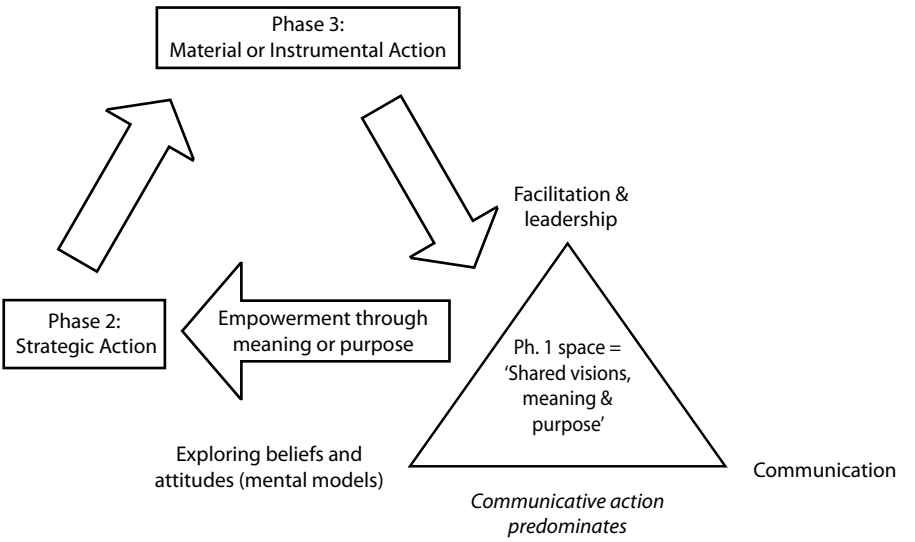

Figure 2-2. *Phase 1: communicative action*

The stakeholders engage with each other to define a common vision for their resource management and identify the major issues that they wish to deal with, thereby generating a meaning and identity for themselves as a group. This will become the framework within which they can define the nature of their relationships to each other and to others during the next phase. The process of communication, where the goal is the coordination of behaviour, is very sensitive to, and critically dependent on, the quality of facilitation or leadership that is available. As the initial phase, it can be a lengthy process, and as noted earlier, it also continues concurrent with other phases. In other words, the group will iterate processes of redefining itself while engaged in other phases as well.

Leadership and facilitation. We use 'leadership' in the model presented here to refer to all individuals, institutions and arrangements from *within* the group related to mentoring, guidance and enablement of decision making amongst local stakeholders. When external groups, such as extension service providers are engaged in similar roles we refer to this as 'external leadership'. Despite the model's emphasis on the proactive role of the local stakeholders, we view both as playing valuable roles. Following Capra (2002), a leader is a person who is able to hold a vision, to articulate it clearly and to communicate it with passion and charisma, and a person whose actions embody certain values that serve as a standard for others to strive for. We also stress another critical dimension of leadership in this

context: the capacity to facilitate the emergence of novelty. This means creating conditions for innovation, rather than giving directions only, and using the power of authority to empower others. Here we see leadership and facilitation being linked to communication and the mental models of the individuals involved in managing or utilising the resources.

Mental models. Forest stakeholders (or as we referred to them earlier, members of the ACM group) typically vary significantly in their beliefs, values, attitudes and knowledge—their 'mental models—associated with the forest resource and each other. The model emphasises the need for the stakeholders to understand the individual and social constructions of their forest-related reality. This emphasis is rooted in the hypothesis that governance or management reflects the underlying mental models of the group members—or at least those of the dominant members. Any desired change in governance, management or outcomes is reliant on changes in the group's mental models[3]. We further explore this here by drawing on some of the literature related to cognition and multiple perceptions of realities.

According to Maturana and Varela (1987; Maturana 1980), perception and, more generally, cognition are not simply representations of an external reality, but rather the nervous system's iterative process of interaction with its environment. Varela *et al.* (1991: 140) express this as follows:

> We must call into question that the world is pre-given and that cognition is representation. In cognitive science, this means that we must call into question the idea that information exists ready-made in the world and that it is extracted by cognition.

Claims of 'objective realities' must be met with scepticism. In adaptive collaborative management, 'reality' is first individually and then socially constructed. It follows that we can only know and act in the world as we understand it through our subjective and constructed perceptions (Cantril 1960).

Thus, in this model we suggest that within a group of forest stakeholders there are multiple perceptions of reality, each rooted in the cognitive capacities of individuals. These perceptions are subject to culture-bound conceptualisations that depend on the symbolic—generally linguistic—systems in which they are embedded. As Whorf (1952: 21) points out,

> We cut up and organise the spread and flow of events as we do largely because ... we are parties of an agreement to do so, not because nature itself is segmented in exactly that way for all to see.

Kuhn (1970: 111) has underscored this view of perception with reference to science in particular:

> The historian of science may be tempted to exclaim that when paradigms change, the world itself changes with them. Led by a new paradigm, scientists adopt new instruments and look in new places ... see new and different things when looking with familiar instruments in places they have looked before. Insofar as their only recourse to the world is through what they see and do, we may want to say that after a revolution scientists are responding to a different world.

And Heisenberg (1971) sums it up when he notes that 'what we observe is not nature itself, but nature exposed to our method of questioning.' The notion of perception in science is significant here because stakeholders using an ACM approach are carrying out a form of inquiry as a part of their management process, and the eyes they use to view the world largely shape the answers they find in it.

One important implication is the ACM model's assumption that in seeking improvements in forest resource systems, natural resource management practitioners and researchers need to put human and social assets—rather than only natural, physical or financial assets—at the centre. For instance, there is recurring discussion about the carrying capacity a forest ecosystem may have for humans and animals, often with references to the 'empty forest' phenomenon in Africa, where excessive hunting pressure has all but removed the mammalian fauna of the forest. If we turn this discussion around and, rather than asking, 'How many humans can the forest carry?' instead ask, 'How much forest are the human beings willing to carry?' the answer would likely be very different, and one would be more likely to find the commitment of the local stakeholders. Thus addressing the mental models and knowledge systems of the individuals and groups engaged in community forest management is key to establishing a basis for change. It is also a caution to actors—both professional researchers and 'inquirers' in an ACM group—to remind themselves that all their interpretations are filtered through their own assumptions, beliefs and mental models.

Communication. Communication is commonly understood as the process by which information is transferred between individual human beings. In this model, however, we take a more action- and goal-oriented understanding. We explore communication from a cybernetics perspective.

To understand cybernetics, we begin with the Santiago theory of cognition (Maturana and Varela 1987; Varela *et al.* 1991). In this theory,

communication is not the transmission of information but rather the coordination of behaviour between living organisms. It follows that linguistic communication, which is our primary interest in this model, is communication for the coordination of behaviour. Language is a system of symbolic communication. According to Capra (2002: 46), 'its symbols—words, gestures and other signs—serve as a linguistic coordination of actions', which in turn allows the symbols to become associated with our mental image of objects. Thus, in human conversation 'our concepts and ideas, emotions and body movements become tightly linked in a complex choreography of behavioural coordination' (Capra 2002: 47).

The model of ACM draws from cybernetics first in highlighting the need for collaborators to be empowered to create and maintain a shared vision. This can be seen as part of the coordination function of communication, since it contributes to improved coordination between the collaborators. We have noted above that for information to be used effectively, there must be congruence between the various stakeholders' mental models of the problem (Brunner and Clark 1997; Weeks and Packard 1997). The visions and goals of the stakeholders necessarily inform these mental models. Returning for a moment to visions and visioning, we agree with Walters (1986) when he suggests that the essence of managing adaptively is to have an explicit vision of the systems one is trying to guide. Supporting this from a business management perspective, Senge (1990) notes that the change process in various kinds of organisations and communities requires a clear vision of the desired goal, which is also shared by the stakeholders.

The ACM model also draws from cybernetics in emphasising the need for collaborators to monitor what is happening and to adjust and correct their decisions and actions accordingly. As with visioning, this can be seen as part of the coordination function of communication, since it contributes to improved coordination between the collaborators. (It is also an important part of the social learning function, as described in phase 2, below.) Forest policy makers and managers must understand the structure and behaviour of their resource systems if they are to make useful decisions about them. They are often hindered in this because ecosystem, social and economic processes and changes are often not tangible. This might be because they are not visible or because they occur at temporal, geographic or political scales outside the normal cognitive range of the stakeholders. One response to this challenge has been the development of monitoring systems, usually focused on tracking the planned outcomes or targets. Yet Goyder *et al.* (1998) warn that conventional monitoring systems only inform us of the kinds of

outcomes which we expected anyway at the outset.. The corollary of this is that most possible outcomes are not covered by conventional monitoring systems because they are not expected. Furthermore, the understanding of processes and forces underlying the outcomes is not necessarily increased.

In contrast, the purpose of monitoring in an ACM approach is to continuously generate a better understanding of system behaviour and to facilitate learning about how to manage it better. The ACM model hypothesises that a collaborative monitoring approach, which uses iteratively and jointly developed and tested local indicators, will be more effective in addressing this challenge than conventional approaches to monitoring in many contexts. Not only do such types of monitoring systems incorporate diverse mental models, but they also focus on critical processes as well as the outcomes or impacts of these processes, as understood and defined by the local stakeholders (Box 2-4).

Box 2-4. Collaborative monitoring

Collaborative monitoring is a process that groups use to improve the effectiveness of decision making about their resources and to accommodate their views. They do this by developing a common framework for observing the effectiveness of their plans and unexpected outcomes. They negotiate their vision or aims, agree to collect information, share it, reflect on and analyse the information and apply the resulting learning as the basis for their on-going planning.

In her thorough analysis of collaborative monitoring, Guijt (2007:10) makes the following points:

> Monitoring that involves critical reflection on information - and not just data collection - is pivotal. Continual information input - about the state of the resources, about how they are being used, about how to work together in making decisions, and so much more - is crucial. But if collective action is to ensure, then collective sense making through critical analysis of information is essential.

If we consider monitoring from a systems perspective, there are two central components of control: feedback and 'feedforward'. Feedback deals with things after they have happened and seeks to correct the situation so that the undesirable outcome is changed. In feedforward, attention is directed

in advance to predicting and possibly correcting those disruptions in the system that might affect the outcome. Thus communication in an ACM approach focuses on clarifying and bridging stakeholders' perspectives, using an adaptive management cycle (i.e., planning, implementing, observing, reflecting and adapting), promoting collaboration to link fragmented knowledge, and collaborative self-monitoring to deal with the demands of both feedforward and feedback.

Phase 2. Strategic action: self-organisation

Strategic action sets the stage for 'material' action in phase 3. In other words, this phase makes it possible for an ACM process to create substantive outcomes relating to natural resources or other forms of capital[4]. The nature or quality of this potential is defined by the space—let us call it 'self-organisation'—formed by the triangular intersection of the following three processes:

- the emergence of communities of practice;
- the creation and maintenance of connectivity; and
- the nature and structures of social learning that these communities undertake.

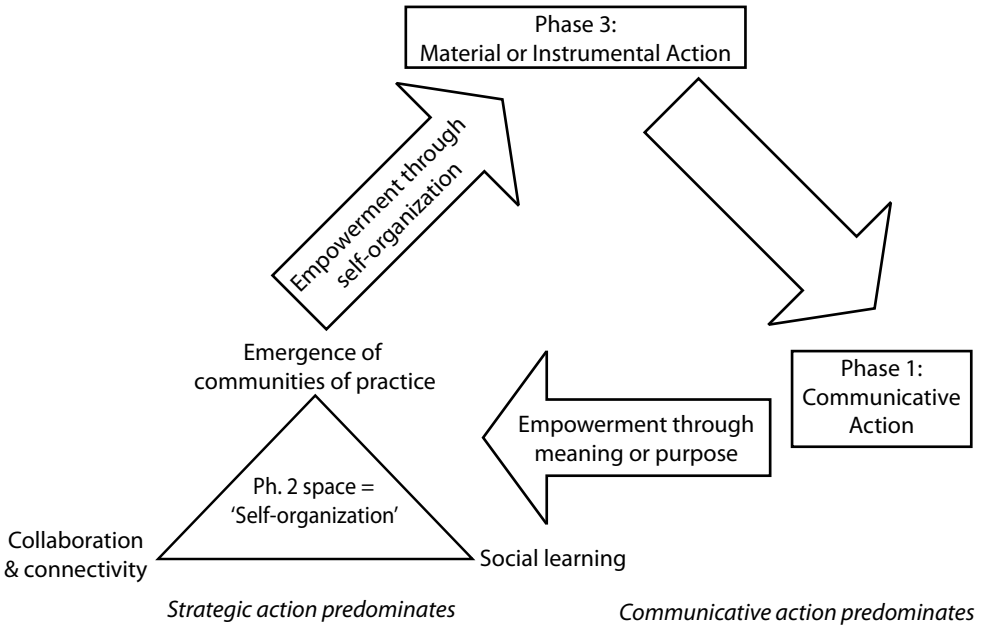

Figure 2-3. *Phase 2: strategic action*

How connectivity, communities of practice and their abilities to learn shape adaptive collaborative management is represented in Figure 2-3. During this phase, visions are turned into plans that can be turned into action. A considerable amount of institution building takes place, and the norms, rules and technical guidelines for management are articulated or refined.

Communities of practice. Wenger (1998) describes a community of practice as characterised by three features: mutual engagement of its members, a joint enterprise, and a shared repertoire of routines, tacit rules of conduct and knowledge over time. Thus it has self-organising and self-generating webs of communications, a shared purpose and meaning, and a shared culture that results in the coordination of behaviour and creation of shared knowledge. In communities of practice we can recognise the 'living elements' of natural resource user groups.

Relatedly, De Geus (1997) studied 27 long-lived corporations and identified common characteristics[5]. He concluded that resilient long-lived companies are much like living entities, with two main sets of characteristics. One is a strong sense of community and collective identity around a set of common values—in other words, a resilient organisation is a community in which all members know that they will be supported in their endeavours to achieve their own goals. The other set is openness to the outside world, a tolerance for the entry of new individuals and ideas and consequently a manifest ability to learn and to adapt to new circumstances. According to Capra (2002) the aliveness of an organisation—its flexibility, creative potential and learning capability—resides in networks or 'informal communities of practice'. The formal parts of organisations depend on their informal networks for their aliveness. (We elaborate further on networks in the following subsection).

In an ACM approach, one process goal is thus to identify and/or catalyse the emergence of such living elements of communities of practice in the group because these elements form the critical nuclei of all action. In fact, we suggest that the aliveness of local forest management institutions—or other organisations—is very much dependent on the degree to which the group embodies the features of communities of practice. Working with—or within—a community of practice is not always straightforward, since their informal and dynamic nature often makes them challenging to understand. However, ignoring or working against such communities of practice would limit the sustainability of forest management, if not potentially jeopardise it altogether.

Creating and maintaining connectivity. Recent literature from the fields of systems dynamics has stressed the importance of *connectivity*. Holling *et al.* (2000), for example, have presented a model of the adaptive cycle, which explains the dynamic of natural systems in terms of their connectivity and capital. Indeed, over the past few decades, research into living systems has revealed the importance of networks[6] at all levels, from the molecular to organisms to social systems. Wheatley and Kellner-Rogers (1998) provide a compelling argument for connectivity and networks when they point out that to facilitate emergence of novelty means first of all building up and nurturing networks of communication to better connect the system to itself. Carrying out experiments on a simulated network as part of this CIFOR project, Haggith *et al.* (2003) concluded that increasing the density of social networks increases the spread of successful ideas while speeding up the loss of ideas with no competitive advantage.

In forestry, we understand 'connecting' as the process of linking social groups and individuals together to form communication networks around a particular forest resource or issue. In these networks, groups that reflect characteristics of 'communities of practice' (see above subsection) form dynamic hubs. An ACM approach enables connectivity in the forest management system in several ways. First, the approach includes processes that support stakeholders in seeking to understand what the effective 'boundaries' of the system should be for their purposes, so that the actors know who needs to be connected to whom. Second, collaborative monitoring, platforms for reflection (such as meetings to critically assess lessons learned from the implementation of plans), and opportunities for people to meet and discuss new information or to challenge existing ideas are explicit and regularised. Many other processes, activities and tools, such as study tours, can also encourage connectivity.

'Connecting the system to more of itself' has snowball effects. In the ACM research project, linkages amongst forest actors were made formally and informally in a variety of ways. In the Nepal project, for example, they included formal connections of resource users from diverse social groups within forest user groups, hamlets that created formal or informal cross-hamlet linkages, and formal committees or self-generated action groups that established formal or informal relations with external agencies. These overlapping layers of connectivity (in conjunction with other ACM processes) appeared to spark new initiatives, such as activities to generate nontimber forest product income. Furthermore, in the research project in general, it appears that the increased linkages often triggered further

increases in connectivity, resulting in the emergence of new ideas, forms of organisation and actions.

Social learning. The third and final process that we explore in phase 2 is social learning. In many ways, this process—or phenomenon—lies at the very heart of an adaptive collaborative management approach. It crosscuts and links the collaborative and the adaptive aspects of the approach and, more importantly, enables innovation and continuous reconstruction of forest plans, relationships, knowledge and worldviews. It embodies the reflexivity, or critical reflection, that social theorists such as Giddens (1984) and Archer (1996) highlight as essential to transforming structure, agency and ultimately social systems. We draw on several sources (Maarleveld and Dangbegnon 1999; Mutimukuru *et al.* 2001; Buck *et al.* 2001) and our own research experience to define social learning as a multifaceted process in which

> 'multiple stakeholders bring together their different knowledge, experiences, perspectives, values and capacities
>
> for a process of communication and deliberation (or critical reflection/analysis)
>
> as a means of jointly understanding and creating change/solutions regarding shared issues/problems' (McDougall *et al.* 2002: 28).

Before we explore the theoretical foundations of social learning, we flag a few important dimensions suggested by this definition. First, the emphasis on social learning in an ACM approach points to the significance of the learning that takes place not only by individuals but also by groups. Second, social learning often involves political or power-related processes, including conflict management, within the group (and possibly between the learning group and outside groups) because power relations and related struggles are a major aspect of natural resource management (McDougall *et al.* 2002). Finally, we reiterate that social learning in an ACM approach includes both reflexive and anticipatory learning—in other words, learning from the past as well as considering future scenarios. As discussed earlier in this chapter, 'feedforward' includes the critical process of envisioning an ideal, desired future, as well as anticipation of future challenges and uncertainties.

Building on those points, we now turn to the nature of learning in an ACM approach from a learning theory perspective. Drawing from McDougall *et al.* (2002), we note that the concept of learning is usually associated with the accumulation of knowledge by an individual, as occurs in a training or classroom context. In describing learning theory approaches

and their relevance for research and rural development, Van der Veen (2000) and Loevinsohn *et al.* (2000), however, usefully distinguish this as 'reproductive learning' and note the differences between it and two other types ('experiences') of learning—constructivist and transformative learning (Box 2-5).

Box 2-5. Reproductive, constructive and transformative learning

Reproductive learning 'assumes that there is a body of objectively verifiable knowledge and that this can be taught by breaking down content into its essential elements' (Vernooy and McDougall 2003: 115). As noted by McDougall *et al.* (2002:30), reproductive learning in many situations 'plays an important role in capacity building and shortening the time required to put … plans into action', but it alone is not sufficient for either individuals or groups in complex settings.

Constructivist learning, on the other hand, is rooted in the constructivist notion of reality, explored above in this chapter. Drawing on Van der Veen (2000) and Loevinsohn *et al.* (2000), Vernooy and McDougall (2003:115) note that this approach is built on the assumption that 'important features of the external world are uncertain and disputed, and that people actively construct their understanding of it. (Re)discovery and innovation, not repetition, are essential parts of this construction process'. In practice, this approach manifests itself more in the form of facilitated (rather than instructor-led) group work and shared planning and action, such as might be seen in some collaborative management projects.

The third learning approach we highlight here is *transformative learning*. Typically characterised by an 'ah-ha' moment, this type of learning is

> often stimulated by communicative (or constructivist) learning, but goes beyond it, in terms of internalization and transformation of understanding … In this approach, 'learners' together build a more integrated or inclusive perspective of the world. Through the learning process, they jointly transform some part of their worldview, for example their understanding of social relations in their own community forest … Manifestations of transformative learning in resource management include, for example, new values or patterns of decision-making that farmers generate and apply outside the immediate arena of a learning intervention … It intentionally activates the 'praxis' (i.e., the theory and practice linkage that constructivism highlights) as a means of (self-)empowerment for marginalised people and improvements in human systems. (Vernooy and McDougall 2003:116)

This type of learning, which can be observed in some participatory action research initiatives in natural resource management, can trace its roots back to the conscientisation and 'popular education' movements for social change associated with Paulo Freire in Latin America (Freire 1972; DFID 1998; Brandt 1989).

Learning in an ACM approach can include reproductive learning but focuses much more on constructivist and especially transformative learning. The emphasis on the latter reinforces the significance of the theory and practice linkage in this approach. Paulo Freire is often credited for mainstreaming the term 'praxis' for this linkage, referring to 'reflection and action upon the world in order to transform it' (Freire 1974: VII, 186). Praxis is typically represented and played out in the form of a spiral 'action-reflection-action' process. Such a process helps people to critically analyse their daily experience (or practice) as a way of developing theory, so that they can collectively act to change their situation or practice; the relationship between practice/theory/practice is an intimate, dialectical one (Arnold 1985). Drawing from its application in action research in education (Kemmis and McTaggart 1988), we can see an 'action research' spiral illustrating progression of understanding and action (Figure 2-4).

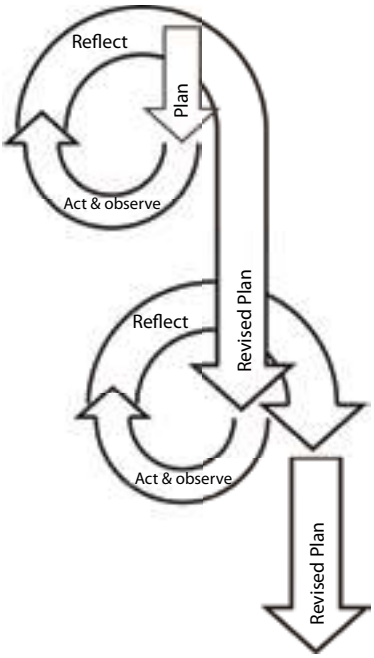

Figure 2-4. *Action research spiral. Adapted from Kemmis and McTaggart (1988)*

Although the learning-related theory outlined above involves group processes, learning theory based on individual learning and development also plays an important role in the ACM approach. Specifically, Kolb's (1984) well-known work on learning and development—which he, interestingly,

draws from Lewin, Dewey and Piaget and links to Freire—offers insights into a cycle of experiential learning that is generally applicable to individuals. He suggests a four-stage model of learning: 'concrete experience' forms the basis for 'reflective observation', which is transformed into 'abstract concepts' that generate ideas for 'active experimentation', which in turn creates new experiences (Kolb *et al.* 2000). Kolb's work (1984) also correlates learning style preferences with this learning cycle. The strong connection between the action-reflection-action spiral of the social change group and the experiential learning cycle indicates that learning-based and change-oriented processes need to be centred on such cyclical processes. An adaptive collaborative management approach in action is built around such processes, with collaborative monitoring (phase 1) being both the 'home' and the 'engine' of the process. The nature of this learning is that it is routinised (rather than one-off), and applied, with the learner-actors coming together repeatedly to reflect, internalise and innovate.

Thus far, we have explored the question of who is learning and *how*. Finally, we briefly explore the question of *what* is being learned (and what is the subject for innovation). Guijt (2007) suggests that to be effective, learning in natural resource management needs to take place in three ways: using information to improve next steps in management through continual practical improvements (single-loop learning), making strategic adjustments and changes (double-loop learning), and improving the learning processes themselves (triple-loop learning). Simply changing an action as a result of reflective experience—for example, making a technical improvement in seedling planting techniques—would constitute single-loop learning. Changing the way a resource is managed—for example, adjusting overall harvesting levels and practices for nontimber forest products—would constitute double-loop learning. Learning about how to learn more effectively as a part of the management process—as when actors meet regularly to reflect on their own governance, learning, and collaborative monitoring processes and then implement improvements based on their reflections—would be triple-loop learning.

The ACM approach encourages triple-loop learning and assumes that lower-order forms of learning, following hierarchy theory, will benefit as a result. Maarleveld (personal communication, 27 August 2002) warns against overemphasising the higher-order learning loop because all three kinds of learning are important. She suggests that a bias for single-loop learning may lead to a 'technical fix'—that is, treating the symptoms but not the root of the problem; a bias for double- or triple-loop learning may

lead to a 'process fix'—a lot of thinking and talking about the problem, without taking action to solve it.

In conclusion, phase 2 of the model suggests that by encouraging communities of practice, connectivity and social learning, an ACM approach can strengthen self-organisation, especially in terms of adaptive capacity. The model in this way draws from Capra's (2002) reflections on natural systems. Capra suggests that self-organisation is manifested in the spontaneous emergence of new structures and new forms of behaviour[7]. Self-organisation—with an emphasis on adaptive capacity—thus contrasts markedly with mechanistic models for organisations, such as the hierarchies and top-down committees and leadership structures that have historically dominated bureaucracies, development agencies and natural resource extension services. These organisations reflect the machine metaphor—a centralised command unit that determines the direction of the organisation.

Contrast that machine metaphor with the metaphor of the living and learning organisation, which according to Capra (2002) is characterised by openness and a willingness to be disturbed to set processes of change in motion. Such organisations have active networks of communications and multiple feedback loops that can amplify triggering events and create instability, experienced as tension, chaos, uncertainty or crisis. At this stage the system (or organisational culture) may either break down or break through to a new order, which may be 'characterized by novelty and involves an experience of creativity that often feels like magic' (Capra 2002: 102). This explains why the long-lived organisations in De Geus's (1997) study exhibited characteristics of living systems, and it is just as true for organisation that exist for the management of community forests, as the ACM research has shown.

In the initial communicative action phase, by catalysing shared vision, meaning and purpose, the ACM approach facilitates openness and generates an atmosphere of trust in which 'disturbance' by new ideas is tolerated. The second phase encourages and enables groups' self-organising nature to emerge. Linking these two phases is an underlying truth highlighted by Capra (2002): the common notion that people resist change is wrong; rather, they resist change that is *imposed* upon them. The success of the ACM approach therefore relies on creating conditions in which necessary change is not imposed but induced through the group's own connectivity and feedback loops.

Box 2-6. Machine metaphor for postindustrial organisations

Management theorist Senge (1990) concludes that the machine metaphor for organisational development is so powerful that it has shaped the character of most organisations. Organisations become more like machines than living beings because their members think of them that way, and that explains why a management style guided by the machine metaphor will have problems with organisational change. The need to have all changes designed by management and imposed upon the organisation tends to generate bureaucratic rigidity. There is no room for flexible adaptations, learning and evolution. One related aspect of this, as Capra (2002) points out, is that emergent solutions are created within the context of a particular organisational culture and generally cannot be transferred to another organisation with a different culture. This tends to be a big problem for leaders who are keen on replicating successful organisational change: they tend to replicate a new structure that has been successful without transferring the tacit knowledge and context of meaning from which the new structure emerged. This can lead to very mechanistic forms of organisation.

In possibly one of the best analyses of the machine metaphor (although he does not use the term) as it applies to states, Scott (1998) has pointed out the dangers of such an approach, which can become dominant under four conditions:

- An administrative ordering of nature and society in grand attempts at transformative state simplifications. States, he contends, dislike the natural complexity of ecosystems and social systems, because they cannot deal with it using their usual forms of organisation.
- 'High modernism', which he defines as an ideology that borrows legitimacy from the sciences and technology and as a result is uncritical, unsceptical and unscientifically optimistic. Examples include big river projects and social engineering.
- An authoritative state that has a capacity to act in the ways listed above.
- A powerless civil society that provides 'the level social terrain' on which to build.

Scott's observations apply equally well to a great many of the small community development projects we see in our rural landscapes. Scott notes that 'work-to-rule' protests effectively hamstring a state, industry or organisation precisely because the rules in themselves are never sufficient to make something work. Local knowledge, contracts and relationships allow an organisation to live and are what make the difference.

Phase 3. Material or instrumental action: achieving material gains

We come now to the final phase of the cyclical process. Here, plans are converted into action with the aim of achieving material results in resource management, such as healthy forest systems, sufficiently abundant forest products and income from forests. Although some material or instrumental action takes place in phases 1 and 2, in phase 3 such action dominates (Figure 2-5)[8].

Instead of processes, phase 3 involves three concepts or conditions that help bound the space for material change:

- the level of complexity of the context;
- the enabling environment of the group; and
- the capacity of the group.

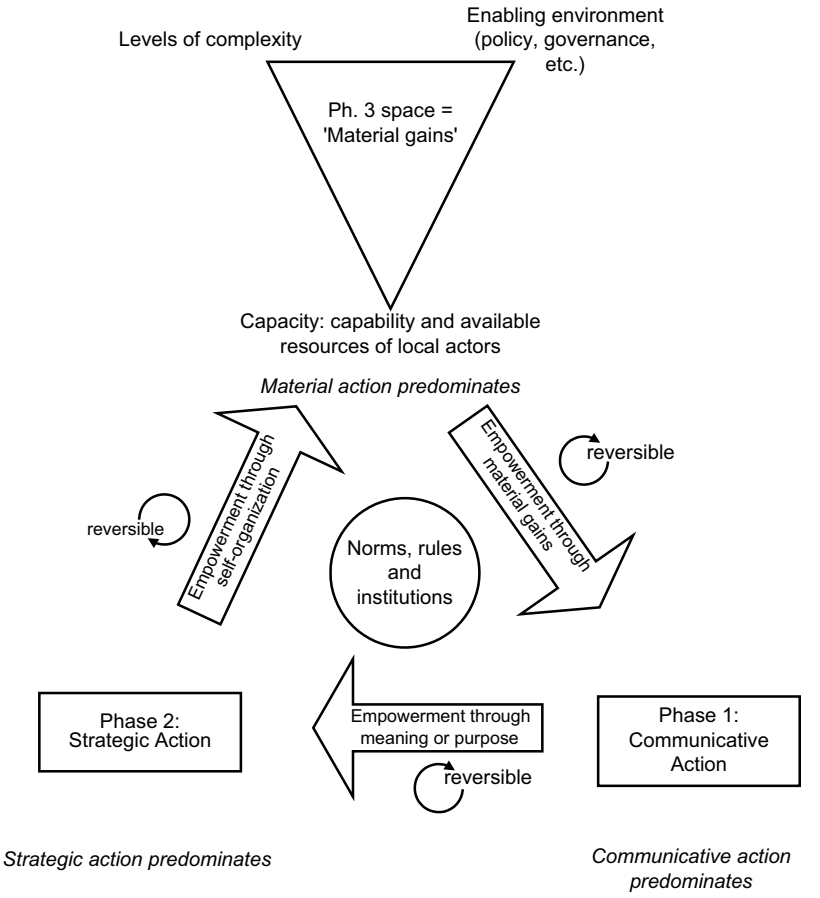

Figure 2-5. *Phase 3: material action*

Before we explore each of these three conditions, observe that in the centre of the model is the emergence of new or revised norms, rules and institutions (in the sense of Giddens 1984) as manifestations of changes to social assets. Norms, rules and institutions are critical components of the framework, containing the bulk of the wisdom and to a lesser extent the knowledge that is generated at each phase. They form the axle on which the framework rotates, for as Sen (1999: 142) notes, 'Individuals live and operate in a world of institutions. Our opportunities and prospects depend crucially on what institutions exist and how they operate'. Agreeing with Giddens (1984), we see these institutions as shaping and being shaped by the groups concerned in each of the phases.

Complexity. Does all decision making require an adaptive collaborative management approach? If a problem can be characterised accurately as noncomplex—for example, if linkages within the system are linear and respond without delay to external influences—then a command-and-control or mechanistic style of management is likely sufficient to yield expected management results. However, as Scott (1998) has pointed out, there is a great temptation for people (and we include resource managers and policy makers here) to treat complex systems as noncomplex and impose simple models and linear solutions—much like the proverbial man with a hammer, to whom everything starts to look like a nail. If the man with a hammer is at the apex of an organisation that fits the machine metaphor, as described above, the consequences may be dire. The complex nature of a system must be recognised and addressed with an appropriately dynamic model if positive outcomes are to be achieved in the long term.

Forest systems—and the human-forest interface—are unquestionably complex. Forest ecosystems are highly diverse ecologically, and interactions between species, as well as the ontology of many individual species, is poorly understood. Forest contexts are also complex socially—in ethnicity, gender, age, economic difference, worldview and interests in forests and forest products. Forest systems in most developing countries operate under overlapping and sometimes conflicting traditional systems, residual colonial influences and modernising postcolonial structures. In some cases, there are also powerful outside international interests, mainly but not exclusively economic or conservationist. And the interactions between the social and natural systems are numerous and diverse, with demands for a multitude of forest products and services. Thus complexity—and dynamism—is the normal condition for forests. The need for an adaptive and collaborative management approach is therefore apparent. Complexity,

if recognised and addressed, can engender adaptiveness and collaboration and create space for effective action, but it can be unforgiving: if the management system cannot or does not respond with enough flexibility and swiftness—for example, as in the case of international efforts to stem global warming—material outcomes will very likely fail to meet people's needs and expectations.

Enabling environment. An 'enabling' environment is the space available to local actors to practice or develop an ACM approach. Here, we examine an enabling environment in the political, social and economic contexts within which ACM groups exist, and specifically, the exercise of power from external forces or actors on these groups. Power in governance and management has been defined and analysed by numerous insightful theorists. Giddens (1984), for example, defines power in the sense of the capability to 'make a difference' to a preexisting state of affairs or course of events. Galbraith (1984: 13) suggests that 'the exercise of power, the submission of some to the will of others, is inevitable in human society: nothing whatever is accomplished without it … Power can be socially malign; it is also socially essential'.

Taking a broader view, Sen (1999) differentiates five instrumental freedoms that constitute an enabling environment: political freedom, economic facilities, social opportunities, transparency guarantees and protective security. On a practical level, these freedoms would all contribute to an ACM group's ability to generate its desired material outcomes. The reason we include this point here, however, is a more fundamental one: development is the process of expanding human freedom. This is an interesting perspective from which to consider approaches to natural resource management and governance. If we see management and governance as intertwined aspects of development—rather than technical tasks—then they are also necessarily focussed on the unfolding of human freedom. With this as the ultimate goal of material action, then the environment of a management group must enable more than good management decisions: it must enable creative processes that create meaningful space for all forest-dependent people and generate ongoing, effective, long-term decision making for people and natural systems.

Capacity. Capacity is a composite variable comprising the management system's attributes (norms, rules, institutions, leadership), as well as such resources as knowledge systems, relationships, skills, financial capital and any other assets that can be used to help a group achieve its goals. In

practical terms, looking at decisions within the immediate control of the group, capacity obviously shapes material action and outcomes.

Giddens (1984: 16) makes an important point regarding capacity and the ability to influence actors and spheres beyond the immediate group. He notes that resources

> are media through which power is exercised, as a routine element of the instantiation of conduct in social reproduction. Power within social systems, which enjoy some continuity over time and space, presumes regularised relations of autonomy and dependence between actors or collectivities in contexts of social interaction. But all forms of dependence offer some resources whereby those who are subordinate can influence the activities of their superiors.

Thus, while external actors—who often have better resources, in terms of financial capital—have power to influence local forest managers, local forest managers also have the capacity to influence external actors at least in some way, even if only through passive or active resistance. Local capacity might draw on the group's own assets or on the power of networks, as described above. As well as the capacity itself, the awareness of this capacity can shape material action or outcomes, because this awareness can give groups the courage to try to shape their contexts.

Sen (1999: 87) has provided a human capability perspective on poverty assessment and development that resonates well with the thinking here. His perspective focuses on 'the substantive freedoms [an individual] enjoys to lead the kind of life he or she has reason to value' (87). This perspective allows discourse on poverty and development to shift away from income and broaden outwards to include both the multifaceted ends that people have reason to pursue and the freedoms they need to achieve them.

In closing this section it is worth citing Sen (1999: 87) twice more with reference to capability and control, first on the state and society's role in generating people's capability: 'The state and society have extensive roles in strengthening and safeguarding human capabilities. This is a supporting role rather than one of ready made delivery'. Second, on giving people the space and respect they need to exercise their innate capabilities and freedoms: 'People have to be seen, in this perspective, as being actively involved—given the opportunity—in shaping their own destiny, and not just as passive recipients of the fruits of cunning development programs'. Especially for poor and often socially marginalised actors in forest areas in developing countries, capacity to influence other actors and the

environment, including the rules and resources that shape their situation, is the key to their potential to enhance material action and their ultimate well-being.

Conclusion

We began this chapter with the question posed by Holland (1998: 248): How can the interactions of agents produce an aggregate entity that is more flexible and adaptive than its component agents? We suggested that this question is the challenge facing forestry in the new millennium. In this chapter we have investigated this challenge by exploring how seemingly independent agents—forest-dependent people and natural resource managers—who are a part of complex systems can use processes of communication, collaboration, learning and organisation to achieve goals and adapt in ways that they could not have done on their own or in a rigid or hierarchical form of organisation. The ACM group that emerges from cycling through the phases of communication, strategic action and material action, as we have defined them here, operates as a community of practice whose defining characteristic is that it more closely resembles a living entity than a machine, and it is—in Holland's words—*more flexible and adaptive than its component agents*.

Throughout this book, we recognise that the theoretical model we offer is an attempt at explaining a much more complex reality. In reality it is difficult to separate the phases of ACM neatly and distinctly. Although the model suggests general progress—from communicative to strategic to material action—these phases are not mutually exclusive in practice. Rather, they are continuously interconnected as the group iterates back and forth between phases and moves on cyclically when ready. Much of the iteration is in response to real-world complexities, such as the miscommunications, tensions and power struggles that accompany processes of communication, negotiation and collaboration. These bumps in the road impede the generation of common meaning, self-organisation and coordination for material action.

In exploring an adaptive collaborative management approach as an explanatory model of how innovation emerges from human agency, we have attempted to satisfy Holland's (1998) stipulation that the construction of explanatory models lay out relevant and plausible building blocks. We

have done so by drawing on a range of well-established theory. At this stage, however, we move from theory to practice. We believe that both the cogency and the plausibility of the model are underscored by the rich insights provided by the participatory action research that took place in the CIFOR and partners' ACM research project. In the next four chapters, research team members from Indonesia, Nepal and the Philippines share their experiences and lessons from research in adaptive collaborative management. In doing so, they illustrate that learning closes the link in the chain to successful adaptation—from mental models, through disturbance, communication, connectivity and communities of practice. Sriskandarajah *et al.* (1991) suggest that instead of viewing sustainability as an externally designed goal to be achieved, it is more appropriately a measure of the relationship between a community as learners and their environments. We suggest that this is an appropriate insight to frame these chapters.

Endnotes

1 The social learning referred to here has multiple facets. The learning is not only individual but also shared; there is the cocreation of understanding and knowledge; and forest managers are constantly increasing their understanding, knowledge and skills. Social learning also includes the notion that there are several kinds of 'learning loops' in action. That is, the forest manager may be learning about a specific aspect of forests, studying cause and effect relationships between a management activity and the forest or social outcome (thus learning about systems), and/or learning how to learn and manage more effectively (see Maarleveld and Danbegnon 1999; see the next section for more about social learning).

2 Examples of uncertainty include information that can be obtained somewhere else or from someone else, knowledge that has yet to be generated, and information that can only be speculated about, such as market prices, future demand for a product, the likelihood of drought, or the relationship between certain species and environmental functions.

3 The model does not suggest the imposition of change, however. It begins by accepting local people's goals and motivations as their own, to have and to change of their own accord, just as the goals and motivations of external agents are theirs to own and to change.

4 The livelihoods framework (see Carney *et al.* 1999) used by the UK Department for International Development (DFID) identifies five kinds of capital that support livelihoods. These are natural capital (such as forests or fisheries), financial capital, physical capital (infrastructure), human capital (knowledge and skills) and social capital (such as social organisations or social networks). Any reference to various forms of capital in this book follows this usage.

5 Several authors have explored the characteristics of successful institutions of common property management with respect to resources such as forests. This

work is very relevant to community natural resource management institutions. See, for example, Ostrom (1990) and, with specific relevance to common property forest management institutions in Nepal, Fisher (1994).

6 So much so that this has prompted Margulis and Sagan (1986) to remark that contrary to earlier metaphors, life took over the globe not by combat but by networking.

7 Capra (2002) specifically refers to this to taking place in open systems far from equilibrium, characterised by internal feedback loops and described mathematically by nonlinear equations. Prigogine and Stengers (1984) go on to suggest that self-organization processes in conditions of disequilibrium correspond to a delicate interplay between chance and necessity, between fluctuations and deterministic laws. Although they were not referring to self-organization processes in social systems, their observations nonetheless hold true under such conditions as well.

8 Naturally, people are engaged in material or instrumental action in all kinds of approaches to natural resource management; however, they quite often arrive meanderingly at that point through trial and error rather than a conscious, structured use of phases of communicative and strategic action. In other words, actors may be involved in 'material action' at any point, but if they engage in this in isolation from the other forms of action, they may be forgoing the added value of collaboration and structured learning.

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Chapter 3.

Enhancing Adaptiveness and Collaboration in Community Forestry in Nepal: Reflections from Participatory Action Research[1]

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COMMUNITY FORESTS IN NEPAL are vital to both local livelihoods and environmental integrity. Moreover, the Community Forestry Programme in Nepal is considered a world leader in the field of participatory environmental governance. Despite the success of Nepal's programme in formally handing over rights to thousands of local forest user groups, however, it has not yet fulfilled expectations regarding increased returns to forest users and regarding equity in governance and in the distribution of management burdens and benefits. Specifically, one of the main concerns is that some of the most marginalised groups of forest users are often not gaining as anticipated (Agarwal 2001; Malla 2001; Nurse and Malla 2005), reflecting the continuing global challenge of achieving democratic, equitable and productive forest governance. Stakeholders at all levels, from local to international, have thus identified the need for increased effectiveness and equity in management and governance systems in community forestry.

This chapter highlights the experiences and lessons of an innovative participatory action research (PAR) project of the Center for International Forestry Research (CIFOR) and the Nepal Ministry of Forests and Soil Conservation, with funding from the Asian Development Bank (ADB). Known as the Adaptive Collaborative Management of Community Forests project, it was implemented from 1999 to 2002. The project sought to enhance equity, sustainability and livelihoods in community forestry by identifying, developing and critically assessing institutional arrangements, processes and other factors to enhance community forest governance and management, especially at level of the community forest user group (CFUG). Because of the complex and dynamic nature of the community forest context, the innovations that were generated and assessed during this project were based in adaptive and collaborative management (ACM).

The ACM approach to governance and management blends ideas of communication, relations and social learning amongst a diverse range of actors. At its core, the approach integrates two related themes: adaptive management and collaborative interaction amongst actors. The adaptive management aspect emphasises that all management and governance can be an opportunity for learning and continual adjustment and improvement in generating knowledge and taking action in the field. As Lee (1993: 9) suggests, 'all policies are experiments—learn from them'. Adaptive management is especially important in dynamic and complex contexts that require responsive management. The concept of collaboration[2]—far from a naïve presupposition of constant cooperation—can be used as a window for insights into the effective and synergistic 'bounding of conflict' that takes place in successful natural resource management and governance (Ojha *et al*. 2003). An ACM approach creates space for groups to negotiate their inevitably diverse interests and unequal power relations as they make and implement natural resource decisions over the long term. Although it recognises differences and disparities, ACM also stresses opportunities to form collaborative (and more equitable) relationships among the actors. In fact, in an ACM approach, conflict is seen as unavoidable and even a constructive part of transformation towards cooperation. Conflict and cooperation are potentially linked through the linchpin of social learning[3] processes.

The experiences of this initial project were powerful for researchers and forest user group members alike, and they provide important foundational lessons. Following the ACM project, CIFOR and Nepali research partners Forest Action and NewERA and others[4] built on these lessons

by undertaking a followup project in 2004–2007, with funding from the International Development Research Centre (IDRC), to assess the potential for local facilitators (as opposed to research team facilitators) to catalyse an ACM approach at the CFUG and district levels, as well as to assess longer-term changes in the communities that are using an ACM approach. We draw on some preliminary insights from this followup project in the 'Reflections' section at the end of this chapter; as this followup project progresses, no doubt, further insights will refine the outcomes and lessons presented here.

In this chapter we start by describing the Nepali context within which ACM initiatives were undertaken. We discuss the need for this research and provide a brief overview of the project, then describe the ACM-based institutional processes that were developed in the four CFUG main case study sites. We identify several local outcomes, including changes in the practices of CFUGs with respect to income generation and equity. Finally, we offer some lessons related to an ACM approach, especially in relation to the challenges of social change, such as attitudes, and touch on insights from the followup project regarding the dynamic enactment of the ACM-based practices.

Context

The forestry practice of local communities in Nepal is a result of a dynamic web of relations not only between local actors and forest systems, but also amongst themselves, and between them and a range of nonlocal actors.

Geopolitical setting

The 28 million people of Nepal, while ethnically and socially diverse, are engaged largely in a subsistence agricultural economy, with rural households making up approximately 88 percent of Nepal's total population (UNDP 2001). Despite decades of international development 'experiments' (Gurung 1999), in 2003–04 an estimated 31 percent of Nepalis were living below the poverty line (DFID and World Bank 2006)[5]. The reinstatement of democracy in 1990 opened up new possibilities for civil society to engage in democratic decentralisation in various aspects of development and governance. In community forestry, policies and initiatives have

shifted towards more equitable and propoor development, including the formulation of the Forest Act 1993, which was intended to shift the control over forest from the state to local communities.

Since approximately 1999, however, the armed conflict between the Maoist rebels and the monarchy and government has diverted much of the nation's attention and resources. As of 2007, a multilateral ceasefire had been declared, and a democratic constituent assembly was to be elected. Rural life had returned to 'normal', albeit with the aftermath of prolonged violent conflict to deal with, and community forest users were conducting their activities without fear. Although the toll on resources, leadership and livelihoods has been considerable, the promise of an elected constituent assembly, a return to democracy and further decentralisation makes many forest stakeholders somewhat optimistic about local rights and natural resource management. In this period, a whole array of marginalised people—including *Madhes*i (people of the Terai region of southern Nepal), ethnic minorities, *Dalits* (people of the so-called 'untouchable' caste groups) and women—have come forward to engage in open public politics, even taking to the streets to assert their claims. Although affected by the conflict (Box 3-1), community forestry has probably remained Nepal's most resilient local institution (Banjade and Timsina 2005; Ojha and Pokharel 2006; Pokharel and Paudel 2005)[6].

Box 3-1. National conflict and community forestry

The security situation at the time of the ADB research project added complexity to the community forestry landscape. Although the Maoist insurgents did not target community forestry as much as other government-related initiatives, many CFUGs were nonetheless affected. For example, fearing encounters with the army or Maoists, some CFUGs limited or even stopped their forest products harvesting. This fear, Fear, the risk of being caught in the crossfire (Katel *et al.* 2006), the frequent *banda* (strikes), the recurring state-of-emergency limitations and international opposition to the monarchy's clamp-down on civil rights and dissolution of the elected parliament suppressed both Nepali and international community forest-related initiatives, including large gatherings like CFUG general assemblies. Some CFUG and other local political leaders and district forest office staff faced threats of physical harm or expulsion from the community, and some district forest offices were destroyed. Some CFUGs were pressured to pay a levy to the insurgents, and in a few instances, they were apparently instructed to dissolve. Although this posed some challenges for the research project, especially in terms of travel and group meetings, the inclusive, propoor and flexible nature of the ACM approach was well suited to the volatile political context.

Social forces: caste, ethnicity, gender and wealth

Nepali society is 'marked by inequalities in terms of class, caste, gender and access to land' (Ojha *et al.* 2002: 21). Although the legal code of Nepal does not recognise caste distinctions[7], power is distributed, in fact, primarily along the lines of the Hindu-based Indo-Aryan framework, in which caste and gender are main factors. This is a simplification of a complex situation; nevertheless, historically, the ideology and cultural values of the caste system have established and maintained the highest caste groups, *Brahmins and Chettris*, in positions of symbolic and political power at all levels in the country. As noted by Ojha *et al.* (2002: 22), 'although caste and ethnic differences do not necessarily determine matters such as the distribution of land ownership, income, consumption patterns and access to resources (Blaikie *et al.* 1980), in most cases, almost all "untouchable" caste group members are poor, and there is a high correlation between caste and wealth'. In 2003–04, for example, the percentages of people of hill *Dalit* and Terai *Dalit* groups below the poverty line were 48 and 46 percent, respectively—notably higher than the national average of 31 percent (DFID and World Bank 2006).

In Nepal, gender is a key aspect of social differentiation, with women being disadvantaged in political processes, from household to community and national levels. Though it varies from urban to rural and by ethnic group, gender inequality is a major social influence, and the overall pattern indicates that most women have less access to resources and public decision-making processes than men (Agarwal 1994).

One effect of the caste system and related gender and diversity patterns in Nepal is that such social stratification inhibits the development of a participatory environment in informal interaction, as well as in participatory decision-making in community forestry (Agarwal 2001; Ojha *et al.* 2002; DFID and World Bank 2006). Nightingale (2002, 2003, 2005) recounts, for example, how low-caste members and women are disadvantaged in community forestry practice, and in an analysis of decision making, Gurung (2002) reveals male bias in forestry organisations in Nepal.

Community forestry

Forests are an important element of rural livelihoods and farming systems in the middle hills of Nepal (Gilmour and Fisher 1991; Gilmour *et al.* 2004).

For example, trees provide food and bedding for the cattle that provide draft power, milk, meat and manure for the fields, as well as providing villagers with timber, firewood and agricultural implements. The forest is also an important source of medicinal herbs and, in times of shortage, foods for poor people. Besides the significant subsistence values of the forest, some community members also rely on forests for the direct generation of income, particularly those who are members of low ('occupational') castes, such as the *Chandara* (pot maker) and *Kami* (blacksmith) castes (Paudel *et al.* 2003). These people are the most vulnerable to changes in forest condition and access. Until the mid-1990s, however, the use of nontimber forest products and the commercial potential of community forests were a secondary priority for both the government and for most CFUGs, while forest protection—the impetus for the formation of the Community Forestry Programme—was more central. Currently, with community forestry firmly embedded as a tool for achieving both conservation and poverty reduction, and with encouragement from bilateral agencies, NGOs and the private sector, a gradual shift from subsistence to market-oriented management for nontimber forest products is taking place (Pokharel *et al.* 2006; Subedi *et al.* 2000).

In Nepal, 'formal' community forestry began in the late 1980s as a government programme with considerable involvement from bilateral actors. Over the past 25 years, however, the range of actors engaged in this field has consistently increased, especially after the inauguration of a multiparty political system in 1990 spawned civil society organisations. Today, community forest user groups exist alongside leasehold forestry groups, nongovernmental organisations, civil society networks, government agencies, national and international research projects, and bilateral projects at national, meso[8], and local levels. These actors—some primarily forestry focused, others differently or more broadly oriented—have diverse interests, power, social positions, dispositions, worldviews, and motivations. Some work directly in forest management; others produce policy ideas, disseminate technical information, enforce regulations, provide financial or other resources, and/or mediate conflicts. Together, they constitute a dynamic social topography in the overlapping spheres of local, meso, and national governance and forestry practices.

Its well-established and relatively mature national Community Forestry Programme has made Nepal an international leader in this field. Community forestry is perceived by the government and international actors alike as a crucial mechanism for achieving development goals (Pokharel *et al.* 2002).

By August 2006, 14,305 formal CFUGs had been established that counted 1,644,587 households (39 percent of the total population of Nepal) as members and managed about 1,189,100 ha of forest area (DoF 2006). The programme allows permanent use rights (barring the right to alienate[9] forestland) to be granted to CFUGs on the basis of a forest management operational plan approved by the district office of the Forest Department and updated every five to 10 years. CFUGs are often formed around forests within existing political boundaries and institutions, such as collections of hamlets (called wards) or village development committees; the forests often include parts of two or more village development committees[10]. The availability of forests and settlement patterns, among other factors, mean that some CFUGs have more than a hundred hectares while some have only a few. Forest quality can vary, membership can range from dozens to hundreds of users, and some people belong to multiple CFUGs.

Because of its sociopolitical history, Nepal's community forestry is at once both progressive and *yet also* some what constrained. The creation of a comprehensive programme in the policy framework, the expansion of civil society and democratic movements to rural areas and the support provided by international agencies have made community forestry in Nepal a global leader, and forest communities are increasingly recognised as important actors. On the other hand, Nepal's sociocultural hierarchy, the entrenched bureaucratic culture of the multitiered government agencies, and limited human and financial resources mean that a top-down or somewhat command-and-control paradigm influences many local regulatory and service provision practices—and even the internal culture of many community forestry groups themselves. This aspect of the context has contributed to the establishment of high numbers of CFUGs, but limited the institutional resilience of, and social justice in, these groups.

In summary, the context for community forestry in Nepal is complex and dynamic. Forests provide both subsistence and income, are interwoven with the farming system, and are used—and relied on—differently by different subgroups in the community. The number of actors in community forestry is expanding, and their roles, power and expectations are varied and constantly evolving. Furthermore, critical opportunities (and some tensions) have emerged over the past few years, including increased commercial interest in nontimber forest products. These factors, as well as the enormous number of established—and potential—CFUGs around the country, are indicative of the significance of community forestry's current and future roles in improving livelihoods in rural Nepal.

The need for innovation

Through the considerable efforts of local people and governmental and civil society actors, the Community Forestry Programme has established thousands of CFUGs, many of which have improved their forest cover and conditions (Winrock 2002; Nurse and Malla 2005). And yet, despite these achievements, the anticipated livelihood benefits of the programme have not unfolded as hoped (Malla 2000, 2001; Kanel and Pokharel 2002). Ojha *et al.* (2002) note that even forests in good condition appear not to be used to their full potential for livelihood contributions. In other forests, tree species critical to the livelihoods of certain occupational groups are disappearing, such as the *mahuwa* (*Engelhardia spicata*), used by the *Chandara* for making pots. Furthermore, it is widely acknowledged that inequity within CFUGs is relatively common, with the economically and socially marginalised peoples, such as women, the poor and low-caste groups, receiving small shares of forest benefits relative to their needs (Nurse and Malla 2005; Acharya 2002; Malla 2000, 2001; Kanel and Pokharel 2002; Winrock 2002). Kanel and Pokharel (2002: 44) note that 'in worst cases, in fact, the implementation of [community forestry] policy has inflicted added costs to the poor in terms of reduced access to forest products and forced allocation of household resources for communal forest management with insecurity over the benefits'[11]. For example, the orientation towards protection common in community forestry can harm the livelihoods of poor forest-dependent villagers, such as fuelwood and charcoal sellers (Kaski ACM Team 2002). If it is to build on its promising foundation and enhance equitable and sustainable livelihood outcomes, community forestry is in need of innovation.

To address this need, the ACM research team first explored the underlying causes of community forestry's shortcomings in equity and livelihoods and identified two critical aspects of CFUG practices:

1. *Collaboration*. The level and/or quality of interaction of stakeholders and the power relations within CFUGs, and between CFUGs and other actors, is a stakeholder relations or collaboration issue.
2. *Adaptiveness*. The nature of the planning and decision-making processes and experiences within CFUGs in terms of learning is essentially an adaptiveness issue.

Our research suggested that some of the limitations in livelihood benefits and equity were rooted in the challenges CFUGs face in addressing collaboration (including power relations) and institutional learning and

adaptiveness. It appeared that as the Community Forestry Programme grew rapidly and became routinised, the social and institutional aspects of forestry were somewhat overshadowed by the technical aspects, including afforestation, and the goal of meeting targets for CFUG formation. Some studies suggest that 'commonly weak' CFUG formation processes lead to weak institutional CFUG processes and often a 'replication of the village authority structure in the new [CFUG] institution, in which high caste and wealthy men dominate by default' (Springate-Baginski and Blaikie 2003: 11; Acharya 2002). This trend has been abetted by a combination of factors, including culturally embedded hierarchies and bureaucratic tendencies. The limited progress in the relations and institutional learning and adaptiveness have likely hindered the ability of community forestry user groups, and specifically their marginalised subgroups, to navigate their complex and changing environments. This mismatch between a complex and dynamic context with relatively linear and top-down approaches suggested the need for innovation (Kanel and Pokharel 2002: 47):

> … a need has emerged over the last few years for strategies that can add value to CF processes and relationships so that equity and benefits can be enhanced. The increasing number of CFUGs, service providing agencies, stakeholders, and complexities in their relationships, as well as the changing and dynamic context of community forestry at various levels point to the need for such a strategy to contribute to making community forestry concept and procedures more collaborative, flexible and adaptive (in the sense of 'proactively responsive'). The dynamic and multi-level nature of [community forestry] demands that such strategies be institutionalized in the implementation process as well as at the policy making level.

Project overview and methodology

The goal of the Adaptive Collaborative Management of Community Forests Research Project in Nepal was to generate research-based lessons to enable more effective and equitable community forestry governance and management practices at all levels as a means of enhancing sustainability and the well-being of diverse women, men and children. Specific objectives included the identification, development and critical assessment of conditions, processes and outcomes of social learning and collaborative (or adaptive and collaborative) approaches to the governance and management of community forests[12].

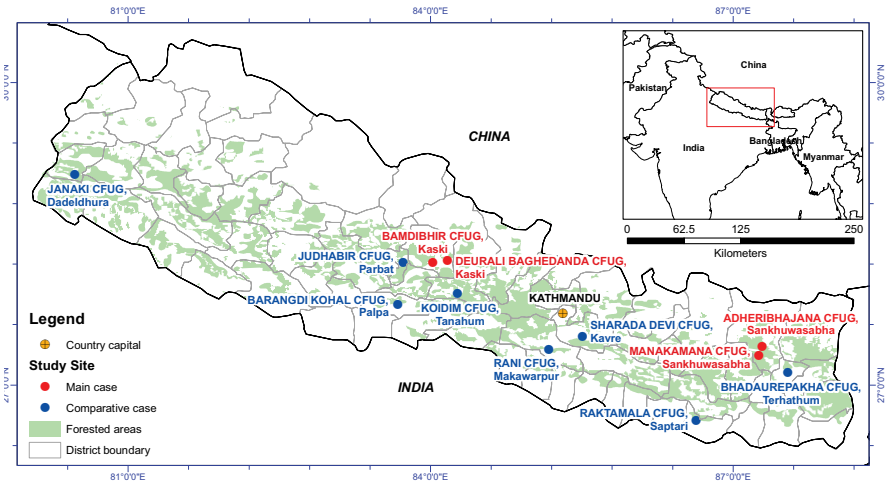

Figure 3-1. *Map showing location of ACM Nepal case study sites*

The implementing research partners for the four CFUG main case studies (Figure 3-1, Table 3-1), which are the focus of this chapter, were, in Sankhuwasahba District, the Nepali nongovernmental research organisation NewERA, and in Kaski District, a group of independent researchers (the 'Kaski ACM Team') who were part of a Kathmandu-based organisation called NORMs). The supporting comparative studies[13] and national-level studies were led by the nongovernmental organisation Forest Action in collaboration with a consultant from the Ministry of Forests and Soil Conservation. The main case studies took place through on-going collaboration with the Department of Forests and the district forest offices, as well as multiple non-governmental and bilateral partners in Kaski and Sankhuwasabha Districts[14].

Table 3-1. *Main community forest user group case study sites*

Main case study sites	*District*
Deurali-Bagedanda	Kaski
Bamdibhir Khoria	Kaski
Andheri Bhajana	Sankhuwasabha
Manakamana	Sankhuwasabha

The research project ran from 1999 to the end of 2002. In this chapter we focus on the CFUG level research and its in-depth lessons into the subtleties of catalysing adaptive and collaborative management-based innovations. The CFUG main case studies that form the basis for these lessons took place in four sites that were selected, in collaboration with the district forest offices, because they were relatively representative of 'average' CFUGs in their districts in terms of geography, demographics, resources, governance, activity and success; sites that were well above or below average were ruled out.

The research combined traditional social and biophysical research methodologies with participatory action research (PAR). Traditional research was the basis for the background studies and the reassessments that enabled before-and-after comparisons of socioeconomic, institutional, forest management and biophysical information in each main case study site, as well as cross-site comparisons. The background studies were conducted in March 2000–February 2001 and the reassessments in March–June 2002 and involved a variety of participatory rural appraisal methods, such as well-being ranking and participatory mapping.

The essence of the project was the participatory action research, which took place from approximately March 2001 to July 2002 in each main case study site. PAR methodology enabled the research teams to engage local stakeholders in catalysing or enhancing ACM approaches appropriate to the local situation, including strengthening local institutions, addressing boundary negotiations and increasing income-generation activities. As described in the introduction to this chapter, this meant catalysing an approach that was inclusive, enabled networking and flexibility and was rooted in social learning. PAR began at the CFUG level and expanded (in a preliminary way) towards the meso level. Adaptive collaborative management-related facilitation was initially led primarily by the research teams[15]; the teams then made efforts to shift the facilitation role to CFUG members, CFUG supporting agents and meso-level leaders. The limitations of researcher-led facilitation led to some insights that we discuss below, under 'Reflections'. The main activities and roles of the researchers during the participatory action research were the following:

- Building rapport and developing social relationships with local stakeholders, and discussing whether and how the CFUG wanted to introduce innovations into its governance and management.
- Catalysing the development of an adaptive and collaborative approach to CFUG management by hosting and facilitating a

self-monitoring workshop, and facilitating the reiterations of the monitoring.

- Mobilising people and raising awareness about an ACM approach in community forestry, building capacity for management and governance and sharing information, mostly through researchers' ongoing participation in and facilitation of ACM processes and activities related to CFUG annual planning, including committee, *tole* (hamlet) and CFUG action group meetings.
- Facilitating and/or supporting related activities, such as a workshop to raise gender awareness, cross-site visits, community forestry–based quiz contests and training in facilitation.
- Facilitating critical reflection of CFUG members on the institutional changes that took place during the participatory action research. This reflection was part of the CFUG self-monitoring process and occurred periodically in the groups' planning processes, CFUG committee meetings and the final reassessments during the wrapup of the research.

During the PAR phase, while the ACM approach was being facilitated, researchers also used a range of social science research methods, such as focus groups and participant observation, to track changes in influences, conditions, institutional arrangements, processes and outcomes.

Subsequent to the completion of this project, CIFOR and research partners ForestAction and NewERA initiated an IDRC-funded followup project entitled 'Enhancing Livelihoods and Equity in Community Forestry in Nepal: The Role of Adaptive Collaborative Management'. This project, which ran from 2004 to 2007, aimed to track the changes over time in the four main case study sites, as well as investigate the scope for the facilitation of an ACM approach to be led by local and meso-level actors (rather than by the ACM researchers) in seven new CFUG sites. This project has also expanded the research focus to include more participatory exploration of the role of adaptiveness and collaboration in meso-level and national governance. This chapter focuses on lessons from the first project but adds some preliminary insights about the institutionalisation of the ACM approach based on experiences of the second project.

Enhancing adaptiveness and collaboration

In this section, by contrasting the status quo with the ACM-based innovations, we explore the nature of the changes that local people, researchers and other actors made to the CFUG decision-making and annual planning cycle during the PAR phase of the research. They include changes to annual and ongoing CFUG decision making and the implementation of decisions relating to forest management practices, such as the development and enforcement of rules and regulations, the election and turnover of committee members, benefit sharing and forest protection. The shift in approach to planning and decision making was the heart of the participatory action research. Taken as a whole, it illustrates movement towards increasingly adaptive and collaborative institutions and processes.

Status quo community forestry practices

Our research teams explored the governance and management practices in the case study sites to ascertain patterns of inequity in decision making and benefit sharing. The extensive background studies clearly indicated that all four main case study sites, selected as being average for their districts, also shared difficulties in organising equitable practices and outcomes. Furthermore, the patterns were also very similar to those observed in the comparative case studies. One predominant pattern was the domination of decision-making processes by local elites, typically wealthy, higher caste men[16]:

> Members of the local elite held the important positions in the executive committee of the CFUG and … constituted the dominant influence over others with regard to decision making. Consequently, the interests and needs of the poor and disadvantaged might be ignored and sacrificed for the sake of the 'common goals' set by a small vocal section of the society. (Kaski ACM Team 2002: 9)

Another common pattern was the tendency for planning and decision making to be ad hoc, based on interests of those involved at that moment but not necessarily linked to any larger plan or lessons from experience. These and other salient patterns found in the main case study sites prior to shifting to an ACM approach are outlined in Table 3-2.

Table 3-2. *Patterns of CFUG practice prior to the ACM approach*

Practice	*Status (synthesis across sites)*
Institutional arrangements and structures	The CFUG executive committee and general assembly were the main bodies. One CFUG also had subcommittees at the *tole* (hamlet) level, but these were largely inactive.
Planning approach and processes	Processes for the development of priorities and plans within the CFUG and between the CFUG and district forest office were linear and/or ad hoc, not systematic or linked to past experience or future goals. Meetings were held irregularly, and collective learning was limited. Annual work plans were not clearly agreed upon or missing altogether. Action plans were not fully implemented. Management was often passive and narrowly focused on subsistence timber and fuelwood, with little development of nontimber forest products.
Decision-making and information-sharing mechanisms	Decision making tended to be top-down, dominated by the executive committee or chairperson. Marginalised users had little access or input to decision making. 'Consensus' decision making, when used in the general assembly, tended to drown out the voice of marginalised people and legitimise proposals by more dominant members and subgroups. Communication from the executive committee to individual members and internal stakeholder groups (*toles*, interest groups) was limited. Understanding and ownership of the constitution and operational plans, even by the executive committee, were weak.
Conflict management	Conflict resolution was handled by the executive committee or external stakeholders and ranged from very weak to moderately effective.
Training and learning	Training opportunities were typically allocated by the chairperson or executive committee and accessed only by these same individuals. Sharing of learning from training was informal and infrequent.

Strengthening community forestry practices through an adaptive collaborative management approach

The focus of the participatory action research was the effort of the CFUG Committee and general members, ACM researchers and other CFUG supporters, such as the Federation of Community Forest User Groups Nepal (FECOFUN) and district forest office staff, to enhance the effectiveness of the CFUGs' annual (and ongoing) planning process and ongoing practices as a means of improving social and environmental outcomes. Specifically, they were trying to shift away from centralised, top-down and relatively linear and/or ad hoc management processes to a more inclusive approach based on increased reflection and collective deliberation. There was no one model for these innovations and efforts to strengthen; the facilitators simply tried to catalyse and support cycles of planning, action, learning and innovation that were rooted in increased adaptiveness and collaboration, with an emphasis on self-monitoring and joint reflections. These changes were driven by the cultivation of certain *attitudes* and *skills* towards key aspects of ACM: reflection, flexibility in action cycles, and incorporating shared learning into decision-making. We elaborate further on each of these below.

Structures that support enhanced deliberation in decision-making

In this subsection we highlight four main innovative or strengthened patterns and arrangements of interaction that emerged during the PAR and enhanced relations amongst actors in the practice of forest governance at CFUG level.

Building and bridging voices: active *tole* committees as a mechanism to enhance input to decision making and information flow. The *tole* (hamlet) has been recognised—in principle—by community forestry policy theorists and practitioners as important for engaging community members—for example, through the use of *tole* meetings in the CFUG formation process. And yet, as noted above, in practice *toles* are often underutilised or even inactive in ongoing governance. Thus, although the recognition and use of this level in community forestry is not new, its ongoing active engagement as the first 'nested' layer of (learning-based) governance was an area of innovation by the CFUGs involved in the participatory action research.

Specifically, in response to the limited information flow and input to decision making especially for marginalised users, during the PAR the CFUGs ultimately developed *tole* committees and started to hold regular *tole* meetings (Box 3-2). *Toles* thus became the 'homes' for the first step in the self-monitoring process as well as the platform for generating input into committee and assembly meetings. Generally, the *tole* representatives were responsible for maintaining two-way information flow between the *tole* and the executive committee of CFUG, as well as facilitating in their *tole*, and thus reduced the workload of the CFUG members.

Box 3-2. *Toles* as a powerful basic forum for CFUG planning

In our experience, *toles* (hamlets) were an appropriate 'first stop' in the CFUG planning process because they are the logical decision-making subgroups in many contexts. *Tole* members live close to one another and thus can meet relatively easily. Since they may meet on other issues as well, such as water, *toles* can integrate community forestry into their discussions. Furthermore, in many cases, *toles* comprise small clusters of households of the same caste or ethnic group who have frequent informal exchanges regarding other issues, and thus some people may be able to speak more freely within such groups. The relative homogeneity and proximity provided by *toles* cannot, however, remove all barriers to participation. Women and very marginalised members of the *tole* may still not be able to speak up in *tole* meetings. Furthermore, other structural barriers to participation (such as workloads) remain, perhaps eased only slightly because of the proximity and relative flexibility of these smaller meetings. This being said, *toles* should not be accepted a priori as the appropriate subgroups for decision making. In some settings, especially where the *toles* are not very homogeneous, other sub-CFUG institutional arrangements may be more effective and appropriate. The arrangements made need to be decided by, and appropriate to, each CFUG.

Transforming representation: enlarging the leadership roles of women and marginalised people. In response to an increased awareness of the need for more equitable input to CFUG decision making, all four CFUGs made changes to the balance of gender, caste, ethnic and/or wealth groups on their executive committees. Most groups identified these changes as goals and indicators and, in some cases, also made them official in their revisions of CFUG rules. Although this kind of structural change is no guarantee of effective representation and participation, the groups' decisions to develop these norms suggests a commitment that might enable them to institutionalise these provisions in the longterm.

Devolving responsibility: action groups for detailed planning and implementation of CFUG plans. As a means of sharing ownership of the CFUG amongst users and enhancing the activeness of the CFUG, all the sites developed small, voluntary, interest-based action groups. These action groups took on leadership roles, working in coordination with the executive committee and thereby reducing committee control of activities. Although they were informal rather than written into CFUG rules, these small groups or subcommittees became an important aspect of the institutional structure. For example, the Manakamana CFUG developed an anti-encroachment committee to manage land and boundary conflicts between the CFUG and individual landholders, and had a forest products distribution committee assess the needs of *toles* for forest products. These small groups enabled nonexecutive committee members to become more directly involved in the decisions and activities that mattered the most to them, while reducing the workload of the executive committee. This system also devolved and dispersed the decision-making power away from the centralising force of the CFUG executive committee. Forest product-related action groups, such as the broomgrass income generation group in Deurali-Bagedanda CFUG, created opportunities for small groups to generate more benefits as well as knowledge and local expertise. Potential drawbacks include demands on the time of the people involved and the need for engaged external actors, such as district forest office or project staff to take the time to work with CFUG members other than the executive committee.

Networking: linking and 'sparking' with external actors. The cross-visits between CFUGs, as well as the occasional engagement of district forest office, FECOFUN and bilateral project staff and researchers in CFUG processes as facilitators or participants, were very important both for sharing knowledge and experience and for sparking critical reflection. For example, it was through observing the self-monitoring workshop in Andheri Bhajana CFUG that the Manakamana CFUG members realised the weaknesses in their own monitoring processes. Although cross-visits and other forms of networking are not new to community forestry, they were a tool that was underappreciated and thus previously underused in the sites.

Outside actors who engaged effectively in a CFUG process were able to spark reflection by asking questions that would 'shake up' local perspectives, creating a break in thinking and thus an opportunity for change in practices. This ability was due to thoughtful questions as well as the actors' outside perspectives and the relative freedom to question local norms accorded to many external actors (such as researchers and FECOFUN or district

forest office representatives). This type of exchange also served to build personal relationships and social capital between the CFUGs and potential service providers. As the CFUGs began to innovate institutionally, they seemed to gain confidence and feel that they had lessons to share with other stakeholders. This appeared to be part of a positive feedback loop of innovation, confidence, collaboration and success. The lessons and confidence of the CFUG helped to engage outside stakeholders and sparked their interest in building relations with the CFUG.

Processes that encourage social learning in management

In this subsection we highlight three patterns that emerged during the PAR that were primarily process related. These processes can be understood as enabling social learning; because social learning cannot be separated from stakeholder relations, they also positively affected actors, their linkages and power relations.

Building-in learning: planning and decision making rooted in a learning-oriented, self-monitoring process. During the PAR, the CFUGs gradually began to use self-monitoring as the core of their planning processes. The self-monitoring was based in a yearly or half-yearly cycle of shared visioning, development and adjustment of indicators, assessment of strengths and weaknesses using the indicators, development and adjustment of plans (and action groups) and implementation of actions. As noted above, *tole* groups drafted sets of new and existing priorities and action plans based on the assessment of indicators. Groups of *toles* and committee representatives merged these suggestions to develop CFUG priorities and plans (which in most cases were then circulated back to the *toles*). The new CFUG plans were then finalised in the assembly and the action plans were then initiated or continued through action groups or the committee.

This type of monitoring was used by CFUGs as a tool to increase participation in decision making and thus ownership and representativeness of decisions, as well as to help themselves track and adjust priorities and actions in line with the shared vision, progress and challenges. This process required critical reflection on multiple aspects of CF, including forests, livelihoods, institutions and equity (as identified and bounded by the CFUG's vision and indicators). The self-monitoring also activated an ongoing social learning process that encouraged reflection and applied learning for

continual improvements in forests, resource management and governance, and people's well-being.

Understanding who 'wins' and who 'loses': tracking and assessing participation and benefit sharing. During the PAR, the Bamdibhir and Deurali-Bagedanda CFUGs developed a process to track and assess who in the CFUG was participating in, contributing to and benefiting from community forestry activities. This 'equity assessment process' was a simple one that cross-checked participation and benefits against a wealth and diversity ranking of all CFUG members. Very importantly, the ranking as well as the ongoing assessment were transparent and accessible to all. Although this tracking is a form of self-monitoring, we highlight it separately to underscore its significance as a mechanism to make equity more explicit in CFUGs. It helped forest users and committees observe the degree to which CFUG decisions and actions (e.g., benefit distribution) matched their stated objectives regarding equity. Furthermore, in some cases it was used as leverage by marginalised users to hold the committee accountable to its commitments to equity (as illustrated in 'Outcomes: human capital').

Planning to learn: including some aspect of 'conscious learning' in every activity. Some action groups built the ACM element of 'conscious and shared learning' into their activity planning by, for example, implementing activities as small trials or experiments with learning questions, monitoring their progress and adjusting their plans. Other groups, such as those considering a bamboo handicraft enterprise and a sawmill in the Kaski sites tried out a simple form of 'systems analysis' to help them assess potential risks and identify uncertainties. The motivation for taking this learning approach was to minimise risks and optimise outcomes by enhancing the effectiveness of planning and actions. For example, one action group wanted to establish a bamboo nursery to produce seedlings for the CFUG and for sale but knew it was risky because past efforts had had minimal success. They therefore developed 'learning questions' to research, including reasons for past failures and specific technical questions about bamboo seedling care and propagation. They conducted in-depth interviews with the main caretaker of the previous nursery initiative and sought technical information and literature from outside actors. As a result, their nursery plants had a much higher survival rate.

The overall changes in structures and processes are illustrated in Figures 3-2 and 3-3. Figure 3-2 shows a common model of CFUG structures and processes, drawn from patterns observed in the four main case study sites

prior to the PAR, eight comparative cases and the experience of the researchers with other CFUGs. In this approach, as described above, the decision-making practices reinforce decisions 'from the top' by keeping the decision making and information gathering within the control of the more powerful members of the community. As a result, the actions that are planned are owned by the committee. If the actions are implemented, there are no established mechanisms for the CFUG, or even the committee, to actively learn from them and adjust and refine them for future improvements in management.

Figure 3-3 illustrates an ACM-based model of structures and processes, as developed during the PAR in the four main case study sites. This approach attempts to remove the systematic distortion of power present in Figure 3-2 by creating effective and multiple entry points for all users in the decision-making system. The *tole* becomes central to decision-making, for example, there are multiple iterations between the *toles* and the committee meetings, users have information and thus create a more level 'playing field' at the general assembly, and specific actions are planned and led by action groups. Moreover, the arrows in this figure describe a circle, illustrating the feedback loops in the decision-making system through self-monitoring and other reflection processes. Shared learning drives continual adjustment and improvement in CFUG understanding and decision making.

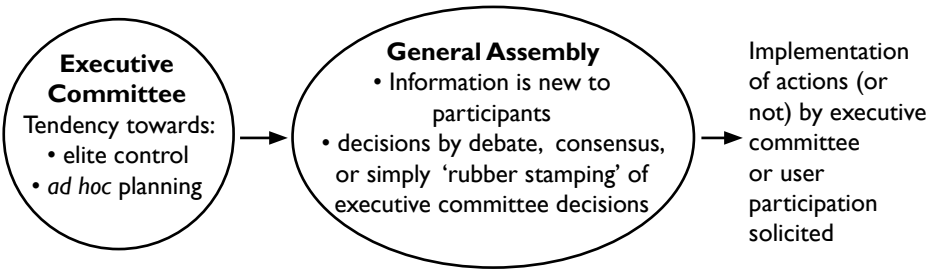

Figure 3-2. *Common approach to CFUG planning and decision making*

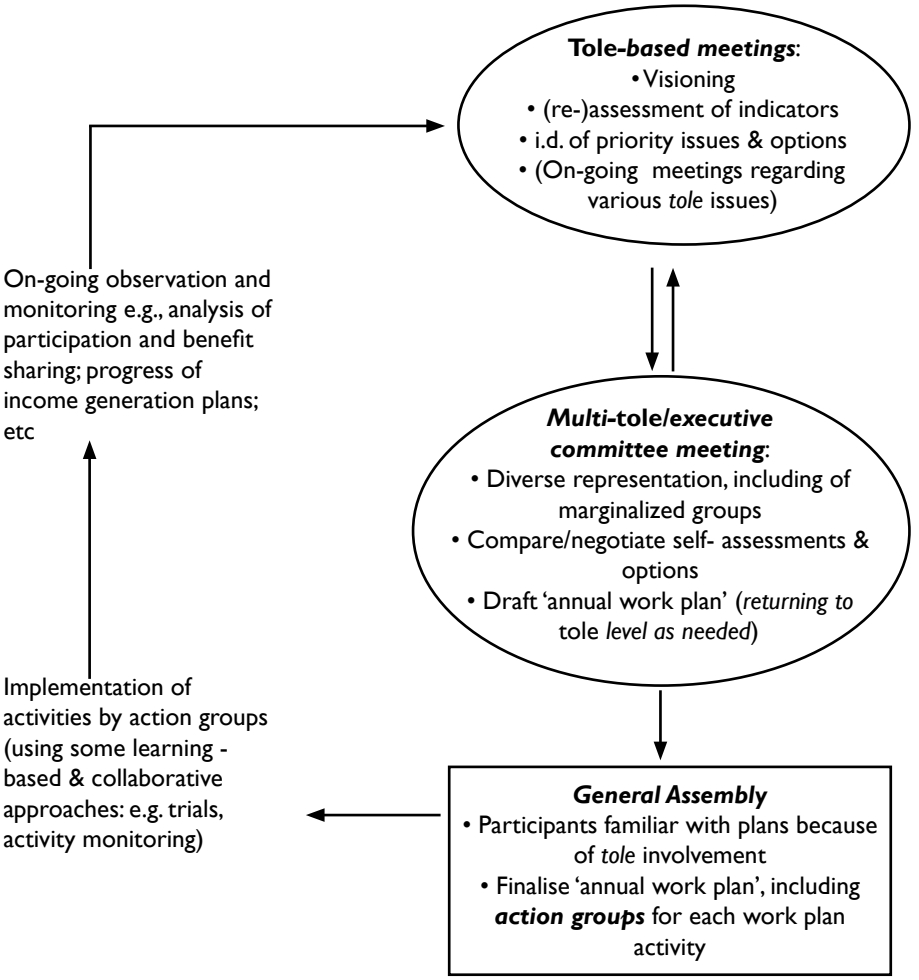

Figure 3-3. *Adaptive collaborative management approach to CFUG planning and decision making*

Driving forces: attitudes and skills

Although the above innovations in arrangements and processes appeared to facilitate and even encourage participation, collaboration, and learning and ultimately influence livelihood outcomes (in the broadest sense), none of these alone can ensure an enduring process of change. In the main case studies, not surprisingly, the attitudes and skills and the resulting behaviours and actions appeared to be critical for an adaptive collaborative

management approach[17]. For example, the following attitudes appeared to enable ACM approaches to take root and enhance livelihood outcomes:

- a 'learning attitude' to management, including a willingness to experiment, and the perception of 'failures' as opportunities to learn;
- openness and understanding between gender and caste and wealth groups, or at least a willingness and ability to question the existing hierarchy and forms of domination (empowered questioning);
- confidence to participate and to try new ways of operating;
- openness to participation, cooperation, sharing of information and communication;
- honesty and transparency in leadership and fund management;
- a willingness to share power and benefits; and
- a sense of ownership of the forest.

Note that although such attitudes are important to the successful functioning of ACM, they are not a prerequisite to initiating it. Rather, experiences in this project indicate a positive feedback loop between the attitudes and behaviours and the ACM approach—in other words, cogeneration of these intangibles is possible (Box 3-3). We elaborate on this and other causal forces under 'Reflections,' below.

Box 3-3. Changing attitudes towards participation

Village development committee-level FECOFUN Chairperson Mr Rikhi Bahadur Rana said, 'I am retired army staff and I believed only law and order before and initially I felt some difficulty to come up with the ACM Process for more democratic decision-making and planning process. Now I am gradually changed towards the participatory decision-making process'. (Kaski ACM Team 2002: 3-27)

In terms of skills, effective facilitation of participatory processes and leadership skills within or accessible to the group (to initiate change, generate vision and momentum, and support other capacity building) can be considered necessary for an ACM approach. As with the attitudes above, a positive feedback loop is involved here, too: in the research sites, these skills tended to be enhanced and reinforced by the application of the ACM approaches, including the identification of capacity-building needs and active seeking of support from external actors. Other skills and

knowledge that appeared important to success include an understanding of the concept and practice of self-monitoring as a learning and planning tool; an understanding of the concept of conscious learning and experimentation in management; application of bookkeeping and recordkeeping in the field; and some technical forestry knowledge and skills. As with the above attitudes, the development of these skills was a process or an 'ideal'—they were not fully achieved in all sites.

Outcomes: changes in livelihood assets

In this section we explore some of the changes that occurred in the four main case study sites during the PAR phase of the research. Although we observed only a one- to two-year period, the outcomes offer insights into the effects of shifts in approach, processes and structures of institutional, social, human, natural and financial capital. Following this section, we look at preliminary findings of the followup project in terms of the institutionalisation of the ACM approach and longer-term outcomes.

Clearly, changes in all the dimensions of capital were influenced by multiple forces. We discuss here the changes we perceive as likely attributable to the shift towards ACM-based processes and institutional arrangements. Although there is no way to definitively prove causality here, many of the changes emerged directly from the CFUGs' prioritisation and planning of innovations and actions in the ACM-based self-monitoring and planning processes. Furthermore, in the tracking and assessing of the sites throughout the research period, the research teams observed no other direct forces—such as nongovernmental interventions or governmental or network projects—acting on the CFUG processes and institutions that seemed causally related to the outcomes[18].

At the same time, while we believe the shift to an ACM process drove these changes, we also acknowledge the significance of several other influences. One was the conflict between the government and Maoists, which slowed community forestry activity because of security restrictions and reduced space for open meetings in the conflict-prone areas. Yet it may also have opened up some opportunities for CFUGs and other actors to take leadership roles as government services receded. Furthermore, the broader democratic movement and awareness of equity issues, as well as direct pressure by Maoists on those they considered elite, likely contributed to the momentum for shifting power away from the dominant community

members in some areas. Additionally, while resource and bureaucratic constraints of the Community Forestry Programme continued, the ACM approach dovetailed with some other supporting forces, such as innovative district institutions or individuals service providers who supported social empowerment and capacity building. Thus there was synergy between the CFUGs' growing interest in collaborating with such forces and the engagement of these institutions and actors in the district-level participatory action research[19].

Institutional capital: goals, meetings, transparency and activeness

The teams observed four main trends in institutional direction and capital. First, CFUG goals in all sites reflected an increased interest in equity, income generation and sustainable forest management (elaborated below). Second, the regularity of general and committee meetings increased in all sites, generating—and indicating—an increase in momentum and follow-through by the CFUG, both of which are likely necessary foundations for change. Third, there were significant increases in transparency and accountability of the CFUG committees, especially regarding financial management, and an increase in information flow between users and committees. And fourth, the number of action plans made and implemented increased, both of which are necessary building blocks for meeting livelihood goals. Prior to the ACM project, for example, Deurali Bagedanda CFUG did not have any specific action plans for enhancing income or forest condition. During the ACM project, the group developed six plans for forest enhancement or income generation—a broomgrass trial plantation, nontimber forest product management activities, bamboo craft training, a sawmill feasibility study, silvicultural trial plots and a coffee plantation—the first four of which were successfully implemented.

In terms of 'transaction costs' or potential negative effects, probably the most significant change in the transition towards an ACM approach involved demands on CFUG members' time, reflecting increases in the activeness of the group, the number of activities undertaken and the levels of participation. More time was demanded of people who had previously participated very little (and typically benefited relatively little); the committee members saw a relative decrease in responsibilities as power was devolved to action groups. Time as a transaction cost is a significant issue because typically the poor and women have the least available time and thus bear relatively higher costs. During the project's final assessment,

however, marginalised people suggested that they were largely satisfied with the increases in time costs because they associated these commitments with benefits from community forestry.

Social capital: participation, power relations and external linkages

Local users indicated that they viewed social capital as one of the most important areas of change, especially with regard to enhanced participation in—and influence on—decision making. The representation of women and marginalised ethnic groups on committees increased to varying degrees in all sites. Participation in decision making in committees and assemblies also increased significantly, although the increase was less for women and the poorest groups than for other users. Overall, the relationships amongst users increased, with an increase in the perception of trust between users and committees. Together, these changes signify that locally perceived power imbalances were challenged and power in decision-making was dispersed to some extent. Concomitantly, nonexecutive committee members were more engaged and gained more control of the CFUG through their involvement in *tole*-level decision making and their leadership of 'action groups'.

Interestingly, shifts in attitudes and power relations in the CFUGs were sometimes associated with a temporary increase in explicit conflict and, for more powerful members, some potential social threat (e.g., loss of power, potential expulsion from an executive committee). Measured in the short term, this could be considered a cost, but overall, members of the CFUGs indicated that the exposure of latent tensions was positive. For example, the increased challenges and demands from women and marginalised members created stress for existing committees but was largely resolved as more inclusive processes emerged; in other cases, members held executive committee members accountable for the misuse of funds, thus laying the foundation for new committee members and new standards of accountability.

The exact forces in the ACM approach that enabled users to address inequality and power differences are intangible, multiple and intertwined, and thus difficult to pinpoint independently and prove causally. Nevertheless, examination of the experiences in all four sites suggests that the transformation of attitudes that enabled people to address underlying tensions was related to both 'pushing' from marginalised users and 'pulling' from incentives for elite users to relinquish some of their power. Both forces

were rooted in social learning processes and experiences and supported by changes in CFUG structures, such as the development of *toles* and action groups. More specifically, the processes of joint visioning and self-monitoring, including explicit discussion of equity, helped 'push' power redistribution in decision making and equity in outcomes, and the tracking of benefits by wealth groups helped make this concrete. As marginalised users became increasingly aware of their rights and of the actual division of rights and benefits in practice, they often became less willing to accept the status quo. In some cases, explicit commitments to equity in the visioning or goal setting or other planning processes could be used as leverage to hold the decision makers accountable, and this—combined with marginalised users' rising levels of engagement, information and confidence—enabled them to better challenge unequal power relations in the CFUG.

The main 'pull' towards shifts in attitude and power sharing[20] appeared to be the realisation that more inclusive processes could have significant positive outcomes. For example, in a number of cases, as more users became involved, their sense of ownership as well as knowledge of CFUG rules increased, and executive committee members realised that they were facing fewer challenges (Box 3-4), as well as a lightened work load as *toles* and action groups took on more responsibilities.

Box 3-4. Changing attitudes and practices in decision making and conflict management

The chairperson of the Deurali-Bagedanda committee said, 'When any conflicting issues arises in the CFUG, we do not play the role of the Judge as we used to do previously, instead we send the issues to the concerned *toles* and the *tole* people themselves manage the case and come to the committee with their resolution, and the conflicting issues no longer remain in the CFUG. We came to know that people do not sometimes satisfy with the solutions if they do not have the sufficient information of the rules, regulations and the reality of the situations. After the ACM process, the community forest management system has been more participatory, the committee does not have any specific plans made only by its involvement, the community forestry management plans or the management decisions that we have, are of the *tole* people. Now, they have the information of the reality of the existing forest conditions, availability of forest products … that they obtained the information from the assessment of the indicators with the help of the moon phase self monitoring tool. The stakeholders behave more friendly and become more supportive to resolve the conflicts and to implement the actions … relating to the community forestry management issues'. (Kaski ACM Team 2002: 7-106)

Finally, another significant trend in social capital involved the relationship of the CFUGs with external stakeholders, such as neighboring forest user groups, village development committees, range posts and bilateral projects. Communication and interaction increased, as did the number of cross-CFUG visits, contributions to CFUG initiatives, and joint trainings. Very importantly, the research teams noted that the increased linkages with external stakeholders were accompanied by an attitudinal shift of CFUG members, from passive dependence on and reaction to external stakeholders, to proactive expression of the CFUGs' self-determined interests, rights and needs.

Human capital: building and spreading skills and confidence

All researchers noted that CFUG members' knowledge and understanding of their community forest's condition, rules and regulations increased, especially through engagement in the self-monitoring processes. Skills for participatory planning and decision making based on self-monitoring also increased, including skills for analyzing equity in the committees of both Kaski sites. Although still in progress, these were significant changes. Other related areas of skill and knowledge acquisition were facilitation and participatory process skills, leadership, and technical forest management for timber and nontimber forest products. Engagement with other CFUGs and meso-level stakeholders in networks, through cross-site visits, appeared to spark new ideas for management and income generation activities.

Finally, one very important area of change was the increase in confidence, capacity and in some cases freedom for women and other marginalised users to engage in CFUG decision-making and challenge existing structures. Box 3-5 illustrates how one low-caste woman gained enough confidence to use the ACM-based 'equity assessment process' as leverage to gain fair access to a livelihood opportunity.

Box 3-5. Empowerment of one marginalised woman

In Bamdibhir CFUG, plans for a bamboo craft enterprise had emerged from the participatory self-monitoring and planning. The enterprise's explicit goal was the 'economic upliftment' of marginalised CFUG members, especially women. After the bamboo craft training course, CFUG committee members and sponsoring NGO representatives selected five trainees to participate as paid craft-making staff, based on the goals of the enterprise and a passing grade in the bamboo training course. The recommended list of paid craft makers was accepted by most participants and was in the final approval stage when one woman—'Ms B' (name changed to respect her privacy)—spoke out. A lower-caste woman and economically very poor, she previously would not have had much leverage—and likely not the confidence—to influence CFUG decision-making. In this case, however, by explicitly referring the group to the monitoring-based decisions and tools, she was able to make her point. Ms B pointed out that the selection of trainees did not meet the agreed-upon goal and criteria of the bamboo craft enterprise, which was to provide an opportunity to marginalised members, especially women. She cited the CFUG's own wealth analysis, which showed that she, being 'very poor', fell into the target group better than the trainees who were classified as 'lower middle' and 'poor'. Furthermore, she had received a B grade in the course. On the basis of her arguments and evidence, the committee and the NGO representatives reconsidered the decision and appointed Ms B as a paid employee in the bamboo craft enterprises. (McDougall *et al.* 2007)

It is especially notable that the changes in human capital involved the 'spreading' of knowledge throughout the CFUG members generally, including women and other marginalised users, not only knowledge acquisition by executive committee members. We attribute this spreading of human capital development to the leadership assumed by *tole* committees and action groups and also to the increasing access to training and other opportunities for women and the poor.

Natural and financial capital: generating, sustaining and distributing benefits

Because long-term changes in natural and financial capital could not be observed during the project period, our assessment focused on the factors that influence natural and financial capital generation and access to them rather than on changes in the resources themselves. We highlight here two broad trends—increased efforts to generate forest product benefits

or entitlements (i.e., livelihood and income benefits) and an increased or renewed interest in forest system health (i.e., ecosystem benefits[21])—plus a third trend, an increase in attention to equity, that cross-cuts and mediates between them.

In all sites, we saw a pattern of increased plans for generating forest-based income. Three of the four CFUGs had initiated plans for forest product income, such as bamboo handicraft sales, by the end of the PAR phase; the fourth CFUG (Manakamana) was in the planning stage. Notably, these activities were more targeted to the poor and marginalised users than they had been in the past. For example, in Deurali-Bagedanda CFUG, a bamboo craft training was organised based on the interest expressed by 'poor' users in making bamboo handicrafts for seasonal income, and the CFUG decided to sell bamboo to these users at a very low price. Likewise, a feasibility study for a sawmill was organised by and for the socioeconomically *marginalised Biswakorma tole*, and the CFUG decided that if the study was positive, saw logs from the community forest would be provided at a cheaper rate to this subgroup. This inclination for CFUG members to increase propoor initiatives as a part of their forest-based income efforts acts as a potential balancing force to the increased interest in forest protection, described below.

Some small increases in financial capital—such as CFUG funds or returns from forest products—were observed in all four sites during the PAR. For example, Bamdibhir CFUG started to earn some returns from its bamboo initiative, and Manakamana CFUG raised its user fees and sold more timber within the group. More important than any immediate change in financial assets is that the CFUGs appeared to have laid the groundwork for future increases, including by marginal users. Specifically, besides increasing the number of forest-related income generation activities, all the CFUGs had increased financial accountability and transparency. They have also made efforts to control misappropriations of funds by the committee, created credit programs or earmarked portions of their income for poor households and enhanced linkages to external stakeholders who are potential contributors.

The second trend we highlight here was that the learning-based self-monitoring and perhaps also the increased exposure to district forest office staff tended to increase interest in the long-term sustainability of the forest. For example, seedling planting rates, nursery seedling survival rates, and

implementation of silvicultural activities increased—all of which may contribute to forest system health over time.

The interest in long-term sustainability has some potential implications for forest protection regulations and enforcement and access to forest products. Protection of forests often limits people's access to forest products for subsistence use, which can have obvious livelihood implications[22]. For example, three of five *toles* in Manakamana CFUG decided to reduce fuelwood harvest from the community forest and banned the cutting of green trees as an investment in long-term forest health and future supplies of fuelwood. Both our general experiences in community forestry and the literature suggest that protectionist tendencies can have different impacts on different stakeholder groups: often the more marginalised stakeholders bear the greater burdens. Commonly, for example, changes in fuelwood access tend to impose the greatest cost upon women, the primary fuelwood collectors, as well as upon poorer households that do not have their own private lands from which to supplement community forest products. Thus, unless moderated by attention to equity (as described in the following paragraph), an adaptive collaborative management approach could potentially heighten a CFUG's awareness of forest condition and spark an increase in protectionist practices that disadvantage vulnerable users.

Thus, the third trend we observed—increased attention to equity in access to forest products—is critical. By the end of the PAR, users from marginalised subgroups in all sites expressed satisfaction with the *direction* of change in access to forest products (Box 3-6), although not yet with the total actual distribution of forest benefits. For example, although some groups made efforts to increase equity of access to timber and fuelwood, many marginalised users still believed that more needed to be done to address their needs. Negotiating equitable benefit (and burden) sharing clearly remains a challenge for all commons governance—and it is critical to development.

Box 3-6. Recognition of marginalised users' forest rights.

Before the ACM project, the Deurali-Bagedanda CFUG rules were such that members of the low-caste *Biswakarma* ethnic group were forced to go to distant areas of the community forest to collect firewood. Members of the CFUG from other caste groups collected firewood from areas much closer to the settlements. During the course of the ACM project, the *Biswakarma* users expressed the position in committee meetings and the CFUG general assembly that they had the same use rights and that all users, no matter who they were, should harvest firewood from the same site of the community forest based on the 'block system' as described in the CFUG's operational plan. Researchers noted that CFUG members of other caste groups began to express that the current allocation system was biased and unjust. As a result, the 'block system', in which users of all castes harvest from the same forest area, was approved in the 2002 general assembly. (Kaski ACM Team 2002)

We suggest that one primary reason for the positive direction of change in access to forest products is that by being inclusive and iterative, ACM processes focused more on-going attention on equity in access to forest products and to income generation. The more that CFUG members, including marginalised ones, engaged in overall planning and decision-making through processes such as self-monitoring, the greater their awareness and confidence regarding their rights and ability to challenge the dominant actors in their CFUG. The explicit and iterative nature of the ACM visioning and planning processes meant that issues of equity were publicly put on the CFUG's agenda and kept alive as the group revisited them in self-monitoring and other reflection processes. The attention paid to equity of entitlements is a critical balancing force to forest protection and income generation in CFUG planning and decision making (Box 3-7).

Box 3-7. Attention to equity in forest protection rules

In Bambdibhir CFUG, self-monitoring and other ACM processes appeared to motivate increased restrictions on fuelwood and reduced access for some users. Had there been no 'equity' feedback loop, this may have led to negative outcomes regarding livelihoods. But, because the monitoring of forest conditions went hand-in-hand with increased access to decision making, this issue was raised by the concerned *toles*. The CFUG then decided to use its 'heterogeneity analysis tool' to develop a new system. In the new system, 'needy persons' collected firewood on a monthly 'open day' and began taking part in pruning activities so that get more firewood from the forest and also have more input to decision making. The CFUG committee has given the *tole* committees full responsibility for determining the real firewood requirements of each household and the degree of their dependency on the forest versus other sources to meet their firewood needs. Because of the equity feedback loop, people's livelihood concerns are being addressed.

Reflections: challenges, insights and preliminary lessons

The positive changes in forest governance and management practices observed in the four CFUGs during the first phase of the research project (1999–2002) suggest that an adaptive collaborative management approach could add significant value to community forestry in Nepal. The transaction cost identified--time cost increases--appear to be acceptable to CFUG members. The surfacing of latent conflicts was ultimately positive, and potential increases in protectionism were offset through the feedback loops on equity. At the same time, challenges remain. The first is that a successful ACM approach, and positive outcomes from it, relies on the ability of forest users and other actors to be critically reflective upon their own attitudes and capacities and their resulting behaviours and governance and management practices. Furthermore, they need to be able to respond to this learning by, for example, shifting attitudes or behaviours or policies identified as unconstructive. Thus, having 'structural' and even process aspects of an ACM approach in place, such as *tole* divisions and self-monitoring, is not a sufficient basis for a CFUG to function optimally; intangible elements, such as attitudes, must drive the approach. The Manakamana CFUG was a case in point. This CFUG had *tole* divisions and, briefly, a form of (nonlearning-based) monitoring prior to the ACM research project, but these were essentially inactive and/or ineffective. It took the development of a greater understanding of, and interest in, learning and inclusive management to bring about some meaningful shifts in governance in that CFUG.

The key insight regarding this challenge is that the critical reflection, and the related collaboration and learning-oriented attitudes, capacities and behaviours, do not need to be in place prior to starting an ACM approach; they can be generated by it. Specifically, the process of mindfully engaging in an ACM approach—with effective facilitation—appears to provide 'breaks' in thinking that occur through shared critical reflection on patterns of perception and behaviour. This reflection is based on the CFUGs' own experiences and processes and is sparked through collaborative interface with facilitators or other actors, such as members' social networks. This interface, as experienced in the research project, can introduce different worldviews, outside perspectives on a situation, and critical questions or observations. The interface may reveal latent conflicts or power imbalances that need to be addressed for the CFUG to progress in its desired direction.

The second challenge—or dilemma—relates to the role of the facilitator in an adaptive collaborative management approach. Facilitators appeared to be critical to triggering and supporting the feedback loop and changes described above. What would happen in their absence in the absence of the externally-led (i.e., researcher) facilitation team? The followup ACM project (2004–2007) sought to answer this question and ascertain the long-term utility and appropriateness of an adaptive collaborative management approach by assessing the changes in process and outcome that occurred in 2002–2004, when there was no intervention or facilitation (i.e., in the gap between the first and the followup research phase). If the adaptive collaboration continued during this time, it would have been under the direction of the CFUGs themselves and thus an indication of institutionalisation of the approach.

Interim assessments indicate that the CFUGs did institutionalise and continue to use the processes and arrangements triggered by the approach, especially visioning, self-monitoring, and *tole* committees as a link to the CFUG committee. In the assessments, CFUG members and other informants indicated that the collaborative and learning-oriented attitudes and capacities developed during the project appeared to have been generally maintained or slightly increased during the gap period. Finally, in terms of outcomes, most action plans initiated during the first phase project continued. For example, the low-caste group members of Deurali-Bagedanda CFUG who had planned for a sawmill during the first research phase continued discussing the plans, although they could not begin implementation until they secured financial support in 2006. Moreover, a nursery that was established in Bamdibhir CFUG continued through the gap into the second phase. In both cases, this represents more activeness and success than the CFUGs had generated prior to their developing an ACM approach.

However, although the overall approach was maintained during the gap between project phases, as described above, the continuous feedback and improvement cycle linking shared learning processes, governance structures, and outcomes seemed to maintain as much momentum. Processes and activities continued, but the more essential soft elements and attitudes plateaued and—in our view—may not have been fully institutionalised. One indication of this was that the time invested in CFUG processes by members and facilitators dropped in all sites between research phases. For example, the frequency of *tole* meetings dropped from monthly to approximately every six months. Some users suggested that because so many major issues

had been addressed and new processes, such as self-monitoring, had been established during the first research phase, the subsequent need for time investments dropped. We also suggest, however, that despite efforts to transfer facilitation roles from researchers to local actors by the end of the first phase, it is likely that CFUG members, including potential facilitators, had come to view facilitation as the responsibility of outside actors. They likely felt some lack of ownership over the *tole* meetings, and the meetings became less active and effective.

Thus, issues of ownership and local facilitation are critical. Based on our assessments, the diminished facilitation in the interim period is associated with decreases in overall momentum and outcomes (rather than ongoing albeit oscillating constructive evolution that occurred with facilitation). In two Bamdibhir and Deurali-Bagedanda, local actors continued to facilitate CFUG processes (although less actively than in the first phase), whereas in Manakamana and Andheri Bhajana, the facilitation role played by local actors either did not take root or decreased significantly for various reasons. The overall pattern, based on our preliminary assessments, was that the two CFUGs that had more facilitation by local actors in the 2002–2004 period experienced greater positive change in access to decision making for marginalised users, transparency, and equity in distribution of forest benefits. Interestingly, in both these sites, the facilitation was largely taken up by local actors who were engaged in the meso level (such as through district-level FECOFUN) rather only at the CFUG level. We continue to explore these questions: in the second research phase the facilitation is being led from the outset entirely by local and meso-level facilitators rather than by researchers. Indications at the time of writing are that the careful selection, training and backstopping of all facilitators from the outset of a change process—as well as the networking of these facilitators across sites and levels—is a much more powerful tool for institutionalising changes in community forestry process and practice than leadership by 'external' facilitators with efforts to transfer roles.

Conclusions

Community forestry has evolved and matured impressively in Nepal. The context is so complex and dynamic, however, and the need to produce equitable livelihood benefits so urgent that more inclusive, flexible and responsive practices are essential. In this chapter we have highlighted lessons from participatory action research about such innovation. The

experiences of the Adaptive Collaborative Management of Community Forests Project indicate that numerous practices, including processes and structures, can help CFUGs become more effective and responsive learning institutions (i.e., increase their adaptive capacity) as well as more equitable and inclusive in their governance within and across scales (i.e., increase their collaborative capacity). These experiences also suggest that members' ability and desire to cultivate enabling attitudes, dispositions, skills and behaviours are critical drivers of adaptive and collaborative capacity. As these practices and factors take root, the groups become more active and more successful in meeting their goals, including creating conditions for potential improvements in livelihood. Of utmost significance is that the adaptive and collaborative management approach, when effectively facilitated, appears to trigger interest in equity within the CFUG and creates opportunities for shifts in power relations, opening up political space for marginalised users. Although multiple factors may influence such change, one linchpin to these shifts in all cases appears to be the iterative nature of the social learning that forms the basis for an adaptive collaborative management approach. Through such learning, transformation of perspectives and patterns of thought becomes possible, linkages are established, and attitudes and actions evolve that may ultimately empower communities to generate greater forest benefits in an equitable and sustainable way.

Endnotes

1 This chapter is drawn primarily from McDougall *et al.* (2002), Final Research Report of the Nepal ACM Teams to the Asian Development Bank (ADB) under ADB RETA 5812, thus our sincere appreciation goes to the ADB. The research was a formal collaboration of Nepal's Ministry of Forestry and Soil Conservation and the Center for International Forestry Research. It was undertaken with the research partners NewERA, the 'Kaski ACM Team' of independent consultants based at NORMs, and Forest Action in collaboration with a researcher from the ministry. The findings presented in this chapter emerged from the hard work and commitment of the research team members and collaborators. Besides the authors, these individuals were S. Dangol, C. Khadka, K.P. Paudel, B.K. Pokharel, S. Regmi, K. Sharma, H.L. Shrestha, N. Sitaula., N. Tumbahangphe, L. Upreti and H. Uprety. We would also like to express sincere thanks to Dr Keshav Kanel, Mr K.B.Shrestha and Dr Bharat Pokharel for their contributions to the project as international steering committee members and to the staff of the Nepal Forest Department (Community and Private Forest Division), Livelihoods and Forestry Project (UK), Nepal-Australia Community Resource Management Project, Natural Resource Management Sector Assistance Programme of HMG-N/Danida, Nepal-Swiss Community Forestry Project, and Federation of Community Forestry User Groups of Nepal (FECOFUN, central level)

for their sage input throughout the project. Last, but definitely not least, we would like to acknowledge the tremendous commitment and contributions of the CFUG members in Manakamana, Andheri Bhajana, Deurali-Bagedanda and Bamdibhir Khoria, the District Forest Office and FECOFUN staff in Kaski and Sankhuwasahba, and the many other individuals and organisations at the local, district and national levels that engaged in the project. The chapter draws further insights from the International Development Research Centre–funded project of CIFOR and partners ForestAction and NewERA, entitled Improving Livelihoods and Equity in Community Forestry in Nepal: The Role of Adaptive Collaborative Management. Again, we thank all our collaborators. Our gratitude also goes to Bob Fisher and Sally Atwater for their editorial inputs. The views and any errors in the chapter are solely the responsibility of the authors.

2 There is no connection between 'collaboration' or 'adaptive collaborative management', as we use them here, and the 'collaborative forest management' model being implemented on a trial basis in the Terai (the southern plains of Nepal adjoining India) by the Ministry of Forests and Soil Conservation.

3 By social learning, we refer to a process in which 'multiple stakeholders bring together their different knowledge, experiences, perspectives, values and capacities for a process of communication and critical reflection as a means of jointly understanding and addressing shared challenges and potential options' (McDougall *et al.* 2002: 28).

4 Forest Action and NewERA, nongovernmental research organisations, led the CFUG and district-level research; ERI, a private company, facilitated the national-level research. The latter was a collaborative endeavor of an informal 'national policy learning group' comprising members of government, nongovernmental organisations, researchers and independent consultants. This project is a part of, and reliant on, a dynamic network of collaboration at all levels amongst governmental, private, civil society and bilateral partners in community forestry.

5 DFID and World Bank (2006) base their data on the Nepal Living Standards Survey II (2003–04).

6 When local governments (such as village development committees and district development committees) were dissolved, CFUGs also played a significant symbolic sociopolitical role during this period: after the suspension of elected local and central government, community forestry—with its locally elected decision-making bodies—were an important reminder of a hard-won democratic tradition.

7 The caste-based practices were legalised for the entire country in the civil code of 1854 (Bista 1991) but declared illegal by the New Civil Code of 1963.

8 By 'meso level' we refer to the actors, institutions and processes that operate between the local community forest user group and the national policy-making level. This is an important intersection of market, civil society and government actors who individually and jointly influence the governance of the forest commons (Paudel *et al.* 2006).

9 Agrawal and Ostrom (2001) consider four layers of rights in resource governance: to use, to manage, to withdraw and to alienate. The last is the highest-order right, and it refers to activities such as converting forest to agriculture or selling the forestland. These rights are not granted to CFUGs by the forest law.

10 At the same time, the concept of 'community' in community forestry is intended to include all users of a particular forest (Winrock 2002). Because geopolitical

boundaries are not always a perfect fit with de facto and traditional uses of forests, the formation process of CFUGs (and their ongoing membership processes) face challenges.

11 Nurse and Malla (2005: 4) in fact suggest that 'There are further indications that only one-fourth of all [C]FUGs function effectively and manage the resources actively and equitably, while in the remaining three-fourths, the poorest and most dependent members may actually be worse off'.

12 In tackling these objectives, the research project acknowledged that some other actors and organisations were also recognizing these underlying problems and addressing them by promoting strategies such as CFUG-CFUG linkages, community animation and other initiatives. This potential synergy reinforced the need for an integrated as well as collaborative approach to the research.

13 The comparative case studies focused on assessment of existing CFUG approaches, including processes and arrangements, and on their outcomes, successes and challenges. The case studies were Sharada Devi CFUG, Kavre District; Rani CFUG, Makwanpur District; Raktamala CFUG, Saptari District; Bhadaure Pakha CFUG, Terhathum District; Judhabir CFUG, Parbat Distrct; Koidim CFUG, Tanahu District; Barandgi Kohal CFUG, Palpa District; and Janaki CFUG, Dadeldhura District. These span regions from the Terai (i.e., the plains), lower-middle to upper-middle hills and from the eastern, to central, to mid- and far-western regions.

14 Through advisors and other linkages, the project also engaged in numerous formal and informal partnerships with other institutions, such as FECOFUN, and individuals. Although these collaborators are too numerous to identify here, it is important to note that any success the project achieved in meeting its goals was directly linked to this web of partnerships.

15 In all cases, while researchers generally had an initial 'action' in mind when they began (i.e., hosting a CFUG self-monitoring workshop), specific subsequent actions were planned only as processes and learning unfolded over time. As they worked with local stakeholders and jointly planned and reflected on options, research teams tried to ensure that innovations continued to be guided by the ACM elements (Chapter 2). Thus 'they had the ACM elements in mind as "beacons" but were making their own paths' (McDougall *et al.* 2002: 90).

16 The 'elite' are not a homogeneous group, just as 'the poor' are also not homogeneous, as Hobley (2007) points out. She usefully suggests viewing the elite in categories according to their relationship with the poor: patron-client elites, neutral elites and propoor elites.

17 This lesson aligns with the suggestion of the French philosopher Bourdieu that a substantial cultural core of beliefs, ideologies and schemes of perceptions and thought ('doxa') inscribe learning and human action (Ojha 2006).

18 By 'ACM-related' activities, we refer to the nature of the process or activity rather than its source institution. In other words, we include both those directly emerging from the ACM project and those that were ACM-related but initiated from other partners. For example, the UK Livelihoods and Forestry Project catalysed the multistakeholder meso-level planning process in Sankhuwasabha, in which the ACM researchers and local partners participated. It was ACM-related because it focused on increasing social learning and collaboration across CFUGs.

19 A description of the meso-level research is beyond the scope of this chapter.

20 The Maoists' targeting of some perceived elite was also a factor.

21 We note that the first two trends have a complex relationship. Increased forest health can increase available benefits. Yet if the forest is then heavily harvested, a negative feedback loop occurs: forest health decreases. We are therefore looking for indications of that benefits and forest health are in balance (i.e., optimisation of benefits).

22 In fact, some tradeoffs are also noticeable between forest regeneration and 'forest products'. In some sites, even prior to the ACM project, increasing forest regeneration was reducing the availability of fodder and grass.

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Chapter 4.

Shaping Opportunities for Improving Forest Quality and Community Livelihoods in Central Sumatra and East Kalimantan, Indonesia[1]

Trikurnianti Kusumanto

THIS CHAPTER SHARES the experiences of CIFOR and partners' Indonesian research team[2] in adaptive collaborative management (ACM) in Jambi, central Sumatra, and Pasir, East Kalimantan. Through social assessment combined with participatory action research, the research project sought insights on the preconditions, strategies and outcomes of fostering learning-based collaboration among different actors in forest management. The researchers hypothesised that by creating opportunities for shared learning among forest actors, forest initiatives using an ACM approach could contribute to more equitable and effective management of Indonesian forests by local people.

The chapter starts by describing the context of forest management in Indonesia. It then explores the limitations of existing people-oriented forestry policies and programs in Indonesia, the possibility that a learning approach is warranted in such initiatives and the potential for an ACM

approach to make a difference in both forest quality and human well-being. A description of the research project and the stages of an ACM approach in action follows. The chapter then shares the challenges, strengths and limitations of the ACM approach that were illuminated by the research. A concluding section offers implications for a wider application of ACM in Indonesia.

Context: divergence, inflexibility, and chaos

Indonesia's forests, the third largest after Brazil and Congo and among the most diverse in the world, provide essential social, economic and environmental goods and services to rural and urban communities throughout the Archipelago. Conservatively estimated, the livelihoods of at least 65 million rural people depend on these forests (Fay and Sirait 2002) and on water flows to agricultural, industrial and urban areas regulated by forest ecosystems. From a national economic view, forestry industries rank second only to petroleum in contributions to the country's gross domestic product (Barr 2002).

Despite the significant role that forests play, forest management is beset by problems. Severe deforestation and forest degradation, partly the result of state structures and partly driven by the lucrative national and international trade in forest products, have hurt local livelihoods, reduced biodiversity and undermined ecosystem functions. Where forests have remained relatively productive, disputes often surface among people competing for the same resources. Often in such situations, however, mechanisms to manage conflicts in a just and effective way are lacking (Wulan *et al.* 2004; Yasmi 2007). Altogether, these problems have eroded the quality of forests and rural people's livelihoods.

Indonesia's policy landscape is complex and characterised by state dominance and political foment. Some 70 to 80 percent of Indonesia's area is considered state forest, given in mandate to the Minister of Forestry for the regulation of its use and management (Contreras-Hermosilla and Fay 2005). The national government has allocated more than 60 million hectares of forest to commercial logging companies (Barr 2002). The consequences at local levels have been far-reaching: communities living within and close to state forests have been invisible to government planners, with the result that community lands are overlain by concession

areas, resettlements projects, large-scale plantations and mines, in a negation of local people's systems and rights (Colchester *et al.* 2003). At the local levels, overlapping claims create a chaotic environment for forest management decision making, essentially resulting in forests' being treated as open access. Decentralisation has made the policy context even more complex (Box 4-1).

Box 4-1. Decentralisation: complicating forestry policy

Processes of decentralisation—beginning in late 1998 with the process of reform following the Asian financial crisis—have exacerbated the complex policy context. Competing claims on forest resources have now prompted official rulemaking over resources and, hence, power plays. A tug-of-war about where to position the locus of authority over forests has continued between national and local governments and between neighbouring jurisdictions, such as villages or regencies (Dermawan and Resosudarmo 2002; Syam *et al.* 2003; Wollenberg *et al.* 2006; Komarudin and Moeliono 2007). Often, decentralisation merely creates opportunities for the local elite to assert disproportionate claims for strengthening their power base (Wollenberg *et al.* 2006).

For our present discussion we underscore two major factors. The first is the multiple claims on forests by different actors with incompatible interests. It is not rare, for example, that local people's multiple-use linked to rotational agriculture competes with large-scale commercial management for logging or with government conservation projects on the same forest. Historically, most conflicts have been settled by force, with the more powerful stakeholders often supported by the government (Peluso 1992; Colfer and Resosudarmo 2002). Even where negotiation has been tried, particularly fostered by decentralisation, imbalances in power status usually make the outcome preordained (Li 1999 cited in Edmunds and Wollenberg 2001; Fay and Sirait 2002; Colchester *et al.* 2003). In addition, because of inadequate state structures and regulations, competing claims and associated conflicts are rarely managed successfully.

The second factor relates to the nature of the management systems. Most management systems, whether practiced by the government or by local people, lack the necessary structures and processes to deal effectively with new challenges and demands, such as those brought about by liberal market forces or public calls for a more balanced resource distribution. Government management systems, favouring science-based, top-down

strategies, generally lack the feedback mechanisms that are necessary to incorporate new management information (e.g., the changing resource needs of local stakeholders) and adjust management to new conditions. Local people's forest management systems, on the other hand, are to some extent responsive to local changes (e.g., people adopt shorter fallow periods if the population increases) but are weak in responding to new demands (like assuming greater decision-making role under decentralisation) and rapid changes at wider levels (like those generated by economic globalisation). At the local level, because of recent social and economic pressures, earlier local systems of control and management have eroded and, where still existent, tend to be weak where forest resources are subject to competing claims (Wollenberg and Kartodihardjo 2002; Campbell 2002). They often lack legitimacy because local people are losing trust in their local leaders, who are often accused of pursuing their own interests, or these systems lack official support. As a consequence, the internal cohesion and legitimacy necessary to navigate complex and changing management situations is missing.

Limits of current approaches

Attempts to deal with the problems date to the early 1970s on Java and the mid-1980s on the other major islands. In response to the failure of commercial extractive forestry in sustaining forest quality and people's livelihoods and to the increasing conflicts between forestry projects and local communities, attention has progressively been paid by government, the international donor community and nongovernmental organisations to participatory forestry activities. Indeed, the participation of local people in forest management has been formally accepted as a fundamental basis for effective sustainable and equitable forest management.

Nevertheless, despite almost four decades of people-oriented efforts, the unsustainable and inequitable use of forests continues unabated. We believe that the limited success of participatory initiatives thus far is due to their inadequacy in addressing the two identified factors underlying the problems: incompatible claims on forests and the inflexibility of most management systems to adapt to changes.

Addressing divergent claims on forests

Participatory efforts have often assumed that local communities are homogeneous, with component parts in agreement about how to use and manage forests. However, in many forest communities socio-economic stratification has been increasing (Li 1996), and most participatory forestry efforts lack the instruments to accommodate the interests of disadvantaged groups (such as women or hunter-gatherers) and for encouraging collaboration at the local level.

Furthermore, decentralisation and increasing market forces have introduced a wide array of stakeholders besides local people and public agencies and have stimulated the emergence of local elites and alliances of powerful actors who usurp local control over resources (Wollenberg *et al.* 2006). Most participatory initiatives have not anticipated the changing relationships among actors due to wider-scale political economic changes. Nor are they equipped with the negotiating tools or other multiple-stakeholder strategies to help interest groups cope with changing relations and associated power plays. It is commonly thought that incompatible claims on forests can be addressed without recognising power relationships. 'Keeping politics in a distance' is the implicit motto of most participatory initiatives.

Addressing institutional inflexibility

Participatory government programs like *Perhutanan Sosial* (social forestry) or *Hutan Kemasyarakatan* (community forestry) tend to be top-down, target externally defined objectives, use command-and-control modes of implementation and deploy monitoring indicators that are not local-specific. Though labeled participatory, these efforts remain embedded in economic and science-normative institutions and broader political-economic regimes, leaving little room for process-oriented approaches. Although governmental forestry institutions are increasingly aware of the shortcomings of their policies, they seem not to know how to respond to the new demands placed on forestry and how to move ahead. Nor has the international community meaningfully influenced government structures in support of local participation.

Very locally focused participatory forestry initiatives, largely led by nongovernmental organisations, often assume that local participation and 'community empowerment' suffice to overcome forest management

problems. And yet as described above, local systems tend to be nonadaptive, incapable of responding to new demands and rapid changes at broader levels. Consequently, because community-focused initiatives do not link to these to wider-level structures and processes, local action often runs up against the constraints associated with higher-scale dynamics. Indeed, the legal and policy setting of forest management all too easily creates cultural, legal, economic and political disincentives for local people to sustainably manage their resources.

Can adaptive collaborative management work?

The conditions that have thwarted participatory forestry initiatives are primarily social: these initiatives have failed to address the complex dynamics of societal change—in particular, the changing relationships between interest groups in evolving political and socio-economic conditions. This observation was the spark for the research project: would an adaptive collaborative management approach be useful in the Indonesian context, where forest management decision making seems to be uncertain and chaotic, and make a difference in forest quality and human well-being?

In our view, ACM was worth investigating in the Indonesian setting in part because it placed the concept of learning at the centre but also because it had the potential to bring about on-the-ground changes to forests and people's livelihoods. A core thrust of ACM is 'social learning' (Chapter 2). In social learning, individuals or groups communicate with one another to understand shared problems, explore solutions and negotiate options and eventually make collective decisions (e.g., Maarleveld and Dangbégnon 1999; Jiggins and Röling 2000). Social learning enables adaptation to adjust management.

ACM also became interesting as a potential means for Indonesia's institutions—particularly the dominant top-down, science-based ones—to learn their way out of the tensions between old practices and new demands. For institutions, social learning involves not only microlevel processes (e.g., learning among stakeholders about the uses of a given forest area) but also the ways in which existing institutions interact (Woodhill 2002). In the rest of this chapter the term learning rather than social learning is used, but throughout, the concept of social learning forms the basis of the discussion.

Research project methodology

To investigate the potential of an ACM approach to enhance participatory forest management initiatives, the Indonesian ACM research team undertook field assessments and participatory action research from 2000 to 2002 in two sites, on the islands of Sumatra and Kalimantan. The field assessments, intended as context studies for the participatory action research, used traditional and participatory methods of data gathering data on local history, ecology, society, economies, and policies. Field teams composed of CIFOR researchers[3] and community facilitators from local nongovernmental organisations (NGOs)[4] facilitated the participatory action research, engaging local stakeholders so as to ensure their ownership of the research.

The action research operated at two levels: in one, ACM processes guided by participatory action research engaged the different actors and were catalysed by the team, working as facilitators; in the other, a more traditional 'extractive' approach, the researcher observed and analysed these processes. Thus at times the researcher located her/himself within the group, and at other times was outside, taking the role of facilitator of processes and researcher of those processes, respectively.

Research Sites[5]

The two selected sites (Figure 4-1) are known for their dipterocarp forests and high-value timber, the most important forest product in the country. Forest cover, however, is rapidly decreasing: between 1985 and 1997 the forest cover of Sumatra and Kalimantan decreased by 25 to 29 percent and 21 to 25 percent, respectively (Forest Watch Indonesia and Global Forest Watch 2001). Excessive logging, forest fires and land-use conversions (to oil palm plantations, resettlement projects, and agricultural land) have been major causes of this deforestation. The two sites exemplify the local ramifications of the problems of forest management.

Figure 4-1. *Baru Pelepat, Jambi Province, and Rantau Layung and Rantau Buta, Pasir District, East Kalimantan Province*

Baru Pelepat in Bungo District, Jambi Province

Baru Pelepat village in Jambi Province (central Sumatra) is situated about 65 kilometers east of the Kerinci Seblat National Park—one of the four largest conservation areas in Southeast Asia. It is located along the upstream of the Pelepat River, part of the watershed for the major rivers of Jambi. Forest cover, mainly secondary growth, is still significant and has evolved as part of the traditional swidden system, based on fallow rotation. Small patches of primary forest can be found on the higher parts of the landscape. Since the mid-1970s, development has focused on large-scale timber extraction, resettlement projects and oil palm plantations.

Thus far, the community has witnessed these developments only from the sidelines. The village community is diverse[6] and comprises indigenous people (descended from the matrilineal Minangkabau of West Sumatra), settlers from various ethnic groups (Javanese and Jambi), and a nomadic group calling itself *Orang Rimba* ('people of the forest')[7]. The Orang Rimba have remained almost fully forest adapted, while the Minangkabau group practices an agroforestry system that includes the planting of rubber. The

gathering of nontimber forest products (like rattan and fibre for own consumption or sale) by the Orang Rimba and the Minangkabau groups has virtually ended because of these products' scarcity. Driven by external market forces and excessive logging by outsiders, the Minangkabau group began their own logging in nearby forest are in the mid-1980s. The settlers—who have lived in the village since 1997—are predominantly engaged in agricultural crop farming and the cultivation of perennials like coffee or rubber on allotted holdings. Some, however, have adopted the indigenous population's rotational agriculture and have been engaged in logging.

Rantau Layung and Rantau Buta in Pasir District, East Kalimantan

The neighbouring villages of Rantau Layung and Rantau Buta in Pasir District (East Kalimantan) are situated between Lumut Mountain and the Kasungai River, approximately 202 kilometres southwest of Balikpapan. The villages are part of a microwatershed of the Lumut Mountain ecosystem and are situated in a logging concession area. Parts of the forest considered by the villages to be theirs are located within the Lumut Mountain Forest, which was formally designated in 1993 as protection forest. Surrounding the villages are mainly second-growth forest areas interspersed with community agricultural lands and forest gardens with fruit, coconut trees, rattan on distinct holdings and large-scale logging tracts. Primary forests can be found near the border of the protection forest. The majority of the people in the two villages are of Dayak Adang descent, and a minority belong to the Banjar and Javanese ethnic groups. In the past, the people made a livelihood practicing rotational agriculture and selling rattan collected from the forest or forest gardens. As result of forest fires and commercial logging, however, the availability of forest products like rattan, fruit, and honey has seriously declined. Having witnessed the increasing commercial logging in the area and driven by external market forces since decentralisation, local people have become more engaged in the logging of timber, beginning in the early 1990s.

Institutions, actors, and policy setting

In both sites, customary institutions regulate the management of natural resources at community level, including boundary setting, land-use planning and development and enforcement of customary rules. The government, however, does not officially recognise these institutions, and

since customary lands are unmapped (hence not protected by law), some tracts overlap with state forest, are given in concession to logging companies or become government resettlement projects. In Jambi, for instance, the government converted communal land that it considered state forest to a resettlement project. Further, since the Lumut Protection Forest in Pasir was established, the community has not been allowed to clear forest for agriculture, as it used to do. Customary regulations are not adequate, either. They have failed to accommodate the different interests that have arisen with the settlement of people from other regions, and traditional institutions' authority has waned because people no longer trust some local leaders. The sites are therefore good examples of the way the Indonesian policy setting has complicated local-level forest management.

Table 4-1 lists the actors who have a stake in the management of natural resources. Stakeholders who are directly affected by management decisions are prioritised based on stakeholder analyses carried out by the field teams[8].

Table 4-1. *Stakeholders*

On site	*Off site*
Baru Pelepat, Jambi	
Nomadic *Orang Rimba* (women and men) Indigenous community (women and men) Settler community (women and men) Village elite Youth Customary institution Village government Religious institution Women's groups	Neighbouring hamlet of Lubuk Telau Six neighbouring villages ICDP project/NGO (at time of research) District planning office District forestry service District transmigration agency Office of the Bupati (district head) Logging companies (Inhutani V, *Koperasi* Lamusa, at time of research) ACM facilitators CIFOR researchers
Rantau Layung and Rantau Buta, East Kalimantan	
Farmer groups (women and men) Youth (women and men) Forest workers (men) Elderly (men) Village elite (formal government officials and customary leaders)	Neighbouring villages (Kasungai, Batu Kajang) Sawmill owners Subdistrict formal government (Batu Sopang) Forest workers from neighbouring villages Logging companies (PT Telaga Mas, CV Teguh Maronda Prima, at time of research) District forestry service Regional planning agency District environmental impact agency ACM facilitators CIFOR researchers

ACM approach in action

This section gives an overview of the ACM approach taken by the local actors, supported by facilitators and the research team, in the two research sites. It describes a possible model for community forestry—as developed and tested through the participatory action research of this project. We refer to the implementation of the approach as an intervention because the ACM approach was being considered as a way of adding strength to existing participatory forest management initiatives in Indonesia. The section first describes the interventions in the two sites, emphasising the differences that reflect the differences in contexts. There follows a discussion on the process of the interventions.

Different 'interventions' for different conditions

Different site conditions called for different facilitative interventions whose direction was determined by the priorities and interests that the local stakeholders identified by during the context studies.

The ACM intervention in Baru Pelepat village had as a starting point four problems cited by community stakeholders:

- unclear boundaries of the community's customary forest area and, hence, an insecure legal basis for resource management (indicated by harvesting by outsiders);
- poor social relationships in the community (e.g., between settlers and original people, and between the village elite and wider community, indicated by low levels of interaction and reciprocity, trust, collaborative action, and occasionally social conflict);
- weak community decision-making institutions (indicated by low participation of women and settlers); and
- insecure livelihoods because of the lack of alternatives to timber logging.

Given those problems, and to keep pace with broader socio-economic changes and demands from decentralisation, community actors saw the need to increase their self-reliance and institutional capacity. This would, as perceived, in turn lead to the betterment of standards of living. ACM was therefore aimed at creating community-wide learning to help people achieve their goals.

In Pasir, conservation of forest resources conflicted with interests in improving local living standards, and current employment options were dictated by

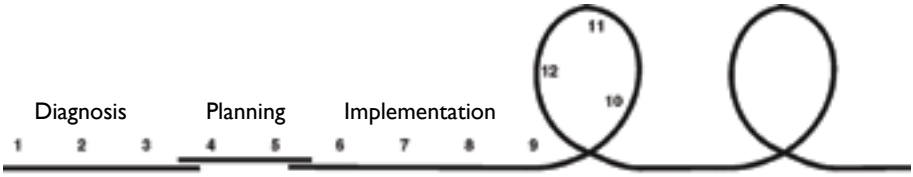
outsiders—government officials and commercial logging companies. The ACM intervention was designed to address the following problems:

- Livelihood options were limited because the village area and the Lumut Mountain Protection Forest overlapped, and villagers were excluded from the benefits of logging by the timber companies.
- The relationship between community actors (particularly between community and village leaders) was weak, with low social capital and poor communication and information exchange.
- The capacity of communities to communicate and negotiate with outsiders was limited by their lack of confidence in dealing with government agencies and distrust of the timber companies.
- Little information was exchanged between communities on the one hand and government and companies on the other.

ACM in East Kalimantan sought to incorporate two aims: improving local people's livelihoods, and advancing their bargaining position in negotiating with outside actors about the management of natural resources and the benefits derived from them.

ACM 'intervention' process

Although the two interventions focused on different problems in different contexts, both sought to create conditions for learning rather than achieve particular targets. The interventions proceeded in three phases: diagnosis of problem situations, planning and implementation. From the three-phase cycle, it may seem that an ACM intervention does not substantially differ from program cycles in general. What distinguishes the ACM approach from other interventions is its deliberate learning. As discussed below, the implementation phase comprised the typical iterative steps of an action research process: observation, planning, action, and reflection (Figure 4-2). It was in particular the iterative nature of the implementation phase that shaped conditions for learning and enabled stakeholders to adapt their plans.



Diagnosis
1. Identify problem situations
2. Identify other stakeholders with stake in same problem situation
3. Develop mutual appreciation of stakes that others have in problem situation

Planning
4. Frame problem situation
5. Find strategies to improve problem situation

Implementation
6. Observe
7. Plan
8. Act
9. Reflect
10. Plan
11. Act
12. Reflect

etc.

Figure 4-2. *Three phases of ACM intervention*

Diagnostic phase

The diagnosis of problems makes explicit people's concern so that they can communicate about them and take action. This phase was essential: it laid down the basis for subsequent processes of learning and collaboration. No strict prescription guided how long this phase should last. In Jambi the diagnostic stage required about six months, but in Pasir it took less than two months. It comprised three steps, all carried out by the local actors:

- identification of problem situations;
- identification of other stakeholders; and
- development of mutual appreciation about the stakes that others had in a given problem.

In practice the three diagnostic steps were not discrete, in neither time nor substance; rather, they overlapped with one another. Moreover, the order of the three steps was not strictly consecutive; instead, they blended flexibly into one coherent process.

The identification of problem situations aimed at finding and agreeing on local priorities, which in both sites centred on livelihoods. Local stakeholders expressed their specific priorities as 'learning questions' (Table 4-2) to guide them in their action research.

Table 4-2. *Learning questions of action research*

Jambi	Pasir
How can the community obtain acknowledgement of its customary area from neighbouring communities and government?	How can the communities obtain recognition for their traditional area from government, neighbouring communities and logging companies?
How can the community's organisational and institutional capacities for natural resources management be enhanced? How can representation of the diverse stakeholders, including women, be improved? How can collaboration between the traditional and formal village government be enhanced?	How can the community improve the capacity of local institutions?
What strategies can be developed to improve community livelihoods?	What alternatives to timber logging can be developed for improving community livelihoods? Are improving access to rattan markets and utilising a past shifting cultivation area viable options?

The second step was the identification of stakeholders and their underlying interdependences. Not all stakeholders with interest in a problem might be aware of others with a stake in the same problem or know about interdependences. Some actors might in pursuit of their interests ignore other stakeholders. An example from Jambi was the failure of the village elite—members of the original Minangkabau—and men to include women in community decision-making. As they came to understand the diversity of people's positions and underlying interdependences, stakeholders began to reflect on the complexity of the problems. This stage of the diagnosis helped the actors see situations from a system perspective. Their learning covered different aspects, as shown in Table 4-3.

Table 4-3. *Learning aspects for identification of stakeholders: examples from Pasir (Adnan, personal communication, 2003)*

Learning aspect	*Characteristic of stakeholders identified by communities*
The stakes and viewpoints of others and how these relate to the own stakes and viewpoints	Forestry agency protects and manages forest resources in relation to the community's livelihood needs
Perspectives to consider in problem solving	Communities consider themselves the forest owner and depend on forest resources for their livelihoods. They believe that the district forestry service is aware that under current decentralisation it should use bottom-up approaches
Resources and capacities possessed by stakeholders to solve problems	Communities are aware of their own local wisdom about the forest. They see the district forestry service as responsible for making long-term plans for forest development
Expectations from other stakeholders from (potential) collaborative efforts	The district forestry service is expected by communities to agree upon village boundaries and protection forest

The third step—developing of mutual appreciation amongst stakeholders—involves determining who has legitimacy to participate in collaborative efforts. This was also part of the diagnosis, since developing appreciation towards others' interests requiring knowing them. Some analysis was necessary. Whether a given stakeholder showed appreciation towards other stakeholders in collaborative efforts depended on the stakeholder's perception about the right and capacity of others to participate (Rogers and Whetten 1982 cited in Gray 1985). Helping stakeholders reflect on the basis for their perceptions about others' rights and capacities (value, interest, skills and knowledge, resources) was the key. Box 4-2 shares the example of how women of the original Minangkabau population and the settler community in Jambi learned to reflect on their respective perceptions.

Box 4-2. Women's preconceptions about original and settler communities

The women's loan and savings activities in Jambi, assisted by our women's facilitator, offered a way for the original Minangkabau women and settler women to reflect on preconceived perceptions of each other. When we started, the women settlers told us that they had felt discriminated against by the loan and savings group regulations and that Minangkabau women had received preferential treatment. Not surprisingly, the Minangkabau women disagreed. The women's facilitator then began encouraging the women to explain to each other what the loan and savings activities meant for them. The sessions revealed that the loans had helped the Minangkabau women meet day-to-day household financial needs, but most settler women saw the activities as an opportunity to learn about local circumstances and culture. As the women reflected on their respective concerns, they began analysing the conditions that explained the actions and behaviour of the women from the other group. (Diaw and Kusumanto 2005)

Planning phase

The aim of the planning phase was to generate strategies to improve the identified problem situations and make plans for implementation. Basic ingredients here were the stakeholders' knowledge about problem situations and their resources and capacities for making joint improvements, both identified in the diagnostic phase. By aiming at improving problem situations, rather than solving problems, it was expected that conditions for learning would be created. Too much emphasis on finding solutions might encourage the actors to propose different or competing solutions, putting different stakeholders in opposition to one another. Moreover, a particular problem might have various solutions, and stakeholders with different backgrounds and capacities could bring their specific strengths to the collaborative processes.

The planning phase comprised two stages: framing problem situations, and finding strategies to improve these situations. As in the diagnostic phase, the stages here were not discrete or structured but rather mingled into one planning process. In both case studies, the planning process lasted an extended period and was not a single event.

Problem framing was necessary to begin the search for joint strategies. It facilitates learning in complex settings, as where a given problem situation

may have varying underlying causes (Box 4-3) and can be improved in different ways. In the field, the mechanism for problem framing was an exchange of information to search for facts that were accepted by all actors. Collective knowledge developed as the search process evolved, sometimes supported by fact-finding activities. Box 4-4 gives an example of a problem framing exercise.

Box 4-3. Problem framing: crop damage by pigs

It is often thought that if stakeholders have jointly identified a given problem situation, they will all view that problem from the same perspective. We learned that this is not necessarily the case: different stakeholders may see different causes for a problem, as the following example shows.

The Orang Rimba in Jambi saw the rampant devastation of food crops by pigs as a problem of external origin. The pigs came from distant places where forest resources had decreased and were searching for new habitats. The Baru Pelepat community, on the other hand, thought that clearing of small forest patches by community members caused the problem, and that if larger areas had been cleared, as in the past, the pigs would be less likely to form herds and destroy crops.

The Orang Rimba believed that the solution should be hunting the pigs, whereas Baru Pelepat community members suggested starting dry fields in grouped localities. This is an example of how different stakeholders in search of solutions see the same problem from different angles. (Kusumanto *et al.* 2005)

Box 4-4. Problem framing: unclear village boundaries

The issue of boundaries was one of the six 'learning questions' identified by community actors. The Baru Pelepat community had to negotiate village boundaries with the neighbouring community of Sungai Beringin. Although the communities agreed that the village boundaries were unclear, they had different views on how the problem should be tackled. They began by exploring their common knowledge and agreements about the boundaries. Although the two communities had different traditions regarding natural resource boundaries and management, there were—to their own surprise—certain geographical points and customary values that both shared. When communicating and sharing knowledge in search for shared values did not help, they conducted field visits for joint fact-finding. Gradually, collective knowledge took shape. People discovered that because the problem situation could be approached from different perspectives, strategies for making improvements in the situation were diverse as well.

The search for strategies to improve situations took the form of a joint exploration of possible futures, followed by exercises to match these options with the resources and capacities of the stakeholders. This visioning process helped generate a sense of common purpose, especially as actors jointly explored, defined, and eventually agreed on their roles and responsibilities. Box 4-5 shows the roles and responsibilities that stakeholders in Pasir agreed upon during a multistakeholder meeting, including those of the agencies with which our team members were affiliated.

Box 4-5. Roles and responsibilities for improving people's livelihoods

- The district forestry service provided seedlings for fruit trees and organised trainings on how to plant and tend the seedlings.
- The local communities of Rantau Buta and Rantau Layung planted and took care of the seedlings. They agreed to form farmer groups, each responsible for a particular area.
- CIFOR researchers and PADI NGO facilitators were responsible for organising and facilitating learning activities. (Hakim 2002).

Implementation phase

The implementation phase transformed the direction set by the planning phase into concrete action. As in the other intervention phases, ACM promoted learning, and it was the iterative nature of particularly this phase that made learning possible. Iterative stages of joint observation, planning, action, and reflection (the typical action research process) guided the stakeholders in a structured and conscious way through processes of planning, action, and adaptation. In this way, the monitoring of plans and actions was built into the process. Figure 4-3 gives an example from Pasir.

Two particular aspects of learning were essential for stimulating collaborative processes in the implementation phase: joint investigation and joint reflection. Two stages can therefore be distinguished throughout the implementation phase: joint investigation to assess the status of the problem situation, and joint reflection to learn from the effect of the actions.

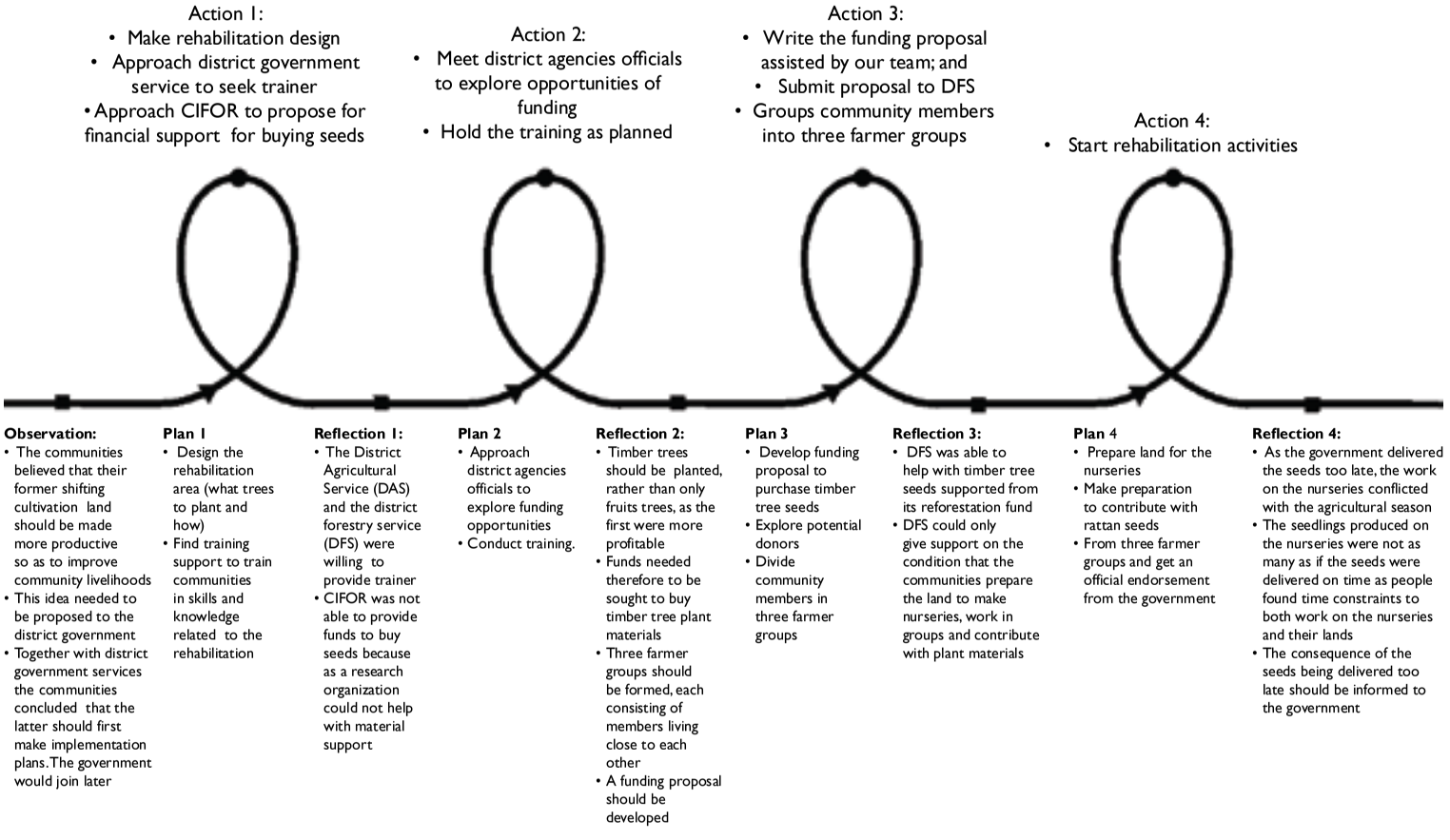


Figure 4-3. *Iterative implementation phase: example from Pasir (Source: Kusumanto* et al. *2005)*

Joint investigation assessed whether improvements in the situation had been made, and if not, why not. Investigative activities deployed interactive methods of fact finding, in which different stakeholders learned to see how others developed perceptions of causal connections for a given problem situation. Such activities were also instrumental in helping actors develop the skills to directly interact and communicate with each other, as well as deal with social tensions and complexity. Joint reflection tested underlying assumptions that influenced individual valuing and acting (Box 4-6). This latter stage was particularly important to make people aware of their mental models. At points, investigation and reflections took place at the stakeholder group.

Box 4-6. Inserting learning during implementation

One of the issues in Jambi was stakeholder representation in community decision making, including concerning natural resources. Community members engaged in a process of learning to elect their representatives to sit in a village representative body.

Investigative learning activities were inserted along the way to meet learning needs that surfaced as the process evolved. For example, actors 'investigated' why community leadership by the village headman and customary leaders had not been effective. By sharing information and experience, people explored the underlying factors. Views were many and each actor had a different explanation.

One of the community's reflective learning activities was the development of election procedures that were acceptable to all. This activities helped the actors not only in learning about the procedural side of the election but also, more importantly, in seeing various perspectives about who make a good elected representative. It thus indirectly reflected what representation actually meant to the diverse actors.

The outcome of above activities was that people's views changed while they negotiated the meanings of leadership and representation. Ultimately, people attributed the lack of leadership to the lack of a mechanism to accommodate different views in decision-making.

Organising and facilitating ACM

As our team carried out the fieldwork, we searched for the underlying principles that could be used to organise learning activities and encourage learning amongst stakeholders. Along the way we identified four such principles:

- Stakeholders must have ownership of the learning process.
- All relevant stakeholders must be represented in the learning activities.
- Learning must take place by means of experience.
- Learning must happen by means of communication (cf. Kusumanto *et al.* 2005).

These principles guided us in laying down a structural basis for the organisation of learning activities. What were their implications for the actual fieldwork?

First, the learning had to be meaningful to each stakeholder (so that individuals had ownership of the learning process) but also to all stakeholders (to permit collective ownership). The prioritising of problem issues by the group as a whole thus became very important, if not essential. The diversity of views needed to be understood by everyone, and problem perspectives were subsequently reframed.

Second, field activities had to reach all relevant stakeholders and at the same time be manageable. If learning did not engage them all, learning would not be system-wide. One way of doing this is to organise activities in so-called nested platforms (Groot *et al.* 2002). Such an arrangement for our case is illustrated in Figure 4-4. Decisions made at the district level—for instance, issuance of a policy that regulates forest harvesting—affected actions at the community level. Conversely, community actions affected decision making at district level. For example, excessive forest harvesting by community stakeholders made district-level decision-makers implement more restrictions. We organised learning activities at two levels:

- at the centre of the circle for representatives of key stakeholders (in Jambi, community-level stakeholders, and in Pasir, community stakeholders, logging companies and government); and
- across the district and key stakeholder levels (for representatives of the local community, logging companies and district-level decision-makers).

Third, learning had to create opportunities for the stakeholders to form new knowledge based on their experience. New experience does not necessarily lead to new knowledge and/or new behaviours. As attested by our fieldwork, however, the PAR made experiential learning more reflective and hence a stronger basis for learning. We believe that the PAR methodology we adopted was effective in making 'experiential learning' (Kolb 1984) operational for two reasons:

- PAR provided a framework that guided our team and the stakeholders to structure and systematise the process of learning.
- Because of reflections throughout PAR, stakeholders felt encouraged to learn from experience.

Fourth, so that stakeholders had a common way to share ideas and views, we organised activities that used communication as the central means for sharing knowledge and perspectives. Simultaneously, we tried to minimise communication hindrance (or 'noise') affecting the way messages were received by taking the following measures:

- creating an atmosphere of mutual trust, respect, and confidence between stakeholders;
- preparing stakeholders who were normally less vocal and articulate in larger encounters to more effectively communicate their opinions and respond to messages;
- preparing the more dominant stakeholders to listen better and analyse messages prior to forming opinions; and
- assisting as a spokesperson for particular stakeholders.

It was important to understand the principles that underlay the organisation of learning. However, it was equally important to know how our team, as facilitators, encouraged stakeholders to actually learn. We observed three factors that motivate stakeholders, and three main roles that facilitators can take in response:

- Stakeholders were motivated by external factors. For instance, the community's desire to improve livelihood conditions predated our arrival, but it was our facilitation that encouraged the community to do something about it. The facilitator's role was to trigger learning and to encourage stakeholders to bring about changes in perceived conditions.
- Stakeholders were motivated by internal factors. People have the capacity to look into the future on their own, even in the absence of any external motivating factors; this is sometimes called anticipatory learning (Wollenberg *et al.* 2000). Facilitation should focus on developing stakeholders' abilities to reflect and anticipate.

- Stakeholders were motivated to learn from the interactive processes that emerged along the collaborative efforts. The facilitator can encourage communication among stakeholders and assist group processes.

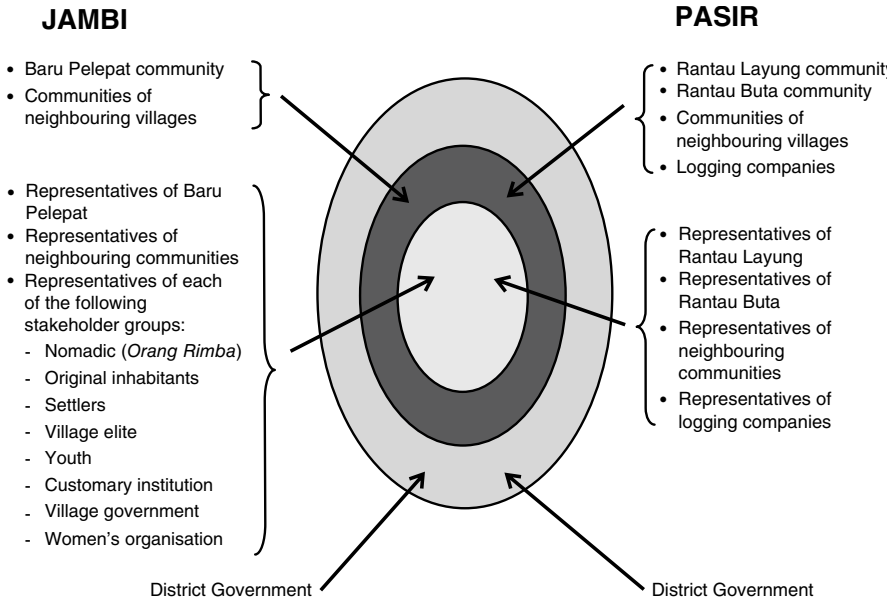


Figure 4-4. *Organising learning for stakeholders in 'nested platforms' (Source: Kusumanto* **et al.** *2005)*

Outcomes of ACM

In this section we discuss the social processes of change that emerged as a result of the interactions amongst stakeholders when we applied the ACM approach. It also describes the changes in social and human capital generated by those processes.

Emerging Processes of Change

Throughout the ACM intervention, facilitated interaction among stakeholders became a source of learning that in turn fostered processes of change. The processes we observed were predominantly social in nature and were precisely those that Buck *et al.* (2001) refer to as the dimensions of social learning: collective construction of knowledge within a given group, sharing of knowledge and information among different actors, building of communication and relationship between stakeholders and learning related to political processes.

Although all four social processes emerged in the three ACM stages—diagnosis, planning, and implementation—certain processes were more evident in some phases. Apparently, varying conditions shaped by the different intervention stages led to differing learning and consequent behaviours.

During problem diagnosis, the dominant processes were the building of knowledge within groups and the sharing of information and knowledge amongst stakeholders. Communication in this phase helped create a basis for building trust and a sense of interdependence amongst the actors.

In the planning phase, which gave the actors some hope for a better or desired future, the obvious processes were enhanced relationships and communication between different stakeholders. Planning was also seen by the actors as a vehicle to influence future directions. Political learning came to the fore, and processes emerged that revolved around the building of strategic capacity of individual stakeholders. Learning related to power processes was prevalent during this planning phase.

The iterative implementation phase saw the building of communication and relationship amongst actors, in particular as result of the joint investigations. This process evolved as actors learned to more systematically and consciously build relationships with others. Political learning also unfolded as stakeholders learned to manage their interactions. Whereas in the diagnostic and planning phases there was some agreement on common values, during implementation these values were sustained and monitored; effective communication and good relationships were critical. Another important process observed in the implementation stage was the building of knowledge of individual actors, generated in particular during

the joint reflections. Previous knowledge was adapted and assumptions were revisited.

The unfolding of the processes of change induced by social learning can be thought of as 'spinning wheels', as illustrated in Figure 4-5. Change processes spun off as result of social learning, beginning small but gradually reaching wider areas and leading to collaborative and adaptive behavioural changes.

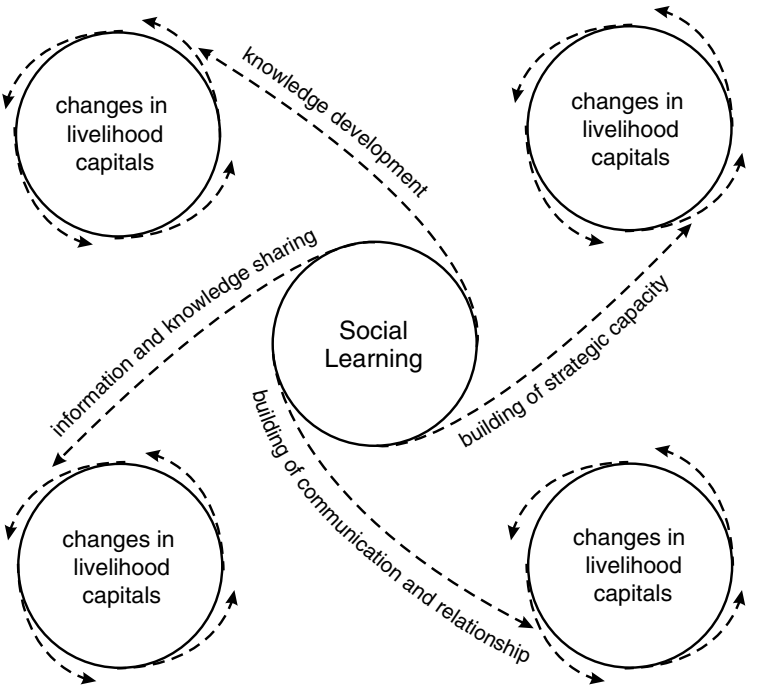


Figure 4-5. *Spinning wheels of change processes induced by social learning (Source: Kusumanto* et al*. 2005)*

Resultant Changes: Social and Human Capital

This section discusses the changes that resulted from the processes of change described above. Because the focus was enhancing community livelihoods, the benchmark for measuring the success of ACM was improvement in people's livelihoods, indicators of which are the status and distribution of

the livelihood assets that they could draw upon. In the research sites, the two most significant assets affected were human and social capital.

In terms of human capital, ACM appeared to increase people's leadership capacity, knowledge and skills in communication, negotiation and interaction, as well as individual motivation to act on problem situations. Stakeholders of different power status were able to build relationships, as illustrated by the district forestry service and the communities in Pasir and the original population and settlers in Jambi. In some situations, the increased human capital improved social processes. Leadership, for example, benefited the larger group and community processes. These increases of human capital were most likely occurred because each intervention phase emphasised the development of knowledge and relationships, and because the consequent experience and confidence of local actors helped them take proactive roles in their own investigation and learning.

Of the various elements of social capital—reciprocity, networks and connectedness, rules, norms and sanctions, and relations of trust—we saw the most improvement in the last. Relationships and trust developed between settlers and original inhabitants in Jambi, and between government and communities in Pasir. Social networks among stakeholders began to take form, albeit mostly during facilitated interactions. Reciprocity and the sharing of norms amongst stakeholders were also evident to some extent. The ACM intervention was short, however, and we do not yet know to what extent these changes can persist without external facilitation. In terms of causality, there is a likely positive association between ACM's repeated emphasis on communication and relationship building with the observed changes in social capital.

Based on our observations, ACM may also have affected other livelihood assets, if the strengthening of social and human capital can eventually support the formation of the natural, physical and financial capital. In Pasir, for instance, the social links and trust developed amongst stakeholders leveraged funds from the forestry service for the purchase of planting materials (25,000 tree seedlings) for the community's rehabilitation efforts, and also leveraged training support from a neighbouring community for the production of rattan. The latter may in the long run increase people's income, and this financial capital may in turn affect human capital, since many community members wanted to use their land for rattan production. Livelihood changes in the sites are listed in Table 4-4.

Table 4-6. *Livelihood outcomes from social processes of change fostered by ACM*

Type	*Example*
Improved access to livelihood assets	Access to market and financial sources (Pasir)
Redistribution of access to livelihood assets amongst actors	Establishment of village representative body for more equitable participation in decision making about natural resources; settlers allowed to own customary land (Jambi)
Adoption of new livelihood strategies	Initiation by farmers of rattan cultivation on private land (Pasir)
Improved institutions, policies and organisations for determining people's access to livelihood assets	Mechanisms of communication between communities and government services (Pasir and Jambi)
Enhanced ability to transform assets to benefits	Enhancement of village headman's leadership skills, leading to benefits for community (Jambi)

In the five years since the ACM research project discussed here was concluded, the effects of action research activities remain apparent. In Pasir, after CIFOR withdrew at the end of the project term, former staff from the partner NGO in early 2003 resumed the work in close collaboration with the district government, focusing on the rehabilitation of degraded lands. For this fieldwork, relationships that had been built between the communities and outside agencies appeared to be essential. In Jambi, CIFOR and the partner NGOs resumed work in March 2003 and continued till late 2006. This second project phase focused on learning activities to obtain official management rights of the customary forest. The local institutions and democratic community structures built in the first phase were crucial for improving the community's capacities and sense of self-determination to negotiate their forest rights with the district government (Kusumanto 2006).

Strengths and limitations of ACM

Social processes emerged as we applied ACM and changes in terms of people's livelihoods resulted, but now it is necessary to ask about strengths and limitations of ACM. First, a strength: ACM addressed the significant lack of social organisation among local stakeholders in a context of complex social and ecological change: this was a strength. Before the intervention began, social structures in the two sites were 'underorganised'—a term Brown (1980) uses to describe situations where social networks are limited or nonexistent, or where actors do not belong to established social structures. Although there were some organisations in both sites, these were predominantly hierarchical, authoritarian structures, with limited room for communication for learning and action. The existing coordination structures for natural resource management—associated with the customary and formal governance structures—were of this nature. Such circumstances were conducive neither to conceptualising problem situations beyond the individual level, nor to seeking and organising collaborative solutions.

The ACM approach was helpful in developing more linkages and cohesion in the social organisation in several ways:

- ACM's reiterative learning and consequent increased frequency of contact amongst actors intensified communication. This in turn generated a sense of interdependence and more structured interactions, even outside facilitated settings.
- Because the collaborative relationships we facilitated were voluntary (rather than mandated or contract-based), ACM was expected to build the mutual appreciation and trust necessary for actors to work out the distribution of resources and responsibilities in their collaborative efforts. In mandated or contract-based relationships, in contrast, the roles and responsibilities are predetermined.
- ACM enhanced the legitimacy of shifts and redistribution of decision-making power amongst actors. As a consequence, social relations became more systematic and organised.

A second strength: ACM addressed the prior inability of local actor to sustain learning over time—as reflected in their reversion to old behavioural patterns—and generated change processes. Despite externally driven motivations in the past[9], new understandings neither sufficiently encouraged people to take action nor challenged prevailing ways of valuing and acting. Past government programs[10] were unable to provide useful context-specific insights. Most of these programs deployed what learning theorists call an

'objectivist' learning strategy, aimed at the transfer of knowledge developed elsewhere, and hence were not conducive to local learning (e.g., van der Veen 2000). Even promises of future material gains[11] did not encourage actors to learn new ways of valuing and acting.

The core feature of an ACM intervention is its deliberate learning. In our experience, the extent to which ACM was able to facilitate learning depended on two conditions:

- local actors' motivation to learn to cope with and adapt to social and natural dynamics; and
- the degree of complexity of the phenomena that actors must learn about.

Several aspects of ACM motivated learning among local stakeholders: the substance of the learning, the structure of learning, and the promotion of a particular mode of learning. Since in ACM the learning substance was the local needs identified by the stakeholders themselves, it encouraged learning and behavioural changes. Further, ACM motivated actors' learning by the way the learning was structured, phased and iterated: complex phenomena were broken down into simpler pieces, allowing actors to work through the paradoxes and contradictory values while gradually giving meaning to them. Lastly, actors were motivated to learn by the mode of learning: through communication. In complex and dynamic settings, learning consists of communication amongst individuals with different perspectives who construct a collective understanding about phenomena (van der Veen 2000). In ACM, facilitated group processes were essential in stimulating communication for joint learning and construction of collective insights.

The relationship between complexity and learning, however, is not very clear (van der Veen 2000). Although some learning theorists suggest that learning can only happen if complex phenomena are reduced to simpler parts by structuring the content of learning[12], others believe that the more complex a situation, the better the chance that people can generate insights[13]. It is therefore often suggested that facilitators of learning should design learning such that the content is complex enough to create 'rich pictures' to learners. In our case, the initial response of stakeholders indicated that they perceived their situation as too complex to begin learning on their own. Apparently, the complex environment did not function as a learning trigger. Social and ecological dynamics were overwhelming, and people found it extremely difficult to find alternatives to current practices. Learned helplessness occurred because people were

not able to influence their context (Garben and Seligman 1980 cited in Maarleveld and Dangbégnon 1999). It was ACM that provided the trigger for actors to learn in their complex environment. We nonetheless cannot say how best to facilitate learning in complex settings and believe that a mix of both complex and structured learning should be deployed in such circumstances.

A third strength: ACM addressed the prevailing power differences among stakeholders and associated skewed decision making in resource management. In Jambi, a handful of village elites, all men, dominated decision making. In addition, power imbalances existed between women and men and between settlers and the original inhabitants. In Pasir, the government often dominated decision-making proceedings, in turn influencing outcomes. Such power imbalances created their own feedback loops: in terms of rights and capacity, less powerful stakeholders were perceived to be less legitimate.

Two particular features of ACM helped in dealing with this challenge. First, by focusing group learning on developing a sense of interdependence and positive appreciation for one another, ACM stimulated the recognition of people's legitimacy. Recurring throughout the learning were moments when the playing field was to some extent level, and such moments supported the gradual recognition of others' legitimacy. Another ACM feature that helped redress power imbalances was its emphasis on substance rather than relational issues. Multistakeholder settings tended to focus on how actors related to one another, often leading to the positioning of different actors against one another, inhibiting information and communication flows and, hence, learning. By focusing learning and deliberations on substantive matters, actors gradually learned to act and value differently.

ACM also has its limitations. First, adaptive collaborative management was inadvertently more attractive to those who were financially well-off and better organised. Because of its expense—in both time and opportunity costs for meetings—the poor and less organised actors were unable to divert their limited personal resources to learning activities. Participation meant forgone financial opportunities, and because the poor were more likely to miss meetings, participation was consequently unequal. Furthermore, ACM required extra efforts of our team to bring actors together, in turn raising the team's transaction costs.

Another limitation of ACM relates to its communicative learning. Although this kind of learning resulted in positive changes, only in conditions of relative equality of power did this learning lead to the formation of more inclusive views[14]. In other words, in situations of balanced power, learning transformed stakeholders' perspectives to become more open and inclusive towards alternative views. For example, in Jambi, the original women and the settler women adapted their ways of valuing the other group. On the other hand, where perceptions were affected by severe power imbalances, transformative learning hardly occurred. Some Jambi customary regulations, for example, remain inflexible towards settlers.

Lessons learned and discussion

As noted before, the limited success of participatory forestry initiatives in Indonesia is due to their inadequacy in handling divergent claims on forests and addressing the inflexibility of management systems in dealing with complex changes. These shortcomings are often reflected in paralysis of decision making at various forest management levels. This section discusses the lessons we have learned from applying ACM and highlights the conclusions we have drawn about whether ACM can do better. Our discussion focuses on forest decision making—the area where we believe ACM can best contribute in Indonesia.

We learned that change is not likely to emerge without sufficient motivation for people to initiate learning and collaborative action. The need for change was present at the start of the project, but it did not motivate local actors until facilitated action research encouraged them to develop the confidence necessary for tackling problems themselves. This trigger was similar at both sites: actors were facing rapid and complex social and political changes, ineffective leadership, policies, and institutions and social disorder.

We also learned that ACM offers to existing forestry programs a structural approach to dealing with divergent claims and related complexities. After all, dealing with such challenges demands working structurally. Stakeholders need to work at the system level in handling multiple claims across different social entities and jurisdictions—factors that can complicate learning, engender conflict and prevent collaboration. By improving the social organisation among stakeholders, triggering learning in complex environments and balancing power, ACM encourages stakeholders to organise themselves in structures of collective decision-making.

Another lesson learned is that ACM enables management initiatives to handle imbalances—in resource distribution, for example—because it can insert learning in socio-political processes. An ACM-inspired decision-making structure uses social learning as an instrument for the stakeholders to arrive at political decisions. In the process of decision-making, previous decisions are adjusted if the stakeholders deem it necessary.

Lastly, we learned that the major outcomes of the ACM approach are improvements in human and social capital—the prerequisite for long-term improvements in forest resources and human well-being. Our relatively short-term research indicates that adapting old configurations of human and social relationships to new constructions supported the formation of livelihood assets—natural, financial and physical.

Those lessons provide a necessary base for considering whether an ACM-based decision-making structure can address the two shortcomings of present forest management systems. We begin with what Lee (1999) says about the ways people organise themselves for solving different decision problems (Figure 4-6): in structures where stakeholders are organised around rules of management with agreed outcomes and means of management (representative structures), structures where stakeholders negotiate about management outcomes with already agreed means (bureaucratic structures), or structures where stakeholders seek to agree about the means of management with already agreed outcomes (collegial structures). Conflicts, Lee suggests, are decision situations that cannot be handled through one of these structures because stakeholders can agree about neither the management outcomes nor the means to achieve them. Conflict requires that stakeholders shift from an unstructured to a structured context. This is often done by either 'settling conflicts' (i.e., seeking to agree what outcomes to target) or 'planning' for a future consensus (i.e., looking for agreement on what means to deploy). Each path has its drawbacks, Lee asserts. Settling conflicts may not work because there may simply be no common ground for disputant parties. Planning for future consensus may illuminate not only opportunities to collaborate but also incompatible differences. Initially cooperative parties may then disrupt the processes or even decline to participate. Given these weaknesses, Lee argues, learning becomes an essential mode of handling conflict in complex environments.

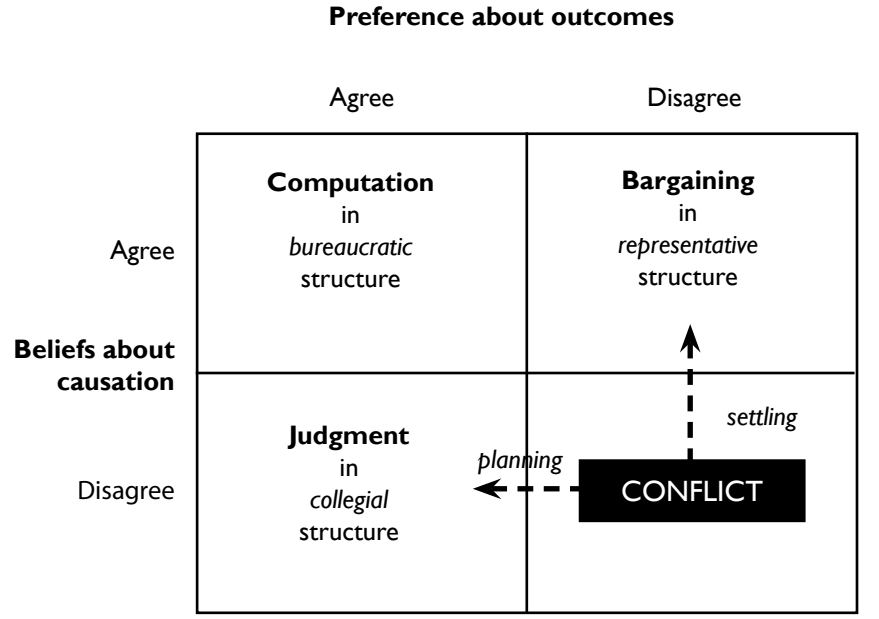


Figure 4-6. *Decision-making structures for solving decision problems*

Source: Lee 1999, adapted from Thompson, J.D. and Tuden, A. 1959 Strategies, Structures and Processes of Organizational Decision. *In*: Thompson, J.D. (ed.) Comparative Studies in Administration. University of Pittsburgh Press. Reprinted with permission of Lee.

Our field experience supports Lee's assessment: learning is essential for shifting divergence or conflict in a complex, unstructured situation to a structurally manageable context. Learning enabled stakeholders to interact more systematically and become better organised for making collective choices. What is crucial, however (and here we go a step further than Lee), is the way learning contributes to more structured decision making. Knowledge that is collectively constructed can inform joint decision making. In contrast, 'scientifically' grounded knowledge in itself may have limited utility in real life because it does not necessarily lead to changes in people's behaviour (Van Meegeren 1997), and the link between knowledge and behaviour is tenuous (Röling and Maarleveld 1999). In our ACM fieldwork, knowledge building is inserted into social and political processes, encouraging actors to act on newly acquired knowledge and adapt behaviours. Resource management knowledge—and specifically, understanding causation in management problems—is no longer confined to the realm of scientists but has become the domain of stakeholders.

ACM can thus be seen as one of the 'structural innovations' called for by Röling and Maarleveld (1999) that create space for value orientations and promote collective action. We suggest that through its very learning ACM merges Lee's three distinct decision structures into one coherent structure, or platform, where causations are collectively sought by way of 'action research', outcomes are negotiated, and rules of management are collaboratively applied. Conflict situations and divergence are not handled reactively as they arise or addressed only after they have become intractable (or not structurally manageable); rather, as an essential element of learning, these are bounded by social processes steered collectively by the contending stakeholders. Learning also shapes space for negotiation and value orientation in the process of decision making, in turn making management systems more adaptive to new conditions.

Conclusion: windows of opportunities

Among the implications for the Indonesian forest context, those associated with the country's decentralisation merit our special attention. ACM's most important contribution lies in the area of decision-making about forests, and under decentralisation, the state is reducing its involvement in the forestry sector and transferring decision-making power to civil society and local actors. Past people-oriented forestry policies and programs largely failed because they did not sufficiently anticipate changing relationships among actors who have different claims on the same resources, or because rapid and complex social and political changes meant unfamiliar problems for local-level, as well as for central decision makers.

Within this context, ACM can help different stakeholders critically analyse the problems they confront and better understand the circumstances under which certain decisions should be made and rules applied. It could help the country in its current search for governance structures that allow stakeholders at different levels of decision-making to interact and share authority.

ACM not only pays attention to the often-slighted social and political processes in forest management, but also turns such processes into an essential element of learning. In ACM, the handling of divergent views is less conflict resolution than an inherent part of multiactor decision-making structures and processes, and learning shapes space for the negotiations

and reorientation of values, potentially making management and decision-making institutions more responsive.

Nevertheless, the potential of ACM in Indonesia should be seen in perspective and expectations not be exaggerated. The considerable transaction costs involved in ACM and the need for adequate institutional capacities for implementing it should be carefully assessed and matched against present policy and institutional conditions. We are just beginning to better understand the essence of learning in social encounters in forest management, and the possible ways in which such learning affects forest quality and human-well being. The ACM experience shared here has shaped opportunities for further exploration and action, for the betterment of both forests and people.

Endnotes

1 The author thanks the Asian Development Bank for its financial support to the ACM first-phase research in Indonesia and to the District Governments of Bungo (Jambi) and of Pasir for their cooperation during the research. She further wishes to thank CIFOR's partners, YGB, PSHK-ODA, and PADI, for their continued support and collaboration. The hospitality of the communities of Baru Pelepat, Rantau Layung and Rantau Buta, which shared valuable time with the team during the action research, is greatly appreciated. The author also thanks Linda Yuliani at CIFOR for her coordinating support to ACM Indonesia; Stepi Hakim, who was responsible for the Pasir site; and Yayan Indriatmoko and Hasantoha Adnan, both at CIFOR, for their assistance and collegiality. Furthermore, she highly values the critical comments of an earlier draft of this chapter provided by the anonymous reviewers.

2 Besides the author, team members were (in alphabetical order) Hasantoha Adnan, Stepi Hakim, Yayan Indriatmoko, and Linda Yuliani –all affiliated with CIFOR—and staff of three local NGOs, Yayasan Gita Buana, Pusat Studi Hukum dan Otonomi Daerah and Yayasan Padi.

3 CIFOR field researchers were a zoologist, a social scientist-agriculturalist, anthropologists and ecologists.

4 In Jambi these were Yayasan Gita Buana (an NGO focusing on environment and development) and Pusat Studi Hukum dan Kebijakan Otonomi Daerah (an NGO concerned with policies and decentralisation). In East Kalimantan this was PADI (an NGO dealing with environment and community development).

5 Based on context studies: De Boer *et al.* 2002; Hakim (2001a,b,c); Hakim and Hamdani (2000); Hakim *et al.* (2001); Hartanto *et al.* (2001); Indriatmoko and Kusumanto (2001); Kusumanto (2000a,b; 2001a,b,c); Kusumanto and Indriatmoko (2001).

6 The diversity of population can be traced to the official placement of some groups under a 1997 government resettlement project, and the spontaneous

settlement of others. In many other places in Indonesia, official resettlement often ignored preexisting social systems and created a mix of social groups.

7 Previously referred to as *Kubu*, a pejorative term.

8 A protocol for identifying and analysing stakeholders was used that allowed for verifications and revisions of findings from earlier analyses using the following methods: 'Who counts matrix' (Colfer *et al.* 1999), 'Geographical method' (Grimble and Chan 1995), and the 4Rs framework of rights, responsibilities, returns and relationships (Dubois 1999).

9 In Jambi, for example, we learned that the original Baru Pelepat inhabitants' main reason to agree with the government's resettlement project was their eagerness to learn new ways from the settlers. They were motivated by success stories from other resettlement projects, which they understood had improved people's livelihoods (Kusumanto and Permata Sari 2002).

10 For example, the Jambi resettlement project or the Pasir village forest development programs.

11 Learning theorists often call this 'rewards' for learning (e.g., van der Veen 2000). An example from Jambi is the provision by the resettlement project of agricultural planting materials, with the promise that this would increase future income.

12 In cognitivism, learning is seen as improving mental processes, such as observation and memorisation. This type of learning structures the content of learning by breaking down complex learning tasks to simpler ones.

13 In constructivism, learning is seen as building an intersubjective understanding of a subject.

14 Often called transformative learning.

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Chapter 5.

Muddling Towards Cooperation: Spontaneous Orders and Shared Learning in Malinau District, Indonesia[1]

Eva Wollenberg, Ramses Iwan, Godwin Limberg, Moira Moeliono, Steve Rhee and Made Sudana

SOCIAL INSTITUTIONS ARE ESSENTIAL to guiding cooperation amongst groups with different interests. But how can cooperation occur where such institutions are weak and unable to protect and accommodate the interests of the less powerful? In this chapter, we describe the experience of facilitating local communities to manage their forest in Malinau District, Indonesia, during the *Otonomi Daerah* reform period (begun in 1998), when social institutions for cooperation were unstable, uncertain and rarely shared, and where local groups competed intensely to capture benefits from forests.

The case examines how a CIFOR research team[2] sought to strengthen local communities' access to forest benefits and influence in government by enhancing cooperation amongst villagers and between villagers and government officials. Because of the weak, uncertain institutional setting and the complex shifting political landscape in Malinau, active collaboration proved difficult to achieve. Through successive trials, however, the team learned instead to work with, and build on, 'spontaneous orders' of

cooperation (diZerega 2000)[3]. We worked informally, keeping a low profile with a multiplicity of groups and strategically linked groups as natural opportunities and needs arose. Rather than foster formal multistakeholder groups and help them negotiate agreements, we instead brought groups together based on voluntary, common interests, similar to the notion of 'hot groups' in organisational theory (Lipman-Blumen and Leavitt 1999).

The key to developing this spontaneous order of cooperation was maintaining flexibility in our facilitation strategy. We made regular adjustments by 'muddling through' (Lindblom 1959), using available information, even if it was limited, and evaluating only a few, incrementally different alternatives at a time. We suggest that in this context, such muddling is more realistic than the comprehensive and routine information requirements for monitoring in formal scientific adaptive management practice in contexts with more stable and widely shared institutions for public decision making. 'Muddling through' is also well suited to working with the spontaneous orders of cooperation naturally existing anywhere.

To better understand how we learned to facilitate these spontaneous orders of cooperation, we report here on the elements of our approach and the outcomes, challenges and lessons of our experience.

Context: Malinau District

The district of Malinau, located in East Kalimantan, is physically distinctive for its broad expanses of dipterocarp forest, which consitute the largest remaining contiguous forest in Southeast Asia (Figure 5-1). Ninety-five percent of the district is designated state forestland (Barr *et al.* 2001), and most of the district's 40,000 inhabitants[4] practice swidden agriculture and hunting and gathering from the forest. Households near intact forest are highly dependent on forest products for income and daily consumption (Levang *et al.* 2002, Wollenberg *et al.* 2002). Malinau is home to more than 20 ethnic groups, including the largest group of Punan hunter-gatherers in Borneo[5].

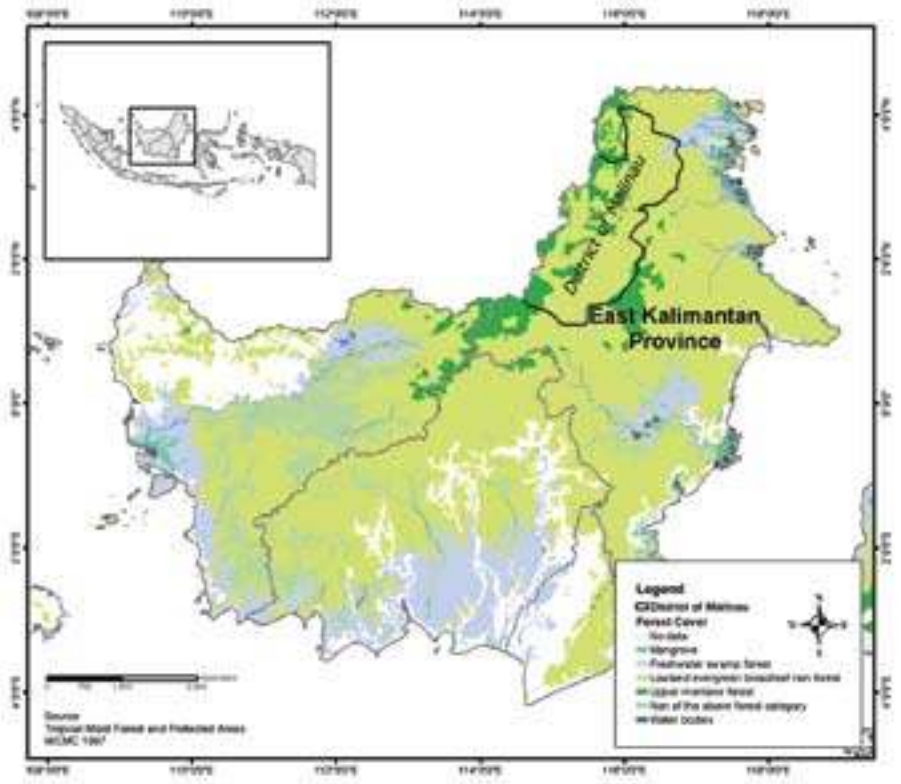

Figure 5-1. *Malinau District, East Kalimantan Province*

Most of the accessible lowland forests, such as the area along the lower Malinau River, are now fragmented and degraded from logging and extensive swidden cultivation. Despite state claims to the land as public forest and having to share the forest with timber concessions, local people have retained access to large territories defined by customary use and sometimes even by agreements among neighbouring villages (see Anau *et al*. 2002).

Political reforms since 1998[6] in Indonesia have created the opportunity and incentives for local government and communities to capture profits from timber that had previously gone to the central government and concession holders. The centrepiece of the district's strategy has been small-scale timber harvesting through *Izin Pemungutan dan Pemanfaatan Kayu* (IPPKs)[7], small-scale logging permits of 100 to 5,000 ha given to local companies, most of them hastily formed. Forty-six IPPKs were issued granting access

to more than 60,000 ha in Malinau from April 2000 to August 2001. Rapid unsustainable timber extraction resulted, with relatively small benefits to communities (Limberg 2004; Kamelarczyk and Andersen 2004). Some forward-looking communities refused offers of huge sums of money to log their land (Iwan 2003), choosing instead to conserve their forest. The central government has since made such permits illegal, although the district government is still seeking opportunities to grant small-scale concessions to generate income. Confusion about the classification of land functions and conflict over claims to forestland have been frequent since reforms began.

As the new district government has attempted to establish its authority and presence, opportunities for claiming forest benefits have become more circumscribed and access to government officials has become formalised and distant. Local government is at ease with the rhetoric of civil society participation but suspicious and unsure exactly how to do it. The heady early days of reform are over, but the roles of district government and local people in the forest remain as opaque as ever, and struggles for control of the forest continue.

Malinau research forest

In 1996, the Ministry of Forestry in Indonesia granted the Center for International Forestry Research (CIFOR) rights to conduct long-term research in a 321,000-ha area established as the Bulungan Research Forest[8]. CIFOR has the general mandate to conduct research for the public good that will improve the sustainability of forests to help alleviate poverty. Under that mandate, CIFOR's objective in the research forest is to test more integrated approaches to managing large forest landscapes. The research projects have thus focused on how to reduce the impact of logging, improve the access of communities to forest benefits in the Malinau watershed and develop more integrated land-use plans and decision making. Research on how communities value biodiversity, their economic dependence on forests and how community participation in local government decisions can be enhanced supported these goals. The program of work described in this chapter constitutes just one subgroup of all the activities in the research forest. The authors of this report were part of a larger program at CIFOR called Adaptive Collaborative Management (ACM), and we referred to ourselves as the ACM-Malinau team. Our activities in Malinau predated the other studies in this volume and so were organised with different

purposes and questions (see below). We nevertheless shared concepts and methods in Bogor and developed fruitful synergies with the work of our colleagues elsewhere that informed the work in Malinau.

Malinau River watershed

The Malinau River watershed is the most densely populated area of the district and the most developed. The CIFOR Adaptive Collaborative Management team chose to work in the 27 villages of the upper Malinau River (Figure 5-2), from Sentaban to Long Jalan, to be close to other CIFOR activities. About 6,673 people (Malinau Voting Census 2003) reportedly live in the 500,000-ha watershed, although we suspect this figure is slightly higher than the actual resident population. The villages are distributed among 21 settlements with as few as 15 to as many as 997 individuals each. About 51 percent of the households are considered poor according to national standards of housing, clothing and number of meals per day (BKKBN 2001). The area is ethnically diverse, with the main ethnic groups being the Kenyah, Merap, Lundaye, Tidung and two Punan groups (Malinau and Tubu). The Merap[9] ethnic group reportedly controlled the territory for most of the 20th century and maintains a wide presence. Punan groups that historically collected forest products for the Merap often lived and intermarried with them.

Government resettlement programs in the 1960s to 1980s and one program in 1999 then encouraged other Dayak groups from more remote areas of the district to settle in the area. Current villages correspond to the different ethnic groups that arrived in the area at these different times. The villages maintained their autonomy and were linked to the official government structure through their *kepala desa* (village heads), most of whom also had local authority within their village as customary leaders. In the upper Malinau, nine settlements consist of such ethnic village clusters, with two to four villages in each location.

With the resettlement programs, population pressure on local resources in the watershed increased substantially, and newcomers did not always sever ties with their former territories. Villages in the upper Malinau claimed multiple territories that overlapped with other villages' claims. Based on district Decree No. 3 in 2001, the government has sought to transform the clusters into single villages and reduce the overall number of villages. District officials have also stated that villages could make claims only to land where they were living.

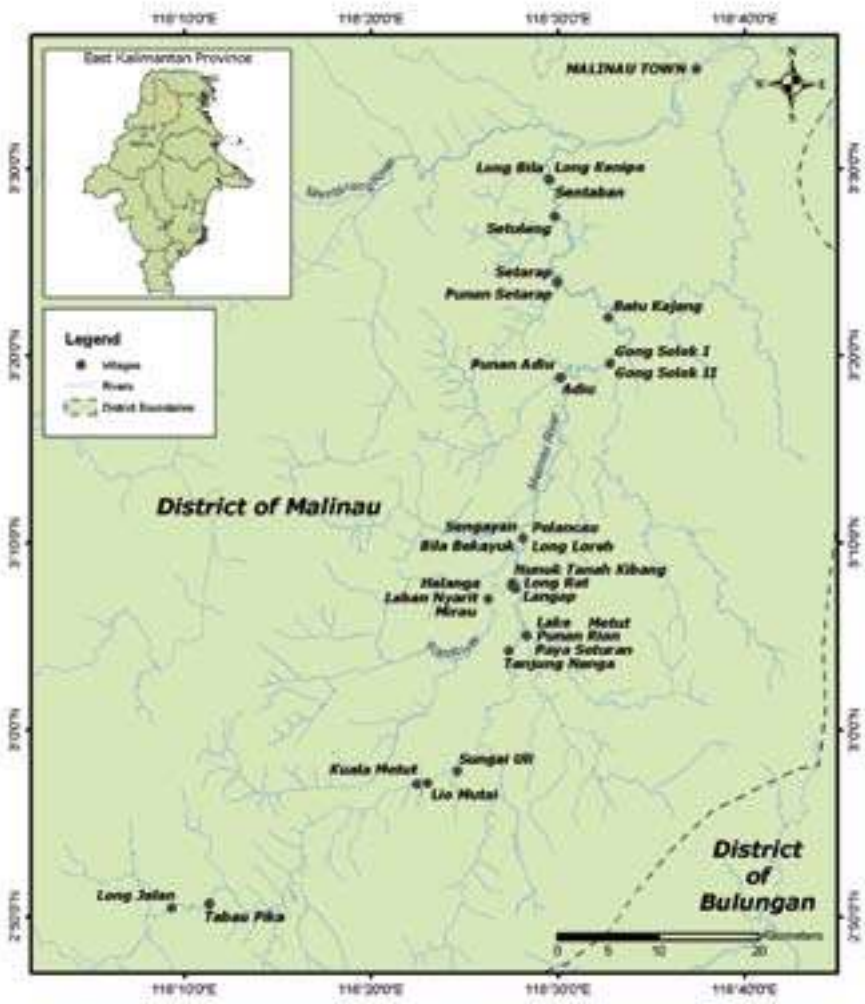

Figure 5-2. *Vilages of upper Malinau watershed - research sites*

These evolving relationships have affected how struggles over forest resources play themselves out. Current alliances in Malinau are interlocking networks of ethnic affiliations, economic interdependencies, strategic kin relationships and historical alliances. Kenyah, Lundaye and Tidung groups have been the most politically aggressive groups in recent years and dominate Malinau's new local government. These groups, together with the Merap, have worked most aggressively to consolidate their claims to land. Punan groups, meanwhile, have had little representation in the *kabupaten*

government, as well as weak documented historical claims to lands, and are always the weaker partner in alliances with other ethnic groups[10].

ACM Research Project

The post-1998 reforms created an atmosphere of eagerness and optimism for change. In Malinau, ethnic divides and competition across all sectors of society during the reforms created the potential for forest-dependent communities to be persistently marginalised, excluded from power or exploited vis-à-vis their access to the forest and participation in government decisions.

In this context CIFOR's adaptive collaborative management project sought to empower *local communities to increase their access to and control over forest benefits and decisions*. The ACM Malinau team's objectives were to facilitate communities to work with other stakeholders to achieve these ends:

- to increase awareness about their opportunities;
- to know and confidently express their needs and opinions;
- to manage conflict and negotiate for their demands more effectively; and
- to understand how to use and influence political decision making in relation to their interactions with local government, local companies and other villages or ethnic groups.

Different from the other cases in this book, this project team did not seek to test ACM approaches to understand their effectiveness. Thus we did not facilitate communities' development and use of indicator-based monitoring systems with different stakeholders or promote collaborative management per se. We sought instead to help communities create systems for settling differences among themselves (e.g., over boundaries and effective representation) and to negotiate with external parties to reach agreements that were more just. We also sought to stimulate shared learning among stakeholders and generate experience-based lessons for dissemination to a broader audience.

As facilitators, we worked to build capacities for managing conflict among stakeholders, increase accountability of the representatives of community groups and serve as a bridge to connect communities with each other and with other stakeholders. In doing so we tried to promote more communication, joint learning and deliberation among communities as

well as between communities and government. We did not create a single formal collective body or multistakeholder organisation, believing that in this context such a formal body would be artificial, ineffective and possibly coopted by powerful interests. Although fostering such formal institutions may be one way to secure long-term impacts, we sought to work instead through more informal linking of existing institutions and build new and, we hoped, enduring patterns of engagement among them.

Initiated in 1998, our work has had five components. These built up over time, with each serving as a layer that augmented previous components. We have remained active in all components to different extents.

1. Village surveys and monitoring by research teams

We conducted our initial surveys in 1998 to orient ourselves to design locally relevant programs. We found it useful, however, to revisit villages at three- to six-month intervals to monitor reform developments and changing conflicts over access to forest. We sometimes conducted monitoring and reporting jointly with villagers or government officials. We shared results through informal newsletters. The monitoring was as important for the rapport it established with villagers as for the information it produced. The monitoring was a learning process for local stakeholders as much as for us.

2. Participatory mapping and village agreements[11]

In response to local interest in demarcating customary lands, we facilitated conflict mediation and mapping among the 27 villages from January to July 2000. We purposefully worked with the communities rather than with local government or industry to empower villagers as a group and build trust. We did, however, emphasise to communities that their boundaries needed to be negotiated with and approved by the government. The team was not able to complete the mapping because of communities' continual requests for changes in boundaries and the lack of information about how to formally recognise the boundaries. The district government was also not ready to endorse or carry on the mapping and began to treat us as a threat to their authority.

During this phase we initiated an annual meeting of representatives from all 27 villages in the watershed to discuss their needs and the changes brought

by reforms, interact with government officials and develop a collaborative program of work with CIFOR. These annual intercommunity meetings became an institution much valued by villagers and have become a basis for strengthening cooperation among villages. We gradually gave villagers an increasing role in facilitating these meetings; after additional training for local people, we turned over the facilitation of the meetings to villagers entirely in April 2004.

For villagers, this cycle of activity provided shared learning about technical skills related to mapping and maps but also sparked discussion among themselves and with local government officials about community rights, village designations and the changes brought by decentralisation reforms. It strengthened their confidence and enthusiasm to exchange views with other villages and seek to organise among themselves.

Through this experience—which occurred as the reform period was at its most chaotic—we learned that the social institutions necessary to make stable agreements and manage conflict related to these agreements simply did not exist. Rather than focus on creating agreements, we decided to refocus our subsequent work on stimulating dialogue and understanding the principles underpinning socially just governance, including representation, participation, agreements and recognition of claims to land. Given their new importance under decentralisation, we also decided to work more with the district government as the primary organisation capable of legitimating and promoting these principles.

3. Legal awareness and policy dialogue

Starting in 2001, we facilitated policy dialogues between different levels of government and between government and communities to encourage decision making that better reflected the needs of communities and strengthened local government. For example, the division of authority over forests between provincial and district governments was unclear after decentralisation. Districts tended to see the forests as bounded within their districts and forget the linkages among districts. We worked with donors, a university and an NGO alliance to initiate discussions among districts and the province on common forestry issues. Efforts to establish a forum for regular discussions failed, however, because of competing priorities and other forums available to participants.

Because information was a scarce resource, we also disseminated policy information through informal discussions, policy info-briefs, newsletters, sharing of the regulations and laws, training courses in legal drafting, workshops and cross-visits. Cross-visits were always popular and highly effective for participants. For example, to facilitate learning across regions, we supported visits of government officials and villagers from Malinau to other districts, such as Jambi, Sumatra, to learn about the election of village representatives to the village council *(Badan Perwakilan Desa)*, the establishment of customary forests and the use of public lands and forests as sources of village revenue. The informal discussions of participants with their hosts in the village probably had the greatest impact on participants' thinking.

One lesson learnt in this cycle was that the most powerful agencies of strategic importance to communities' interests were often not interested in collaborating with us, while those that were less strategic or weaker politically were[12]. Working with the weaker parties had the advantage that cooperation was easier because they needed us and strengthening this agency might improve their status. However, our impact on government is limited when we work with these more marginalised groups.

4. Community participation in district land-use planning

In 2001 we also began to promote principles of cooperation while facilitating linkages between village and the local district government in land-use planning. The new district was required to make a land-use plan *(rencana tata ruang)*. We viewed this as an opportunity to facilitate more collegial working relations between government and local communities. In the jargon of multistakeholder processes (Hemmati 2002), we saw this also as a possible platform on which groups could develop a joint strategy (Röling and Jiggins 1998; Castellanet and Jordan 2002) and as a way to deepen our understanding of how to empower disadvantaged groups (i.e., villages) in stakeholder collaboration.

We thus began a cycle of activities to develop better linkages between village and *kabupaten*-level land-use decision making. Although, at the request of the donor, we established a formal memorandum of understanding, plan of work, steering committee and implementation committee with the district, we quickly recognised that these groups operated in too rigid a fashion and prevented the development of ideas and open discussion. During this

phase we began to recognise the value of more personalised contacts and informal corridor discussions.

We helped villagers to analyse and articulate their priorities for village land use and provided them training in negotiation, proposal making and conflict management. During our monitoring, we found that few villagers were aware that the district was developing a land-use plan. Although we tried to facilitate villager input into the government's land-use planning process, all formal efforts failed. We focused instead on facilitating exchanges between villagers and district officials in community meetings. We also gave local governments discussion materials about participation and public consultation.

In mid-2002 we evaluated our progress and concluded that, given the incipient nature of reforms, improved citizen participation in government land-use planning was a long-term prospect. Facilitating formal input from communities faced too many institutional obstacles to be effectively achieved in the short run, reinforcing our earlier observation about the weak institutional setting. District officials lacked information and confidence about how to be transparent and involve local people in a meaningful way. Ingrained habits and attitudes continued to shape how government interacted with communities. Officials felt nervous about public consultations and were most comfortable where they could deliver predetermined decisions. The difficulties of coordination within the district government and the huge transportation and communication costs of sharing information with remote villages made it difficult for the district to fulfill even minimal legal requirements of public involvement.

From the communities' perspective, most villagers wanted to participate more in district decisions but lacked information about how to do so. Many village leaders were proactive in approaching district officials, but most villagers lacked confidence to do this and at the most attended only those meetings to which they were invited in a local village. Local leaders often viewed increased access to district officials as an opportunity to negotiate projects or money for themselves and their village but usually did not have the legal information with which to justify their demands.

More interestingly, during this period we observed that the biggest gains in community influence were occurring through increased casual contact and informal relationships between local people and officials.

Because of difficulties of facilitating formal input and the opportunities created by the growing influence of village leaders through these casual contacts, we decided to end this cycle of activities and redirect our efforts to a more indirect and informal approach. Although we believed that more discussion about principles for cooperation was needed, we were not hopeful of achieving significant institutional change in the short run. District government officials continued to treat us with suspicion. District land-use planning also was not meaningful in practical terms to the government and communities. To increase our relevance to both the communities and the government, we needed to facilitate more tangible, income-generating activities. We decided to work intensively at the village level to identify forest-based enterprise options that could be supported by government.

5. Village economic development and land use

Starting in 2002, we facilitated village- level land-use planning in four villages, with a focus on villagers' analysis of different economic options. Using a sequence of meetings and stages of analysis, we helped villagers brainstorm and produce lists of their preferred economic and land-use options. Villagers discussed these options in informal meetings and public meetings and conducted surveys to better understand the preferences of the other members of their village. These processes helped elicit not only criteria for land-use decisions but also larger principles for village decision making and cooperation. Since then, we have been working with villagers to help them implement their preferences.

We facilitated villagers' interactions with government in small groups when there was something compelling to communicate. We always helped villagers prepare for these meetings. As an example, in June 2002 we facilitated a cross-visit to Kutai Barat, a district in East Kalimantan that is economically very active and diverse. The four village heads that participated in this activity then carefully prepared for a July 2002 meeting with district government officials (the Forestry Service, Planning Agency, Service for Industry Trade, and Cooperatives and the Section for Social Aspects) and made their presentations. Coincidentally, the government was initiating village development programs at the time and agreed to support followup in the villages related to rattan projects and reforestation. Unfortunately, little action has been taken and a reforestation program proceeded with hybrid teak trees, despite villagers' requests for other species.

During this cycle of activity, we also began working with the Community Empowerment Service *(Dinas Pemberdayaan Masyarakat Desa, PMD)*, rather than with the Planning Agency or the Forest Service. We shared more values regarding community empowerment with PMD and this agency's officials were enthusiastic about the collaboration. The possibilities for spontaneous cooperation therefore seemed more likely with PMD. As an example, PMD officials who joined us in a monitoring trip in October 2002 used the opportunity to promote their *Gerbang Desa Mandiri* program, designed to promote village economic self-sufficiency. Traveling together also built stronger relationships with villagers. Such collaboration can have its downsides, however. During a second monitoring trip in May 2003, PMD's agenda to redefine village settlements dominated the process, requiring our field team to make followup visits to many villages. We concluded that joint monitoring made sense only when there was a shared agenda and our schedule was flexible.

Meanwhile, the inaction resulting from our collaboration with government seemed to be causing communities to lose their trust in us. We did not want to be accused of working independently on matters that should be the domain of government, yet delays, a lack of responsiveness and inaction in implementation suggested that nothing would happen unless we took the lead. As facilitators and a research organisation, we had limited scope for interventions. In this way, the capacity of local government departments and their own bureaucratic requirements can pose severe limits to cooperation.

One disadvantage of working more strategically and with a lower profile was that our function became less visible and transparent. Some community members viewed the last stage of our work as redundant and unnecessary because we supported government programs like reforestation that they would have access to anyway. Communities also wanted us to work with the approval of the district government, despite understanding that it was precisely this relationship that had stalled many of the villagers' initiatives.

We thus found our work increasingly boxed in by the need to make difficult tradeoffs. For example, we were caught in the dilemma of how to move ahead with activities with communities while maintaining our relationship with local government. We continued to prioritise the relationship with local government, which was the most powerful actor and authority in the area. Yet this is a trap for collaborative approaches. It can cause them to stall in

the inertia of 'feeling good about each other', which blinds everyone to the lack of effective action. It also means that the group with the most power can control the agenda at the likely cost of benefits to more marginalised groups. Under the New Order of Soeharto, central government controlled the agenda but was too remote to understand communities' needs. Now district governments are seeking to control the agenda but have little capacity or flexibility to address communities' priorities except where there are coincidental convergences of interests.

Our conclusion is that empowering marginalised groups requires a strategy for securing the long-term support of controlling authorities while creating the space to work with different entities within that authority and independently in the short term. It may also require constructive confrontation rather than collaboration, as long as that confrontation does not backfire and hurt the groups it intended to benefit. Underlying either approach is the need for political sensitivity and savvy to understand and work with local power relations constructively (Forester 1989). We feel strongly that collaboration needs to be pursued as a means, not as an end in itself. In this current phase we are moving cautiously forward with programs that we hope will better complement government yet not be dependent on their actions. We seek a less proactive role and rely more on coincidental convergences of interests.

Ironically, taking this role allowed us to appreciate more fully the existing spontaneous order of cooperation and how to work within it. With such an uneven and complex set of relationships, interdependencies among groups become problematic. Achieving any kind of direct coordinated action (beyond organising single events) becomes difficult, even with patience, a willingness to compromise and a reasonable budget. It is not clear that these diverse groups are willing or able to solve their problems themselves, even with facilitation (Hagmann 1999).

Under such complex circumstances, each group needs space to manoeuvre independently. Cooperation occurs as a spontaneous order (diZerega 2000) in which participants pursue their own ends and mutually adjust to one another; it is polycentric, rather than guided by a single organisation. In spontaneously organised cooperation, competition can exist and even promote more rigorous outcomes than it would in the self-organised orders of science, markets or democracy (diZerega 2000). Spontaneous orders can incorporate more complex relationships and information because they

are not limited by people's cognitive and organisational skills (diZerega 2000).

Such cooperation is self-organised in a way similar to hot groups (Lipman-Blumen and Leavitt 1999). Hot groups do not constitute a structural unit in an organisation. People come together spontaneously because of a common mission and dedication to a task. Being flexible, such groups have the advantage of being able to organise themselves quickly and have high motivation and capacity for innovation. The hot group focuses more on ideas and work, and less on the emotionality of relationships.

Understanding how these spontaneous forms of cooperation work in Malinau is precisely what gave us and, more importantly, the villagers the space to manoeuvre. We can move easily from one current of actors and activities to converge with another in the system rather than seeking to mechanically engineer changes to these flows *outside* it. The main requirement for making this work is excellent channels of information to recognise the possibilities for convergence. In our case we achieved this through a local presence and high social embeddedness (sharing local values, participating in local events and building strong personal relationships).

Facilitating by muddling through: reflections

James Scott (1998: 313) suggests that where authoritarian states coexist with a 'prostrate civil society', social change needs to take place through institutions that are 'multifunctional, plastic, diverse and adaptable', shaped by practical skills and intelligence in response to a changing environment. These processes should occur in 'small steps' favoring small-scale learning, reversibility and accommodation of surprises and human inventiveness (Scott 1998: 345). In this way, weaknesses in governance to cope with change can be overcome.

As the discussion above indicates, Scott's tenets were central to our facilitation strategy in Malinau. We used adaptive methods in Malinau as an approach to facilitation rather than as a reflective process of learning by local forest users. Adaptive methods made it possible for us to work with the existing spontaneous order of cooperation.

Learning within the facilitation team

Creating this adaptive facilitation required an initial large investment in team building and communication skills during the first year, with ongoing efforts at a lower level of intensity. Our team size and composition shifted with each phase, but the continuity of a core team of five people ensured that our own learning was cumulative[13]. The team's deep and rich knowledge of Malinau over the years provided the foundation for judging when to adjust our strategy and how.

In the beginning, our team was very focused on creating structures that allowed reflection. Over time, the team developed its own organisational culture and rhythm in which reflection and feedback became automatic. We had daily sessions during events such as the intercommunity workshops, and we met at about three-month intervals for planning. Villagers sometimes participated directly in the sessions, and we often solicited feedback from external observers or villagers to inform our reflections. Our usual planning horizon was three to six months. The initiation of a new cycle of activity emerged naturally during the planning sessions, in which we reviewed the effectiveness of previous plans based on the results from the monitoring and other activities. We built risky or uncertain activities[14] into our plans with the understanding that we would learn by doing and be flexible enough to make midcourse adjustments.

Ironically, however, as the process became more automatic, we tended to make fewer structured opportunities for it to happen. The learning process also tended to become a low priority in the rush of events. We suggest that maintaining a structured, explicit approach to learning even after it becomes well accepted will help ensure that it is not neglected. The challenge is to find fresh approaches to reflection to avoid making the learning process too time-consuming, tedious or boring.

Results of our learning

Each cycle of activity evolved in the context of work that preceded it and reflected our own deeper understanding, commitment and embeddedness in Malinau. Our understanding of spontaneous orders for cooperation, on the other hand, emerged from what we referred to as the 'theory of coincidence' and has become clear to us only in recent years.

We found that small but incrementally significant achievements often occurred because of fortuitous circumstances, such as a chance meeting with an influential person, a coincidence of interests among key actors, an unexpected event providing an opportunity for influence. These coincidences became as important to achieving our objectives as our purposeful activities. We learned to increase the possibility for these opportunities by becoming more aware of and monitoring changes in the following factors that were the key determinants of spontaneous cooperation in Malinau:

- the 'gatekeepers' (the people with authority, influence and control) and the 'movers and shakers' (those who could short-cut the bureaucracy and get things done, such as the district leader, agency heads and village leaders);
- the timing of routine and ad hoc gatherings and events; and
- the interests that motivated different groups to participate in different events.

In addition, we learned to work with this spontaneous cooperation in three ways.

Being physically present and interactive. Just by being around we increased the opportunities for (1) informal meetings with gatekeepers, which tended to be more effective than structured formal meetings; (2) relationship building with a wide network of people, especially the support network of the gatekeepers (see below) to gain knowledge informally and build mutual trust; and (3) other people to come to us with information they thought we needed to know, including invitations to events, news of sudden schedule changes, their understanding of hidden motives or an alternative interpretation of an issue.

Working informally with the support network of the gatekeepers. The gatekeepers themselves were often too busy to interact with us very much, but their support network—the people whom advised or influenced the gatekeepers—knew and organised schedules and had the latest inside information about decisions.

Maintaining hyperflexibility in our schedule and resources. We learned to be ready to reschedule our own events and reallocate staff at the last minute to attend events, as well as routinely adjust our strategy. An important way in which maintained flexibility was to reduce our dependence on gatekeepers. Although this flexibility led to some significant gains, maintaining it was the most difficult, costly and frustrating aspect of facilitation. It required

contingency funds, and it meant accepting inefficiencies (hence the aptness of the muddling metaphor). Ultimately, there are limits to the risk and inefficiency that can be tolerated and we needed to regularly weigh those costs against possible gains.

Institutionalisation of learning

We have sought to identify other groups that might be able to assume leadership of the overall facilitation process we have initiated. Because most local organisations promote the political interests of specific ethnic groups, they were not appropriate. Outside groups have been unwilling to commit to working in the area intensively. One appropriate institution within government is the *camat*, or subdistrict leader, who handles conflicts and serves as a link among villages. We have worked only to a limited extent with subdistrict leaders because of their apparent lack of interest. For example, we have had long-term informal and social contact with the subdistrict leader in our area. He has participated in several community meetings to which we invited him but has maintained an aloofness and distance from the program. He also has been traveling extensively, like many district officials, and has therefore rarely been available for more intensive interaction with us or the communities, who have expressed their own complaints. He is not unique, however, in keeping his distance. When we hosted conflict management training for the five subdistrict leaders in Malinau, having confirmed dates around their schedules, only three showed up. It is likely we did not offer sufficient career or financial incentives to make their involvement worthwhile.

We have had much more success with the Community Empowerment Service, which has shown great enthusiasm to work with us and even share costs. We have provided hands-on training to PMD staff in monitoring community conditions and tried to build relations between communities and the agency through more face-to-face contact. We have also coauthored several reports with them. The synergies in working with PMD have been high, probably because we shared similar aims. PMD has certainly gained skills in learning through monitoring but is less well poised to convene meetings among stakeholders. Within the local government, it also has little influence.

At the community level, we are working with individuals representing different ethnic groups to organise the annual intercommunity meeting

and community-government dialogue and hope that this event and the improved facilitation skills will lead to further self-organising among community and district government members. One of the individuals is a villager who has been a member of the team since the mapping exercises and has developed considerable facilitation and community organising skills. (We purposefully included villagers at different stages of the project as staff to increase local capacities.) Community meetings in some form will continue in our absence because they happen anyway, through annual harvest festivals and annual meetings of certain customary associations. Unfortunately, few Punan attend the harvest festivals, but they have had large, well-organised meetings in the name of the Punan Customary Community. We can expect that it will be difficult for local community members to continue to host meetings across all ethnic groups, especially given the trend towards increasing political organisation and divisions among these groups.

Among communities and government, we promoted shared learning at a basic level of iterative sharing and gathering of information, not as an analytical exercise of cyclical self-improvement. We tried to promote more communication, joint learning and deliberation among communities as well as between communities and government, but we did not explicitly facilitate them in an adaptive process. We took this approach simply because it seemed more feasible to implement, given the complex relationships with which we were working. In addition to the activities of each cycle described above, this approach included setting up information centers in villagers. The centers were abandoned after a couple of years because information was not more widely shared by the people managing them, which led to jealousies and tensions among villages. We now share information directly with each village.

Our most successful efforts at institutionalisation, then, seem to be building capacity of individuals and working with like-minded agencies. In the spirit of working with spontaneous cooperation, we felt it would be unwise to invest in more intensive institutionalisation of an organisation or process (other than the annual community meetings) likely to be coopted and overridden by other interests. We do not expect the meetings we have facilitated to be continued in their current form, but we do expect that the types of relationships and activities that communities and government engage in will be affected. In this way we may have had a small impact on future collaborative learning. We should stress, however, that unlike the other projects descripted in this book, we have sought not to institute a

method of facilitation, but rather to have a lasting impact on the power and influence of local communities and their access to government.

Outcomes

Despite the lack of strong, shared institutions to guide cooperation, our efforts of the past five years have had clear impacts. During our annual intercommunity workshop in 2003, a CIFOR staff member unconnected with our project asked the 52 community participants to evaluate the benefits or utility of CIFOR. The participants reported the following:

- CIFOR has expanded our thinking, helped us understand conditions elsewhere, increased our information and experience, improved our human resources and provided feedback about our situation.
- It has helped our community advance and develop and has provided input to the community through advice and explanations.
- It has improved relationships among villages, reduced conflicts and helped with boundaries.
- It has helped bridge communities and government and created space to meet with government.
- It has improved our awareness about forest conservation.

Such responses reflect the types of impacts that facilitating cooperation and shared learning can have. They also suggest that these types of impacts, though intangible, are valued.

During an evaluation in June 2003, an independent consultant interviewed villagers and government officials. Most villagers considered the mapping to be the most concrete outcome of our work, followed by sharing of information. 'We now know a lot', said one Punan man. A Punan village leader added, 'There was a change after CIFOR came. Before, we were too closed. After CIFOR, we became more open about government ... CIFOR helps villagers to deliver information, to make requests to government.'

A number of respondents commented, however, that the mapping process had not been acknowledged by government and had led to conflict. Others observed that CIFOR had been 'mostly talk' and had generated little tangible economic benefits for communities. A Merap village leader observed, 'After I came back from the cross-visit, I had a meeting with the village. They wanted to make a rubber plantation and we proposed this to CIFOR. CIFOR only replied that we should contact government.'

The leader of another village said, 'It seems whatever CIFOR plans, is what the government also had plans to do.' These comments reflect our dilemmas, described above, in trying to work with government, as well as the limitations of a research organisation in engaging in 'development' or change processes. Introducing new ideas and facilitating partnerships are not always sufficient to create change.

The outcomes affected certain groups more than others. We found that Punan villagers became increasingly interested in working with us and increased their participation and confidence in the intercommunity meetings. Because the field team lived adjacent to the two Punan villages in Loreh, there was much time for informal chats. Certain Punan individuals (men and elites) tended to visit our field team or ask for favors regularly. The more powerful ethnic groups seem to need CIFOR less and have interacted with us less over the years.

Outcomes at the government level were more mixed. The head of the forest service was especially negative and implied he was completely unaware about our activities, despite our work with him and his staff in the reforestation program. Other government officials pointed to the increased conflict caused by the mapping and suggested that CIFOR created burdens for the government by raising people's expectations. The head of the planning agency said, 'If CIFOR goes, they will surely leave behind problems for the government and communities. They constantly give people dreams.' In contrast, PMD made positive comments about how much CIFOR helped them. As with the less influential Punan, it seems that the less influential government agencies were more interested in working with us than the secure and powerful ones.

That mix of views and interests in collaboration reflects the values of the different groups involved. In a project intended to empower a marginalised group, it may be difficult to avoid creating jealousies or threats to other groups. Facilitating collaboration requires specific strategies for dealing with each group. It also means being prepared to handle conflict with authorities and have your goals undermined by some groups.

Like Castellanet and Jordan (2002), we believe that the biggest accomplishment of this type of action research is incremental changes in capacities and attitudes. Getting different groups to talk freely with each other about their needs is itself a big achievement (Hagmann 1999). We hope that over time, these incremental changes will lead to a critical mass of people who support a shared cause and ultimately real action.

Conclusion

Models of adaptive collaborative management suggested by Chess *et al.* (1998) and others (Sinclair and Smith 1999; Wondolleck and Yaffee 2000) or even simple platforms for collaboration like multistakeholder forums (Hemmati 2002) are unlikely to work in contexts such as Malinau, or at least not generate socially just and long-term outcomes. These approaches presume functioning management systems, checks and balances for managing power and clear institutions for deliberation, reaching agreements and managing conflict. In Malinau and other places with weakly developed civil society or in newly decentralised states with low capacities, these conditions do not exist. The transaction costs of collaboration and the possibilities for cooption or unsustainability are too high. The alternative is to learn to work with spontaneous orders of cooperation. For facilitators this requires long-term investment in a more embedded and informal approach and expectations of small, incremental gains.

We suggest that working with and enhancing spontaneous orders of cooperation requires its own methods of adaptive facilitation: being hyperflexible; being physically present and interactive with multiple networks; being aware of gatekeepers, events and motives; and maintaining close relations with those who support the gatekeepers. Where gatekeepers have different or opposing agendas, facilitators can create the space to manoeuvre for those who *do* share a common agenda by being less dependent on gatekeepers, maintaining a lower profile, working more informally and yet acknowledging gatekeepers' authority and keeping them informed. It requires facilitating multiple processes targeted at the needs of different groups at different times. It may be necessary to build awareness about alternative procedures of governance and values of social justice, but facilitators should not expect such procedures and values to be easily or quickly institutionalised.

Natural opportunities for forging connections between groups regularly presented themselves once we became involved and visible in the communities. We feel that working with these natural opportunities to accelerate connections among groups creates a more enduring impact. Such informal contacts are always likely to arise and can provide vast amounts of information about relationships, constraints and opportunities that are more difficult to see in constructed environments of formal multistakeholder forums.

This form of adaptiveness requires accepting a muddling-through attitude and coping with resulting risk and inefficiencies. Learning opportunities need to be built into schedules, with adequate time. Reflection processes need to be creative and efficient to maintain their appeal. Facilitation strategies need to be flexible enough to respond to changing opportunities, yet not change so often that other groups do not understand the purpose or direction of the work. In Malinau, adjusting strategies about once a year seemed to work; these changes were incremental and built iteratively upon earlier strategies. Adjustment does not mean abrupt departure from objectives and established processes. Facilitators need to allow enough time to really test and evaluate their strategies before they change them.

In the process of muddling through, relationships do not change easily. Initial partner relationships establish the facilitator's identity and alliances in ways that are hard to change later. The tradeoffs associated with working with one partner versus another need to be weighed carefully. We do not believe it is possible for facilitators to work neutrally in multistakeholder contexts (Forester 1989; Edmunds and Wollenberg 2001). In such contexts, facilitators should be prepared to support marginalised groups in their efforts to constructively confront those in power. They need to acknowledge their biases and anticipate the possible tradeoffs in relationships this will create. One option for trying to work more evenly with all stakeholders is to have pluralistic facilitation—that is, a team of facilitators who themselves hold diverse values that reflect different stakeholders' interests. Each member of the team would build relationships with different stakeholders. In some ways, CIFOR's overall project in Malinau approximates this model, where different staff have gravitated to different stakeholder groups. Such an approach is costly, however, and would be difficult to replicate. To the extent that facilitators have to take joint decisions, their own leadership and power structure biases will come into play.

The strength of the informal, muddling approach to enhancing cooperation is that it can increase the relevance of facilitation to local circumstances. Information is more accurate, in-depth and comprehensive and reflects different perspectives from different groups. Facilitation more closely mirrors how local policies are made and therefore enables the facilitators to take advantage of different waves of opportunity to initiate new cycles of work and engage different groups at times of maximum impact. It is easier to carve out the space to work independently, as we did with villagers on their land-use plans and proposals to government, and easier to monitor

village conditions with PMD officials without battling the resistance of particular government officials. Officials are less likely to coopt the agenda. Social relationships are more embedded and facilitators can deal with each group more flexibly, strategically and independently. Incremental gains can be made.

The weakness of this approach is that it entails risks and inefficiencies. The frustrations and constant reallocation of resources associated with hyperflexibility can impose severe costs. The approach requires a facilitation team that can be tolerant of such demands and have the forbearance to sustain their own motivation despite severe challenges. The team also requires capacities that are not readily available or trainable. It is easier to train a team in structured methods like participatory mapping than to teach them how to be adaptable. When working more informally, it can be hard to have the same level of transparency and credibility acquired through more formal cooperation. Special efforts need to be made to get the endorsements of gatekeepers and share information. From a research perspective, it is more difficult to collect information consistently enough to make meaningful comparisons. The effort requires a long-term investment.

Despite those weaknesses however, the muddling approach may be the facilitator's best option for dealing with the chaos and injustice of local circumstances. The facilitator needs to judge whether enough incremental gains are being made in a given time period to warrant the effort, especially compared with potential gains to be elsewhere.

Although we were required to work with spontaneous cooperation because of the conditions in Malinau, we suggest that the concept of spontaneous cooperation and many of the methods outlined above may have relevance even in contexts with more stable governance conditions. These concepts and methods should, for example, be helpful in identifying existing forces for cooperation and working more sensitively with them. They should also help integrate facilitation with existing processes for change and policy making.

The selection of facilitation strategies and methods in any site is itself an iterative and adaptive muddling process. We do not suggest that the approach we took in Malinau is necessarily the best to take elsewhere. These decisions are highly dependent on the resources available to the facilitators, their own capacities and the environment in which they

are working. We do think, however, that these sorts of approaches can contribute to a democratic and feasible way of facilitating change. Our goal has been not to directly facilitate collaboration so much as to create an enabling environment for accommodating and coordinating people's interests, especially those of weaker groups. Muddling is messy. But it is also a reality of political change.

Endnotes

1 This chapter elaborates on an earlier published work: Wollenberg, E., Iwan, R., Limberg, G., Moeliono, M., Rhee, S. and Sudana, M. 2007. Facilitating cooperation during times of chaos: spontaneous orders and muddling through in Malinau District, Indonesia. Ecology and Society 12(1):3. Available at http://www.ecologyandsociety.org/vol12/iss1/art3/.

2 During the course of the work, we collaborated with officials in the Bulungan and Malinau *kabupaten* and *kecamatan* offices, including Bappeda, Dinas Kehutanan, Dinas Pemberdayaan Masyarakat, Dinas Pertanian, Bagian Ekonomi, Bagian Hukum, INHUTANI II (parastatal timber concession), Meranti Sakti (another local timber concession), and the provincial Dinas Kehutanan. We have also collaborated with Plasma, SHK-Kaltim, PPSDAK, Padi, LPMA, Phemdal, WWF, P-5-Universitas Mataram, the University of Victoria (Canada), Wageningen University and Yale University in various components of the work.

3 diZerega (2000) suggests that 'cooperation' can occur as a spontaneous order, in which participants pursue their own ends and mutually adjust to each other. This form of cooperation is multicentred rather than guided by a single organization.

4 Estimated from the 2003 election census.

5 See Sellato 2001 for a historical overview of the upper Malinau River during the last 150 years.

6 President Soeharto's resignation in May 1998 marked the end of the New Order regime. The subsequent presidencies of B.J. Habibie, Abdurachman Wahid and Megawati Soekarnoputri (Indonesia experienced four presidents in four years) tried to respond to popular demands for reform as well as to distance themselves from New Order policies. Many reforms were already in the pipeline under Soeharto but then accelerated. The most significant changes were the 1999 decentralisation laws (Government Regulations 22 and 25), which decentralised authority to districts and made them responsible for generating their own income, and the 1999 basic forestry law (Law 41), which updated the 1967 law that made it possible for nonstate entities to engage in timber harvesting and gave customary communities the right to manage forests. The new governments also separated the powers of the police and military, instituted direct elections for the national assembly, and promoted more freedom of speech, transparency and an end to corruption. After 30 years of autocratic, coercive rule, these reforms were quite extraordinary. Unfortunately, confusion about their implementation and liberal interpretation in the districts about their new autonomy

have fostered opportunities for districts to undertake small-scale logging that the central government considers illegal.

7 License to fell and utilise timber.

8 In 2003 the area was renamed the Malinau Research Forest to reflect the change in administrative districts.

9 Prior to the Merap, it is believed that the Berusu and Punan occupied the area (Sellato 2001; Kaskija 2000).

10 Historically, they have lacked the strong social cohesion of groups like the Kenyah or Lundaye and have lacked effective institutions for representing their interests. Only in the mid-1990s did the Punan in Malinau organise the appointment of a Punan customary leader.

11 See Anau *et al.* 2002 for a complete description of this phase of work.

12 Less powerful actors' interest in working with the facilitation team was signaled by their representatives' frequent dropping by to dialogue with facilitators, or asking CIFOR staff to convey their requests or problems to government officials. The main benefit these groups cited was acquisition of information, but possibly also more visibility in the process of negotiating land claims and benefits from the forest.

13 Our core facilitation team included a community member and three individuals with family ties to local communities. Four members had previous knowledge of the area. These factors enabled the team to quickly establish themselves in the community and be more acutely sensitive to flows of information and relationships among stakeholders. At the same time, two of the team members were expatriates, and two lived in Bogor rather than Malinau, which helped the group maintain a healthy diversity and freshness of perspective.

14 We were aware that some activities, such as discussions about land tenure, would be sensitive. We were not sure how stakeholders would react to others, such as producing and showing a documentary with critical remarks concerning the land-use planning process.

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Chapter 6.

Facilitating Change from the Inside: Adaptive Collaborative Management in the Philippines

Herlina Hartanto

COMMUNITY PARTICIPATION in the management of forests and other natural resources has received growing attention from scholars, policy makers, donor agencies and nongovernmental organisations. This reflects an increased realisation that natural resources are complex and their management cannot be handled by the state alone. The Philippines attempted to engage communities in the management of its vast forests much earlier than most other countries in Asia. Its community forestry policy has been described as one of the most innovative in Southeast Asia, and the designed transfer of rights over forest resources to communities has been called impressive (Lynch 1993; Colchester 1994). The Department of Environment and Natural Resources (DENR), which oversees the implementation of community forestry programmes, has been applauded for empowering the community and considered one of the most progressive environmental agencies in the region (Poffenberger 1990; Fox 1993). It is no surprise that the Philippine community forestry system has been a model for other countries.

The Philippine government wants to engage communities in forest management for good reason: around 52 percent of the country's land area, or around 15.8 million ha, is forestland[1] (FMB 2002), and without the involvement of local people, it would be hard for the government to manage these vast forestlands on its own. The history of forest management in the Philippines nevertheless reveals quite a different story. The right and ability of local communities to manage these resources were not always recognised and respected by the state. Space for community involvement has been granted only in the past few decades. In fact, it took the Philippine government more than three decades to develop its community forestry programme. The umbrella programme, called Community-Based Forest Management (CBFM), was launched in 1995, and its implementation still faces many problems, particularly in dealing with the complexities of the social, biophysical and political aspects of forest management. It is these difficulties that the action research on adaptive collaborative management sought to confront.

In this chapter, I describe how the adaptive collaborative management approach and processes helped two communities and their local stakeholders deal with the complexities of forest management. The research indicates that by facilitating change from inside the government programme and inside the local organisations that are responsible for managing the community forests, the ACM approach and processes can improve the implementation of community forestry in the Philippines. I point out areas of community forest management that were specifically strengthened by the ACM approach and process, and I describe the challenges that need to be addressed for community forestry in the Philippines and for ACM to be more broadly effective.

Community forestry in the Philippines

Historical sketch of forest management

The rich forest resources of the Philippines have been under the control of the state government since the 19th century. The state, both colonial and postcolonial, asserted its control over resources by mapping and zoning the territories, enacting land and forest laws on the use of resources, establishing state agencies to implement and enforce those laws and defining the rights of the people over the resources (Peluso and Vandergeest 2001). The Spanish

colonial regime exerted its control by imposing the Regalian Doctrine in 1894, which stipulated that all lands in the archipelago belonged to the Spanish Crown unless the king of Spain granted ownership to individuals or groups. When the American colonial government took over in 1889, it continued enforcing this doctrine on the grounds that the previous regime had full sovereignty over land and other natural resources (Gibbs *et al.* 1990; Lynch and Talbott 1995). The concepts and principles of the doctrine continued to be used by the subsequent independent governments of the Philippines. The Forestry Reform Code of 1975 claimed all lands with a slope of more than 17 percent and mountainous areas above 600 meters as public land. This forestry code firmly established state control over the forests and eroded the rights of the people and their long-term interests in managing forests in a sustainable manner (Gibbs *et al.* 1990).

Commercial extraction of forest resources under state control caused massive deforestation. Assessments of how forest cover in the Philippines changed over time, provided by different scholars and agencies (De la Cruz 1941; Roth 1983; Porter and Ganapin 1988; DENR 1990; Kummer 1992), all show a similar decline in forest cover beginning with the arrival of the Spaniards. According to Poffenberger (1990), conversion of large forest areas commenced as early as the 17th century. The extraction of timber and firewood to support the colonial sugar cane industry increased rapidly throughout the 19th century. DENR (1990) found that the rate of forest cover loss increased significantly after the 1930s and reached a peak of 300,000 ha per year between 1965 and 1975. Thereafter, the pace of forest conversion gradually slowed and was 100,000 ha per year in the 1985-1990 period (DENR 1990).

Apart from government-sponsored forest conversion—in particular, commercial logging—other factors and economic activities that contributed to deforestation in the Philippines include population growth, expansion of agricultural land, establishment of large-scale plantations and slash-and-burn cultivation employed by lowland migrants (Poffenberger 1990). Rapid and massive forest conversion in the upland led to soil erosion, flooding and downstream siltation of rivers, coasts and dams (Poffenberger 1990). Despite its several causes, the degradation was officially blamed on high population growth and the swidden practices (*kaingin*) of the upland communities. These people were labeled backward, ignorant and destructive (Gibbs *et al.* 1990). Gibbs *et al.* (1990) believes that by putting the blame on *kainginero*s and stereotyping forest occupants as ignorant and destructive, the government justified its stricter control over forest resources. This is

reflected in the mandate given to the Bureau of Forestry—to protect forest trees against upland communities.

The state government was forced to evaluate its policy and adopt a more socially attuned approach to forestry in the 1970s. Gibbs *et al.* (1990) and Poffenberger (1990) attribute this political shift to the growing communist insurgency, the great flood in central Luzon in 1972, which highlighted the consequences of forest degradation, and the satisfactory performance of indigenous communities in managing ancestral lands leased back to them. The government began to recognise the legitimacy of forest occupants in the uplands and their potential roles in managing the forests (Gibbs *et al.* 1990; Poffenberger 1990).

The Philippine government started to develop its community forestry programme in the 1970s. Early efforts, such as Family Approach to Reforestation (1974), Forest Occupancy Management (1975), and Communal Tree Farm (1978), failed to attract the participation and support of the communities. These programmes[2] aimed to rehabilitate open and cultivated areas, control upland farmers' land-use practices within the forest and restrict occupancy rather than enhance local control over forest resources (Gibbs *et al.* 1990; Poffenberger 1990). In 1982, the Integrated Social Forestry Programme[3] was created to consolidate the three programmes; its renewable 25-year 'certificate of stewardship' contracts provided tenure security for forest occupants who created farmers' organisations. This tenure came with responsibilities, including prescribed management techniques, such as soil conservation measures, forest fire control and maintenance of forest growth in the tenured areas (Sajise *et al.* 1999; Magno 2001).

Community forestry continued to evolve in the subsequent two decades. Various programmes offering different land tenure options to local communities were developed by DENR in an attempt to speed up the transfer of management rights to local communities and engage them in rehabilitating residual forests (Figure 6-1). The complexities created by the existence of diverse programmes and tenure options prompted policy makers to simplify and integrate them under one umbrella programme, Community-Based Forest Management. In 1985 CBFM was proclaimed[4] as the national strategy to promote social justice, improve the well-being of the local communities and ensure sustainable management of the country's forestland (DENR 1996; Sajise *et al.* 1999).

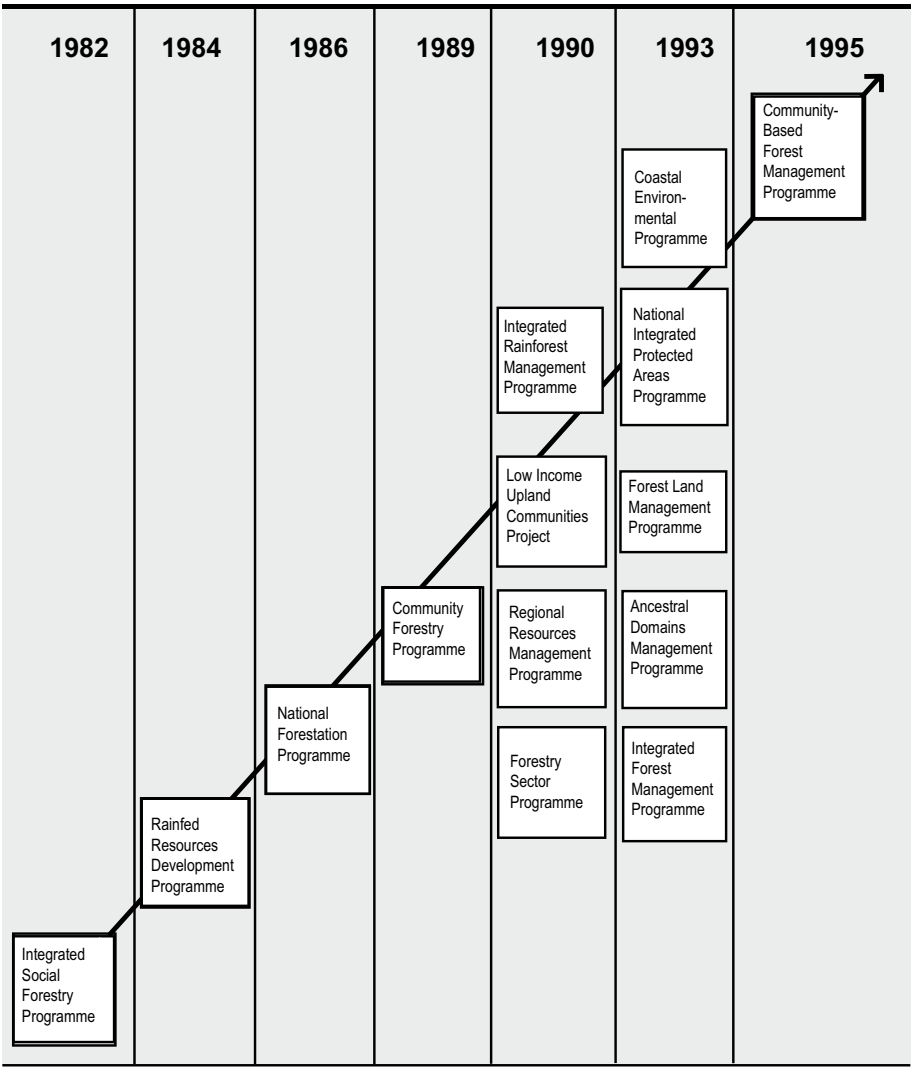

Figure 6-1. *Evolution of Philippine community forestry programmes*

Community-Based Forest Management

The Community-Based Forest Management programme sets out to achieve its goals of protecting, rehabilitating and conserving forest resources, with the participation of local communities, under the supervision of DENR. Local communities that meet certain requirements[5] can obtain the legal right to manage forestland by organising themselves into voluntary groups

called people's organisations (POs). These are legally recognised entities that are registered with the Securities and Exchange Commission or Cooperative Development Authority. Because members are volunteers, the POs do not represent the whole community or all forest users.

In exchange for the right to use the forest and its resources, the POs are responsible for managing, protecting, rehabilitating and conserving the forest, preparing management plans and developing their organisations (DENR 1998); oversight lies with DENR. Having the mandate[6] to supervise and control over the country's forest and natural resources, this national agency is in charge of the protection, utilisation and development of forestland. It is expected to formulate, coordinate, implement and monitor forest policies through its regional, provincial and community-level offices.

DENR has made tremendous progress in devolving the management rights over forestland to the communities. Of the targeted 9 million ha of community forests to be achieved by year 2020, as stated in the DENR Action Plan, by 2003 about 5.97 million ha had been granted to local communities under various tenure arrangements. As of 2005, 1,781 CBFM agreements had been issued covering about 1.622 million ha, and 1,781 people's organisations were involved in these projects (FMB 2005).

Nevertheless, community forestry in the Philippines still faces many problems. One of the biggest challenges is the lack of participation and support from local government (Geollegue 2000; Tiongson 2000). The authority to manage certain natural resources has devolved from DENR to local government units, in particular the municipal and provincial governments. The Local Government Code[7] authorises these units to implement social forestry and reforestation programs, manage communal forests of 5,000 ha or less, protect watersheds and enforce forest laws. The code gives the municipal and provincial governments the authority to implement community forestry within their jurisdictions. In reality, however, DENR maintained control in various ways, such as by adjusting its relations with other stakeholders, revising its rhetoric or imposing excessive technical requirements on the local government (Gauld 2000; Edmunds and Wollenberg 2001). The local governments also contributed to this problem because they lacked the capacity and resources to engage effectively in community forestry (Vitug 1996; Castro and Garcia 2002; Ignacio and Woell 2002).

Another major challenge is the mismatch between DENR's legal, technical and administrative requirements and the POs' capabilities. Not only were the requirements excessive, they were also often ambiguous, contradictory and irrelevant to realities on the ground (Edmunds and Wollenberg 2001; O'Hara 2002). This situation was compounded by frequent policy changes and insufficient information sharing between central and local offices of DENR and the resultant policy misinterpretations (Devanadera *et al*. 2002; Hartanto and Evangelista 2002). The POs had insufficient knowledge and capacities and could not rely on support from the understaffed local offices. Often, there was only one site coordinator for every three to five community forests (Diaz and Bacalla 2002; Cayatoc 2002). In such a situation, it was hardly surprising that the POs often failed to meet the agency's requirements to participate in the programme. This tight regulatory control contradicted the spirit of devolution in forest management and undermined the partnerships the agency was supposed to foster with the communities.

Testing ACM in community forestry

The ACM Philippine team hypothesised that the ACM approach and processes (Chapter 2) could enhance the capabilities of the people's organisations and local stakeholders in dealing with the political, ecological and socio-economic challenges they faced and improve community forestry in several ways. First, through proper identification of stakeholders and deliberate engagement of key stakeholders in information sharing and collective action, ACM would enhance participation and foster genuine partnerships. Second, through social learning and collaborative monitoring, ACM would help POs and local stakeholders respond to the broader socio-economic and political shifts and adapt their management strategies accordingly. Lastly, by putting POs squarely at the center of all innovation, ACM would strengthen members' skills and awareness so that they could become more self-reliant and self-confident in addressing their problems and in managing forest resources. Collective action, social learning and collaborative monitoring would empower POs and produce long-term positive impacts. The team used participatory action research as the main methodology to enhance collaboration and adaptation in forest management.

Research sites

The ACM project was implemented in two community forests, one in Palawan province and the other in Bukidnon province, between 1999 and 2002. The research team consisted of the author as the country-coordinator and five Philippine researchers. Two full-time researchers spearheaded the ACM project in Palawan; two full-time field-based researchers and one part-time coordinator facilitated ACM processes in Bukidnon. The Bukidnon team members were affiliated with the Research Institute of Mindanao Culture, Xavier University. In addition to these two main sites, several case studies were conducted in other sites, such as Mount Makiling (Laguna), Kalahan (Imugan), Santa Fe (Nueva Vizcaya), Argao Watershed (Cebu), Salvacion and Aborlan (Palawan), to generate insights on community-based natural resource management in the Philippines.

Palawan

Palawan Island is located in the southwest of the Philippines. The island is about 425 km long, and its width varies from 5 km to 40 km. It is considered one of the world's biodiversity hotspots (Finney and Western 1986). The ACM project focused its efforts on a 5,006-ha community forest about 67 km from Puerto Princesa City (Figure 6-2). The area consisted of a strip of forestland, in need of rehabilitation, that cuts across the administrative boundaries of three adjoining *barangays* (villages): San Rafael, Tanabag and Concepcion. DENR gave the management rights of the forest to the San Rafael, Tanabag and Concepcion Multi-Purpose Cooperative, Inc. ('the cooperative') in 1996.

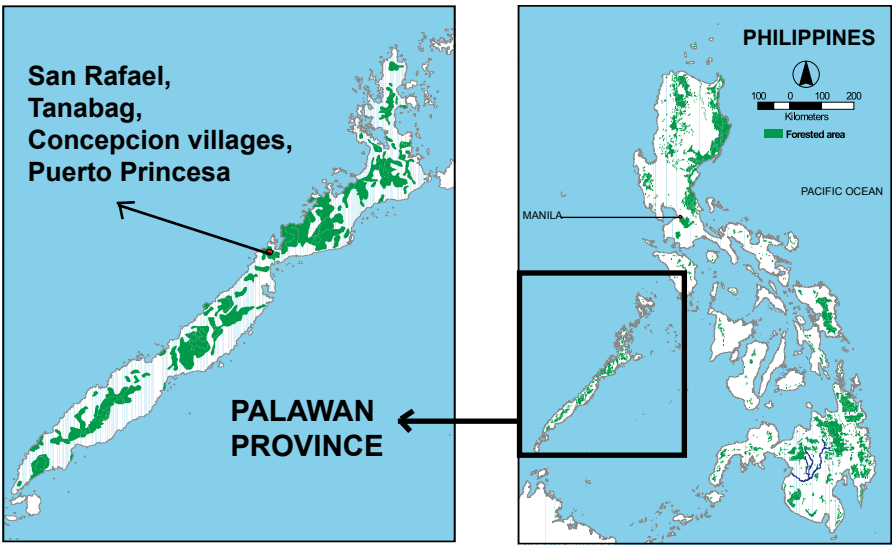

Figure 6-2. *ACM site in Palawan*

Interviews with several villagers revealed that forest quality had declined over time. Prior to 1970, the villagers observed that forests contained a high diversity of plants, including timber species, in particular *almaciga (Agathis damarra)*, *ipil (Instia bijuga)*, and *narra (Pterocarpus indicus)*. After 1970, when a logging concession started its operation, forest conditions gradually deteriorated, and migrants who practiced shifting agriculture started to settle in the area. To control forest degradation, the state imposed a total logging ban in Palawan in 1992 and the mayor of Puerto Princesa City launched a massive campaign against *kaingin* (Lorenzo 2001). Analysis of 1992 satellite images undertaken by Palawan Tropical Forest Protection Programme[8] showed that 67 percent of the total 18,110 ha of the administrative areas of the three villages was covered by primary forest (Figure 6-3). The remaining 33 percent, mostly located at the lower region and closer to the settlement and the main road, consisted of secondary forest, brush, and cultivated land. Within the forest itself, only 55.5 percent of the total 5,006 ha was classified as primary forest. The majority of this forest type was located within *Barangay Concepcion* (Hartanto *et al.* 2000).

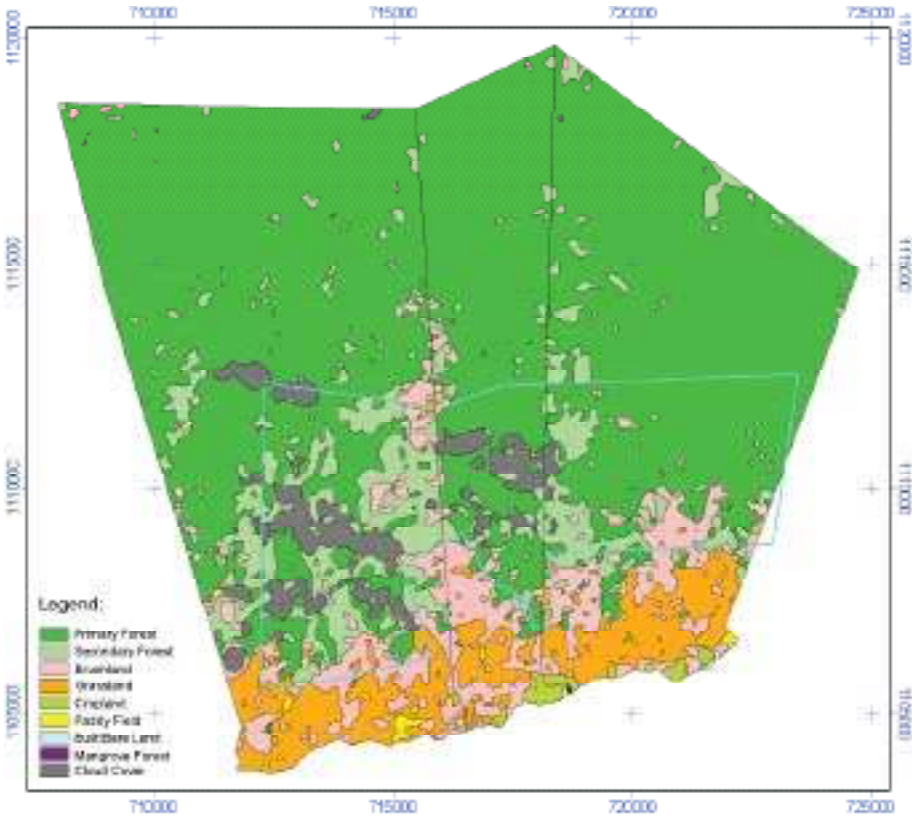

Figure 6-3. *Forest cover in three barangays and community forest*

The total population of the three villages in 1999 was 3,597: 1,575 in San Rafael, 1,565 in Concepcion, and 457 in Tanabag. The majority were migrants, and the rest were members of indigenous people, the Tagbanua and Batak. Most of the villagers were engaged in farming and fishing, but some engaged in trading and collection of honey and *almaciga* resin (Lorenzo 2000).

Bukidnon

The other ACM research site is a community forest in Basac village in the municipality of Lantapan, Bukidnon province, in north-central Mindanao (Figure 6-4). It lies in the southwestern foothills of Mount Kitanglad, the second-highest peak in Mindanao. Mount Kitanglad is important ecologically and culturally. It has important ecological functions as one

of the major watersheds in northern Mindanao. The watershed serves as the source of water for agricultural, domestic and industrial purposes. It also supports the richest diversity of mammals and birds in the country and provides habitats to many endangered, endemic and economically important species of plants and animals. There are at least 58 families and 185 species of trees and other woody plants, 345 fern species (20 percent endemic), 63 species of mammals (43 percent endemic), 25 reptile species (57 percent endemic), 26 amphibian species (12 percent endemic), and 168 bird species (37 percent endemic), including the critically endangered Philippine eagle *(Pithecophaga jefferyi)* (DENR-IPAS 2000). Mount Kitanglad is also important socially and culturally because it is the home of many indigenous communities, including the Talaandig—semisettled agriculturalists in the uplands who plant corn, rice, root crops, *abaca (Musa textilis*) and banana (Saway 2002).

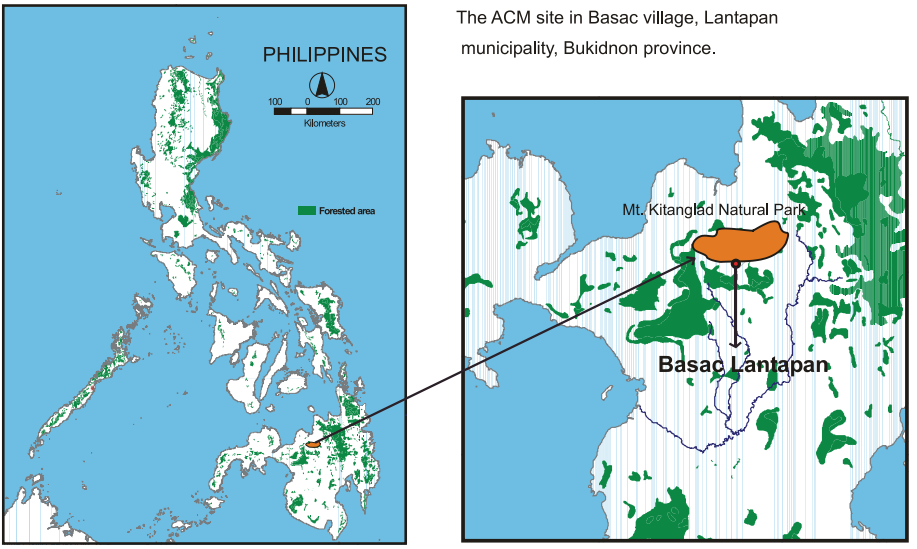

Figure 6-4. *ACM site in Bukidnon*

Many anthropogenic and natural factors have put pressure on Mount Kitanglad ecosystems. Significant portions of the primary and secondary forests were destroyed by fire during the 1983 El Niño. High population growth (a rate of 4.18 percent) and human activities, including illegal logging, shifting cultivation and fire, have also affected the environment. Signs of environmental degradation—soil erosion, frequent floods during

the rainy season and drying up of springs and other water sources during the dry season—became apparent (Catacutan *et al.* 2000; Valmores 2002). Forest resources also declined over time. The participatory assessment that the ACM team conducted with community groups in Barangay Basac in 2002 indicated that rattan, *abaca*, coffee, herbs, wild animals, and forest trees had become scarce. Such scarcities created problems for the communities because they depended on many forest resources (Burton 2002).

The alarming degradation of natural resources around Mount Kitanglad and the potential impacts on both the rich flora and fauna and the people in the area led policy makers to formulate a protection and conservation strategy. The Mount Kitanglad Range Natural Park was declared a protected area in 1996 by presidential proclamation. The protected area and its buffer zone are about 40,000 ha. Mount Kitanglad is considered one of the most important parks in the Philippines and one of the 10 sites in the Philippines funded by the World Bank's Global Environment Facility through the Conservation of Priority Protected Areas Project. The management of the park follows the 1992 National Integrated Protected Areas System Law, under which management is the responsibility of a multistakeholder policy-making body called the Protected Area Management Board. Day-to-day management of the park is carried out by DENR (DENR-IPAS 2000).

Barangay Basac has a total land area of 2,800 ha. The village is subdivided into six *puroks* (subvillages or hamlets) with a total population of about 4,000, in 750 households. In 1999 about 95 percent were indigenous people of Talaandig, and the rest migrants, mostly from the nearby provinces of Cebu, Bohol, and Leyte (Arda-Minas 2001). The majority of the villagers were farmers. Their community forest consists of 517 ha in the buffer zone of Mount Kitanglad. About 60 percent of the area was cultivated land and planted with food crops, 15 percent was grassland, 15 percent was open canopy forest, and only 10 percent was closed canopy forest (Hartanto *et al.* 2002b). Management rights were granted to the Basac Upland Farmers Association, Inc., in 1999.

Stakeholder analysis

Although different in their ecology and socio-cultural setting, the two ACM sites shared several similarities. In both sites, the people's organisations that held the management rights over the forests were not the only local institutions, and they were not the only ones who had interests in forest

resources. The results of the stakeholder analysis, using the 'Who Counts Matrix' developed by Colfer *et al.* (1999), revealed numerous stakeholders (Table 6-1) with complex and dynamic interactions. Furthermore, the PO members were only a small fraction of the population. In Palawan, the cooperative had only 433 members, or 12 percent of the community; in Bukidnon, the Basac association had only 180 members, or about 4.5 percent of the total.

Table 6-1. *Stakeholders in Palawan and Bukidnon sites*

San Rafael, Tanabag and Concepcion, Palawan	*Basac, Bukidnon*
Community groups	
San Rafael, Tanabag, Concepcion Multi-Purpose Cooperative	Basac Upland Farmers' Association Inc.
Fishermen's Association	Council of Elders
Women's Group	Basac Tribal Farmers' Association
	Basac Association's women's group
Government institutions	
DENR and its provincial office and community-level office	DENR-Integrated Protected Areas System
Local government units at the barangay, city and provincial levels	Local government units at the barangay and municipal levels
Palawan Council for Sustainable Development	Protected Area Management Board
Nongovernmental institutions	
Budyong Rural Development Foundation	Kitanglad Integrated NGOs
Enterprise Works Worldwide	Barangay Integrated Development Assistance for Nutrition Improvement
Environmental Legal Assistance Centre	World Agroforestry Centre
Haribon Foundation	Heifer International

The assessment conducted by the two ACM teams also found a low level of collaboration between the POs and other stakeholders in the area, and in Palawan, there was also a history of conflict amongst them. The most intense conflict involved the cooperative, a concessionaire that had held the rights to extract *almaciga* resin before management rights had been granted to the cooperative, and the *barangay* captains who politically supported the concessionaire. The concessionaire was no longer able to operate in the

area because DENR had not renewed its extraction rights. Nevertheless, the unresolved conflict between the *barangay* captains and the PO affected the cooperative's ability to implement its forest management activities and engage the wider community (Lorenzo 2001). In Bukidnon, although there was no history of intense conflict between the PO and other stakeholders, the association had been unable to establish networks with others, such as such as the Council of Elders and Basac Tribal Farmers' Association. Furthermore, there was a lack of trust between community members and *barangay* officials. The community members tended to hold back their opinions at meetings. Information sharing was also limited: the *barangay* leaders did not always share information widely with other community members (Arda-Minas 2002).

The team found that prior to the ACM project, the POs' conscious learning and adaptation of forest management strategies to the broader socio-economic and political shifts had been slight. Reflections on past experiences were limited to discussions at meetings, and lessons were rarely incorporated into subsequent actions. In Palawan, it appeared that the POs occasionally reflected on their past experience. Nevertheless, the processes were limited to the board of directors and a few members and did not include other stakeholders. The learning processes and their links to subsequent strategies were not obvious (Arda-Minas 2002; Lorenzo 2002).

ACM process and elements

Prioritisation of local issues

In the first six months of the ACM project, the team members familiarised themselves with local conditions and built trust with local stakeholders. During this immersion period, the team also collected information on biophysical and socio-economic conditions of the area and assessed to what degree collaboration and adaptation had been used by the people's organisations in past community forestry activities. Conventional and participatory data collection methods were used. The information served as baseline against which the team assessed the improvement contributed by ACM processes at the end of the project.

Next, using a participatory process, the team asked the POs and representatives of local stakeholders to identify and prioritise the local

problems that they wanted to address in an adaptive and collaborative manner. The problems were prioritised to make effective use of the limited resources available (Table 6-2).

Table 6-2. *Priorities identified by people's organisations and local stakeholders*

Palawan	*Bukidnon*
1. Conflict over boundary of community forest with neighbouring Batak community forest	1. Lack of alternative livelihood options
2. Lack of support from *barangay* leaders to community forestry	2. Lack of medicine at *barangay* health center
3. Low participation by PO and community members in forest management	3. Weak forest management
4. Lack of alternative livelihood options	4. Poor local governance
5. Government policies that hinder forest management	
6. Lack of collaborative monitoring system	

Formation of action learning teams

In Palawan, the PO's board of directors (five men and four women) decided, following a facilitated consultation process, that they would be the main group who would engage in every step of the ACM process. In Bukidnon, we proposed that the PO invite other community groups and other *barangay* residents to participate in the process. The interested participants then formed four groups of about 15 people each, based on their interests; each was in charge of addressing one of the four prioritised issues.

Throughout the project, the team also encouraged these action learning groups to identify other stakeholders who should be invited to participate in the processes. To prevent domination by more 'powerful' stakeholders, the team first attempted to strengthen the PO members' confidence to deal with such stakeholders by improving their analytical and communication abilities. The learning processes were gradually expanded to include other stakeholders through multistakeholder discussion forums.

Application of ACM approach

The next step was to introduce the newly formed action learning groups to the structured learning processes they would be undergoing. These were described as continuous cycles or loops of reflection-planning-action-monitoring. For each priority issue, the action learning groups (1) reflected on the causes of the problem by analyzing how it had been handled in the past and why previous attempts had failed; (2) planned together how to address problems by selecting the best strategy from several options and agreeing on who would carry it out and when; (3) implemented the agreed strategy; (4) monitored their actions and learned from them; and (5) adjusted their management strategy accordingly. The research team supported and facilitated this process as necessary, understanding that cycles of action and reflection would be of different duration depending on the stakeholders or the issue.

Through this iterative process, the group gradually made changes and adjusted their strategies while learning about the consequences of their decisions and actions. The research team attempted to make learning processes more conscious and structured by frequently using these learning loops as the framework for charting the progress made by the groups on each issue.

The following sections describe the learning processes that the action learning groups in both sites underwent and their outcome. Of the 10 issues addressed by the action learning groups in the two ACM sites, I have selected three to illustrate how ACM processes were played out.

Forest boundary dispute

In the Palawan site, DENR had awarded the management rights of different portions of the forest to the cooperative and to the Batak indigenous people. Initially, the cooperative was given the right and responsibility to manage 1,000 ha of forestland; the tenure was later expanded in February 1997 to a total area of 5,006 ha. The Batak community forest was about 900 ha and lay adjacent to the cooperative's forest.

When the cooperative's community forest was expanded, the new area was not surveyed and its boundaries were not mapped. A complete survey existed for the original 1000 ha only. In 2000, Haribon, a local NGO that assisted the Bataks, asserted that the areas of the two forests overlapped

and that the area where the cooperative was collecting *almaciga* resin had in the past been their area; moreover, the Batak village areas were said to be within the expanded cooperative area. At that time, only the cooperative had the legal right to extract resin because the Bataks were still dealing with the administrative and technical requirements of permit renewal.

To solve this boundary issue, the team facilitated a meeting of the cooperative's board of directors to reflect on the causes and determine how to handle it. The group assumed that a map of the two forest areas would resolve the dispute, once the Bataks could see for themselves that the boundaries did not overlap. No such map was available at the DENR provincial office, however. On learning this, the group requested assistance from the Palawan Tropical Forest Protection Project in obtaining the global positioning system coordinates of the forest boundaries. A survey undertaken by the cooperative, DENR, and Palawan Tropical Forest Protection Project in March 2001; representatives from the Bataks and local government were not able to participate. The survey clearly delineated the cooperative's forest boundaries on the ground, and a map was drawn.

In a meeting facilitated by the DENR site coordinator, the group showed the map to the Bataks and explained the location of their forest area vis-à-vis the Batak village. The map was neither useful nor effective, however. The Bataks, like many other indigenous people in Southeast Asia, have a different conception of boundaries and mark their territories by following natural features, such as rivers and hills, not in the form of a line that delimits the margins of a territory (Fox 2000). Nevertheless, the group believed that a map showing the location of both areas, relative to each other, was still needed, and DENR was asked to provide such a map.

During the dialogue, it became clear that the boundary dispute masked the real problem for the Bataks: securing their livelihoods. Their inability to obtain permits from DENR to access *almaciga* resin had serious economic repercussions. Using this insight, group members reckoned that the boundary dispute would be resolved indirectly if they could help the Bataks make a living. They therefore negotiated a working arrangement to allow the Bataks to extract *almaciga* resin from their forest area provided the Bataks sold the resin back to the cooperative. In turn, the cooperative would guarantee a price per kilogram of at least one-half to one Philippine peso higher than that offered by the local traders. This arrangement was welcomed by the Bataks, who usually bartered their resin for rice, coffee or tobacco at unfavourable exchange rates. The cooperative also stood to

benefit from the arrangement, since the Bataks would extract resins at the far end of its forest. The cooperative could thus optimise the resources within its area while controlling the production costs. The two POs further agreed to collaborate in other income-generating activities and in protecting their areas from illegal activities.

Anticipating problems with the *almaciga* traders, some of whom had illegally extracted resin in the area in the past, the group met with these traders and explained its community forestry activities, its right to manage and utilise forest resources within the forest, and the legal aspects of collection, selling and buying of *almaciga* resin. As a result of this dialogue, some of the traders agreed to coordinate with cooperative and offered a royalty on the sale of resin extracted from the forest. The learning process that the group went through in addressing the boundary dispute is described in Figure 6-5.

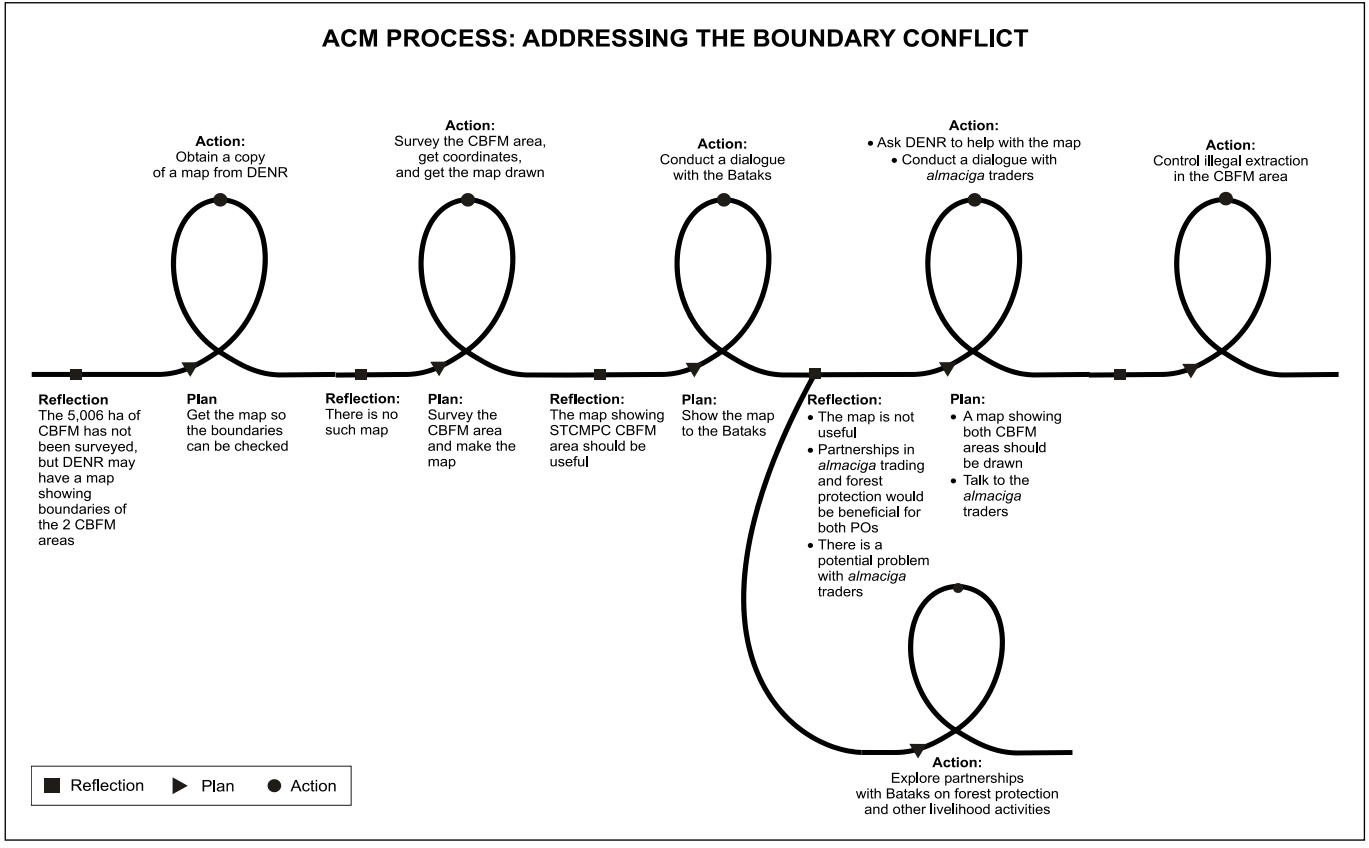

Figure 6-5. *ACM process in addressing forest boundary conflict*

Several other positive outcomes resulted from the successful resolution of the boundary dispute. First, cooperative members learned about the Bataks' indigenous knowledge, specifically on resin extraction and medicinal herbs growing in the forset. Second, the cooperative became more willing to engage the Bataks in skill-building activities. It invited several Bataks to participate in the handicraft and nursery establishment trainings that were organised for the cooperative by assisting agencies. Lastly, the two POs made coordinated efforts to control illegal activities, such as illegal timber cutting and *almaciga* extraction, and report them to the appropriate state agencies.

The joint learning and action within the group and with participating stakeholders contributed to the success of the dispute settlement. Members learned by reflecting on their actions, and learning was immediately transformed into collective action (the survey, the dialogue) that engaged different stakeholders. Members also gained insights into the Bataks' conception of boundaries and their livelihood problems. By accepting the Bataks' different conceptualisation of space, new opportunities for partnerships in *almaciga* trading emerged for both POs. Another outcome was the significantly improved levels of trust and engagement between the cooperative and the Bataks.

Communication through newsletters and bulletin boards

The low level of community participation in forest management was another priority issue in the Palawan site. The action learning group attributed the problem to villagers' unmet expectations for economic benefits from community forestry and lack of information about the PO's activities and achievements. The group realised that the lack of benefits had discouraged their members from participating in community forest activities and investing in forest management and decided to improve information and communication[9].

Its first strategy was to produce a newsletter, called *Balangaw*. The first issue was produced by two members of the board of directors with the help of the ACM team. The PO members and the local government who received this newsletter responded positively, finding it informative, with a clear statement of the PO's vision, mission, objectives and recent activities. Encouraged, the group decided to produce the newsletters regularly and established an editorial team of three women and four men. Realising that

the editorial team lacked writing ability and, even more important, the layout skills to create an appealing format that would attract more readers, the group asked the ACM researchers for training. Four women and nine men underwent the training and published the next issue of the newsletter in a more attractive layout; 50 copies of the newsletter were printed and distributed to local stakeholders like DENR, the city government, *barangay* councils, NGOs, and others. The action learning group produced six issues of *Balangaw* over 18 months (February 2001 to August 2002) at a cost of Php 1000 (US$20). The ability of the editorial team to handle the tasks of newsletter production improved with time, and by the sixth edition, the assistance provided by the ACM team was minimal.

Another initiative to increase communication and information sharing was improving the use of the bulletin boards. The action learning group observed that some PO members were illiterate and others simply preferred illustrations over text. Three bulletin boards, one in each *barangay*, were erected at strategic places—in the *sari-sar*i (sundry) stores in Concepcion and Tanabag, and near the waiting shed in San Rafael. Like the newsletter, the bulletin boards contained information on community forestry, photographs of activities and data on forest products. In the latter part of 2002, the group used the bulletin boards to disseminate information on their seed germination experiment and the names of the persons responsible for day-to-day maintenance of the nursery. The learning process that the group went through in strengthening information sharing and improving communication channels is illustrated in Figure 6-6.

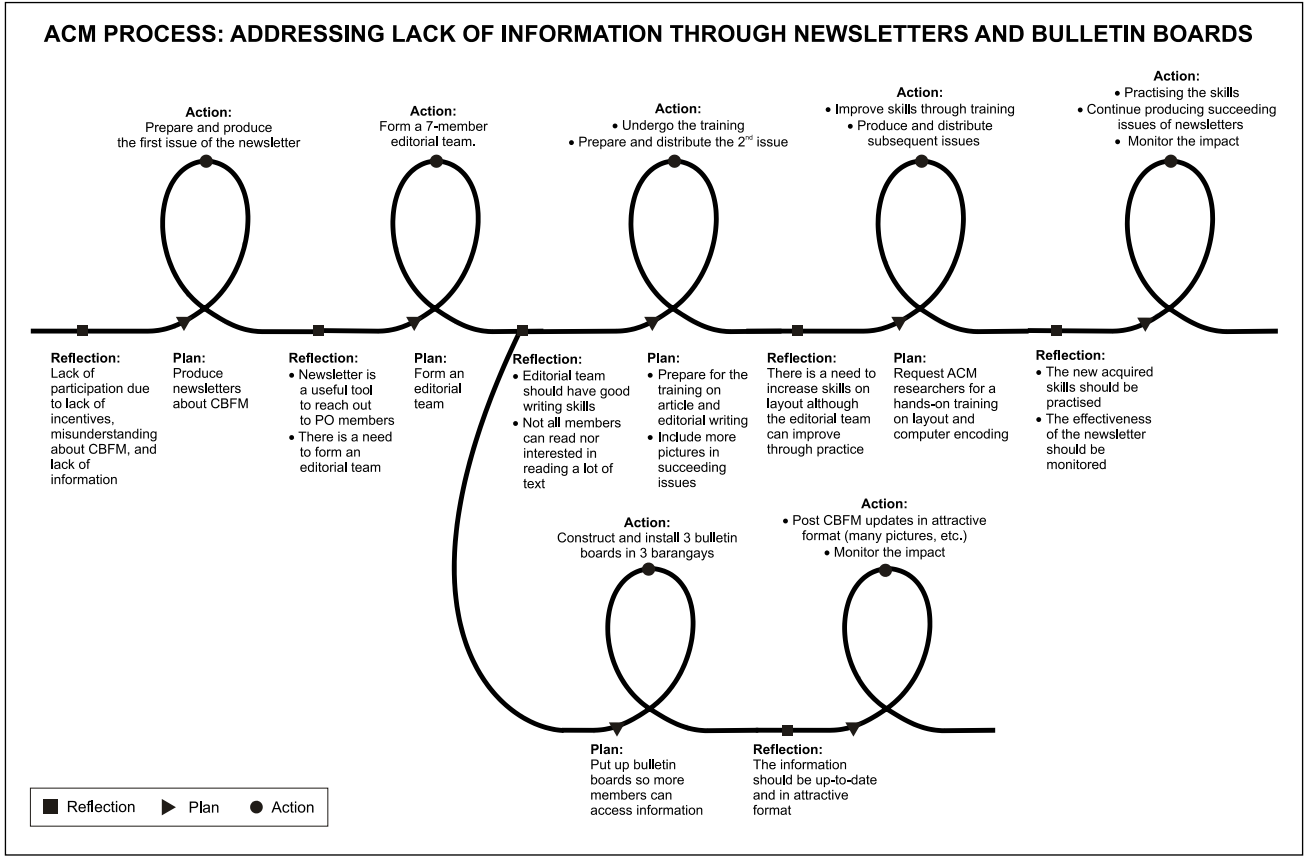

Figure 6-6. *ACM process in strengthening communication to enhance participation in forest management*

The increased awareness of the importance of communication to participation from their members prompted the board of directors to hold meetings at least once every month (instead of semiannually). The PO also found several other ways to communicate their community forest activities to wider audience, such as involving teachers and out-of-school youth, establishing linkages with local government units, and making use of the local radio program, *Radyo ng Bayan*. These actions produced immediate results: more people began visiting the PO office seeking information. Some sought clarification on the information they had seen in the newsletters or the bulletin boards; others asked about training and other activities.

The newsletter proved useful not only for the board of directors but also for its members and the local DENR. It gave members opportunity to share their observations, voice their opinions and improve their communication skills. DENR learned about illegal extraction of *almaciga* resin from a newsletter article and began an investigation—evidence that the newsletter was considered a reliable source of information. Despite these successes, the group still needs to undertake a more structured survey of the effectiveness of different communication media as the starting point for making future improvements.

Indigenous knowledge of herbal medicine

In the ACM Bukidnon site, the people's organisation and representatives of local stakeholders identified several health problems for Basac villagers. The most pressing was the unavailability of both traditional and modern medicines. The action learning group that decided to address the unavailability of medicines in Basac was composed of eight *barangay* health workers and one *barangay* resident. The group was occasionally joined by the *barangay* captain (a woman) and one male *barangay* officer.

In the past, a *botica sa barangay*, a store that sold Western medicine, had operated with the support from the municipal government, but it had closed: the idea of establishing the store had come from outsiders who apparently had not taken into consideration the economic conditions of the *barangay* residents. They could not afford the medicine, and the store had been poorly managed.

Based on the insights into past efforts, the group decided to revive the use of herbal medicine, which had always been a part of their culture. The strategy

was to establish a garden of local medicinal plants. An herb garden had been attempted in the past but succumbed to the El Niño drought of 1997-1998 and had to be abandoned in any case when the landowner reasserted rights to the plot. The group decided it would be better to locate the garden on public land within the village territory. The land next to the health center was ideal because, being heath workers, the group members knew that there was no plan to use the land for other purposes. They requested and received permission from the *barangay* captain to make use of a 400-square-meter plot.

The ACM team facilitated a meeting in which the members discussed what herbs to grow. All the plants that were frequently and commonly used, in demand and considered effective were listed. Initially, the group came up with 34 herb species: 24 lowland or introduced species and 10 forest species. The women then listed the sources of these species (their own plots at home, immediate neighbours, adjacent villages, the forest), and allocated the responsibility of collecting these species amongst themselves. Lowland species included tree species, such as *madre de cacao (Gliridia sepium)* and *Eucalyptus*, and herbs such as *lagundi (Vitex negundo)*, *hilbas (Artemesia vulgaris)*, *luy-a (Zingiber officinale)*, and *angelica (Bryophyllum pinnatum)*. Those who were assigned to collect forest species had to gather information about their whereabouts.

Because some of those species grew deep in the forests and could not be easily collected, the group decided to plant the garden with the 24 lowland species only. Preparation for the garden was done collectively by the women and their family members. Their husbands constructed a bamboo fence around the plot, and their children helped water the plants afterward. In addition herbs, they also planted food crops like beans, *pechay (Brassica chinensis)*, *patola (Luffa acutangula)*, gourds and cutting flowers. To ensure that they could water the herb garden regularly, the group lobbied the *barangay* officers for a water faucet installed near the clinic. This water faucet proved crucial for maintaining the garden during the dry season.

Once the herb garden was established, the group considered the needs of community members who lived on the other side of the village and could not easily get to the health center. They decided to establish another herb garden and obtained permission from the the Basac association president to set one up within the community forest. This garden was much larger—1,000 square meters—and planted not only with herbs but also with vegetables and root crops, such as sweet potato, cassava and *gabi* (taro).

The group reasoned that these vegetables and root crops could be prepared and served during the village meetings or community activities.

The two gardens prospered and began to attract the attention of community members and visitors. Some commented that they had expected more herbs; the women responded by propagating more herbs, especially those most commonly used by *barangay* residents. The women also encouraged residents to take some planting stock from the herb garden for their own gardens. Others took the vegetables for home cooking. As more residents started to make use of the gardens and some took plants without permission, the group faced the issue of regulation. They decided to monitor use of the plants by requiring users to complete a form, devised with the facilitation of the ACM team (Table 6-3). The monitoring form revealed the high frequency with which *lagundi* was taken for propagation purposes. Other species in high demand were *kalabo (Coleus aromaticus)*, *comfrey (Symphytum officinale)*, *atay-atay (Graptophyllum pictum)*, and *ganda (Curcuma zedoria)*. The abundance of the information collected in the first few weeks was so overwhelming that the group simplified the monitoring form.

Table 6-3. *Example of monitoring form: herb garden*

	Beneficiary	*Herb*	*Use*
1.	Consorcia Zulita	*Atay-atay*	For propagation
2.	Pelinia Coliling	*Angelica*	Treatment of fever
3.	Bads	*Bawing, herba buena*	For propagation
4.	Consorcia Zulita	*Bawing*	For propagation
5.	Juanita Luna	*Lagundi*	For propagation
6.	Merlyn Carpe	*Lagundi*	For propagation
7.	Rosita Wacda	*Lagundi*	Cough treatment
8.	Teresa Tinio, Juanita Luna, Perlita Abando, Merlinda Sinhayan	*Petsay*	For cooking
9.	Glenda Zulita	*Lagundi*	Cough, fever treatment
10.	Diana Sihagay	*Angelica*	Treatment for swelling
11.	Narcisa Sanghid	*Kalabo*	Cough, fever treatment
12.	Bong Gonzales	*Kalabo, herba buena,* comfrey	Cough, fever treatment

The ACM team believed that the group could make better use of the herbs if members learned more about herbal medicine and processing techniques. The group responded positively and asked the local NGO, the Katilingbanay Foundation, to conduct a two-day training programme. Using an intensive small-group practicum, the Katilingbanay team taught the participants—five Basac association members (all men), four members of the Basac association's women's group and two *barangay* residents—about practical diagnostic and herbal processing procedures, such as preparing lagundi cough syrup, ginger fmassage oil, *sambong (Blumea balsamifera)* herbal tea, and *akapulko (Cassia alata)* soap and ointment. After the training, the participants took home and distributed 183 medicinal concoctions for testing. They also shared their new knowledge with their family members, relatives and neighbours. The *barangay* health workers started to prescribe herbal medicine to their patients. The learning process that the women's group underwent in addressing the lack of medicine is described in Figure 6-7.

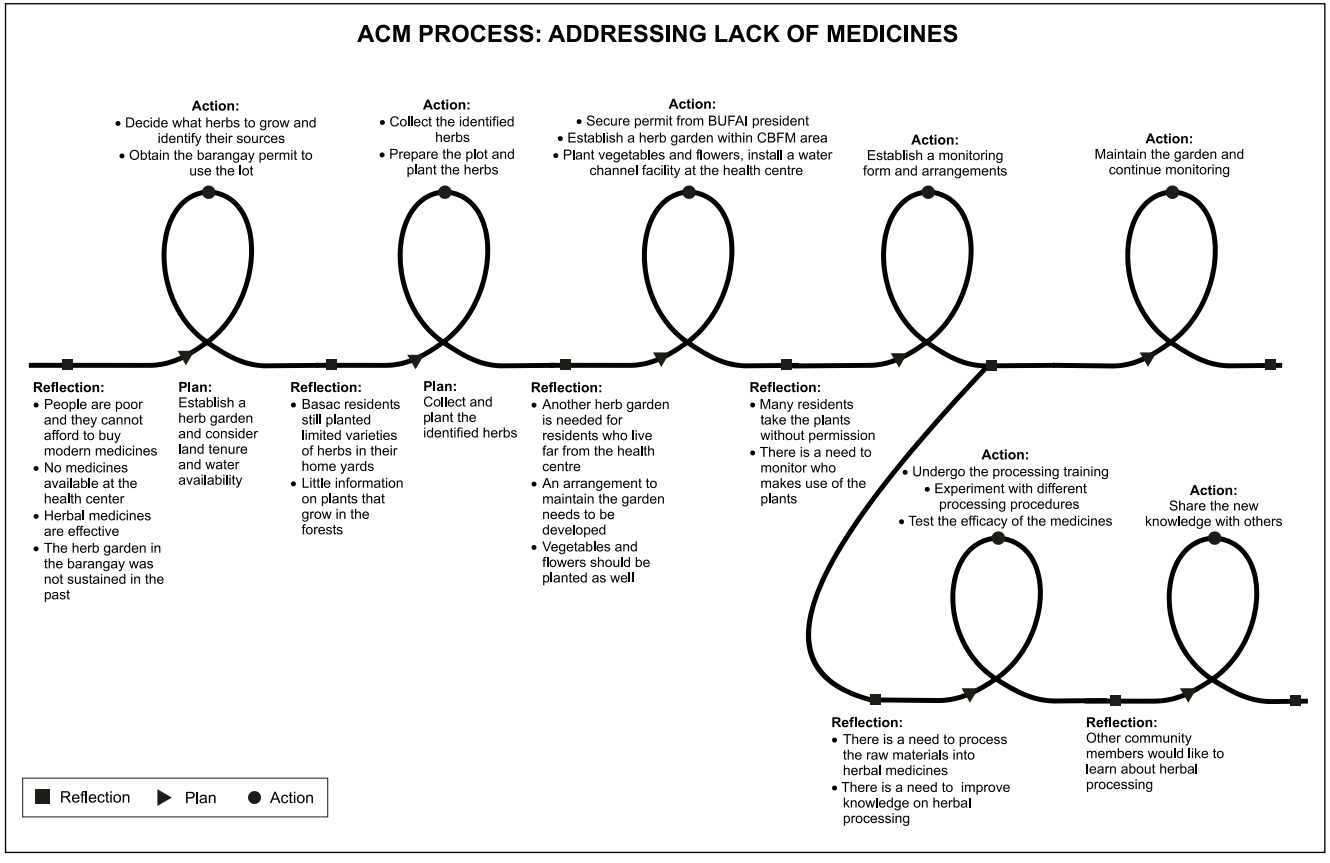

Figure 6-7. *ACM process in addressing lack of medicines at health centre*

The group's efforts in addressing the health problem in the village had positive effects. Households in the *barangay* diversified their backyards and planted them with herbs, vegetables and cutting flowers. According to the monitoring form, in July 2002 alone (four months after the herb garden was established), on average five persons per week took one or two species from the garden for propagation purposes. Group members also exchanged planting stock with each other and with other stakeholders, including the staff of the nearby banana plantation. The local school took better care of its herb garden after the women approached the head teacher.

In the Talaandig communities, knowledge of herbs for ritual and ceremonial purposes and their preparations had been held by men. Because men generally spend more time in the forest, clearing land for their swidden farms and collecting forest products, they were usually more knowledgeable about forest plants; the women were more knowledgeable about lowland and introduced herbs (Erlinda M. Burton, personal communication, 7 April 2003). Such information had not usually been shared between men and women, but the herb garden activities provided venues for both sexes to exchange knowledge about herbs and their different uses.

The women's efforts were recognised and appreciated by the *barangay* and municipal governments. The Basac *barangay* council explicitly expressed their appreciation to the group in one of its meetings. The group was also asked by the municipal health workers to train others in the municipality. The group declined, however, because they felt they need to focus on their own *barangay*.

Outcomes of ACM

In facilitating the groups, the ACM teams applied most of the processes that underpin the ACM approach:

- communication among members of the same group or between different groups to share information and knowledge;
- collective planning and decision making;
- collective action to carry out plans;
- intentional learning and experimentation;
- social learning;
- collaborative monitoring;

- incorporation of lessons learnt to refine management practices; and
- conflict management.

The learning processes that the groups underwent in both sites have enabled them to address their local issues satisfactorily and to deal with the social, biophysical and political complexities of community forestry. The application of those ACM processes and their incorporation into community forest activities have produced the hypothesised outcomes: enhanced participation and partnerships, ability to adapt management strategies, and self-confidence in addressing problems and managing the forest.

ACM processes, which deliberately engage stakeholders in information sharing and collective action, have enhanced participation of both the people's organisation members and other groups, including DENR, Palawan Tropical Forest Protection Project, local government, local NGOs, and neighbouring villages. Increased efforts by the board of directors to share information about the organisation, its activities and benefits also increased participation. The engagement of more members and wider stakeholders, in turn, prompted the PO to be more transparent and accountable because its management was put under the scrutiny of more observers.

The ACM processes that foster learning, monitoring and adaptation also produced positive outcomes in both sites. In Palawan, the action learning group changed its strategy for dealing with the boundary dispute once the members understood the Bataks' concept of territory and their economic problems. This adaptation was triggered by the realisation that the dispute could be solved only by respecting and accepting the Bataks' different knowledge and by establishing partnerships with them. In Bukidnon, the processes that gave the women leadership roles—a substantial change from their usual supporting roles—allowed both them and others to see their importance in *barangay* development. As in the Palawan group, conscious reflection and monitoring enabled the women to anticipate potential problems and devise management strategies to cope with them. These achievements, coupled with positive remarks and compliments from other stakeholders, increased people's self-confidence and encouraged self-reliance.

The ACM team also noticed improvements in the human and social capital of some PO members in both sites: increased skills and capacities in

communication, networking, proposal making, monitoring, recordkeeping and small enterprise management. Other improvements include higher levels of trust among and between the board of directors, members, and other stakeholders; increased awareness of the board of the importance of engaging their members and other stakeholders; and the inclusion of community members and stakeholders in forest planning and management. In both sites, increased self-confidence and self-reliance were observed: rather than waiting for external assistance, the PO started its initiatives with what was available, even if it meant starting small.

Modest changes in financial capital were observed as well. Several women who made handicrafts as the result of ACM-facilitated training sessions enjoyed increased income, and the PO generated some income from lumber, rattan and *almaciga* extraction. Improvement in natural and physical capital was similarly modest, for several reasons. First, the ACM project did not make financial investments to directly improve natural or physical conditions by, for example, rehabilitating the community forests or setting up nurseries. What the team did was facilitate a process so that the POs could identify areas that needed improvement and then assist them in securing external financial sources. In many cases, the POs invested their own resources—for example, in setting up small-scale nurseries to grow timber species and planting trees in their community forests and farms. Second, the time frame of the project in both sites was too short for the team to observe changes, particularly in Bukidnon site, where action research processes were facilitated for only a year. Several actions, however, can be expected to affect forests in positive ways. In Palawan, partnerships with the Bataks and traders could prevent overextraction of *almaciga* resins. In Bukidnon, the success of the herb garden and the wider use of herbal medicine may make the community more aware of the importance of managing the forests properly. The improved human and social capital should also eventually increase natural and physical capital, but it will take time before any changes reach measurable levels. Certainly there was no decline in forest quality during the ACM project.

Besides the outcomes produced through the application of ACM processes were two 'emergent' outcomes: more participatory decision making, and better control of illegal harvesting. The specific local issues the POs confronted were connected in many ways to the broader socio-economic, political and ecological systems. By affecting several inter-connected specific local issues in a positive way, outcomes at the higher level could emerge even without direct intervention by ACM team. In Palawan, where the

team had more time to observe and understand the multiple connections, the impacts on the larger social and ecological systems can be traced. It should be emphasised that several other unrelated ACM processes also contributed to the following two outcomes in Palawan.

Participatory planning and decision-making processes

The process by which the Palawan cooperative formulated its 2002 annual work plan was more participatory and involved more community groups than in the past. Previously, management plans had been devised by two or three leaders of the organisation, without members of the organisation or the community. With the increased awareness of the importance of broader participation, the board of directors developed a rotation system in which several groups of members were given the opportunity to formulate, review and improve the drafts, taking turns in reviewing and providing inputs. The groups presented each draft to community members and other stakeholders for further inputs and feedback. DENR approved the final management plan within two months. By comparison, the previous plan took four years to be approved (Figure 6-8).

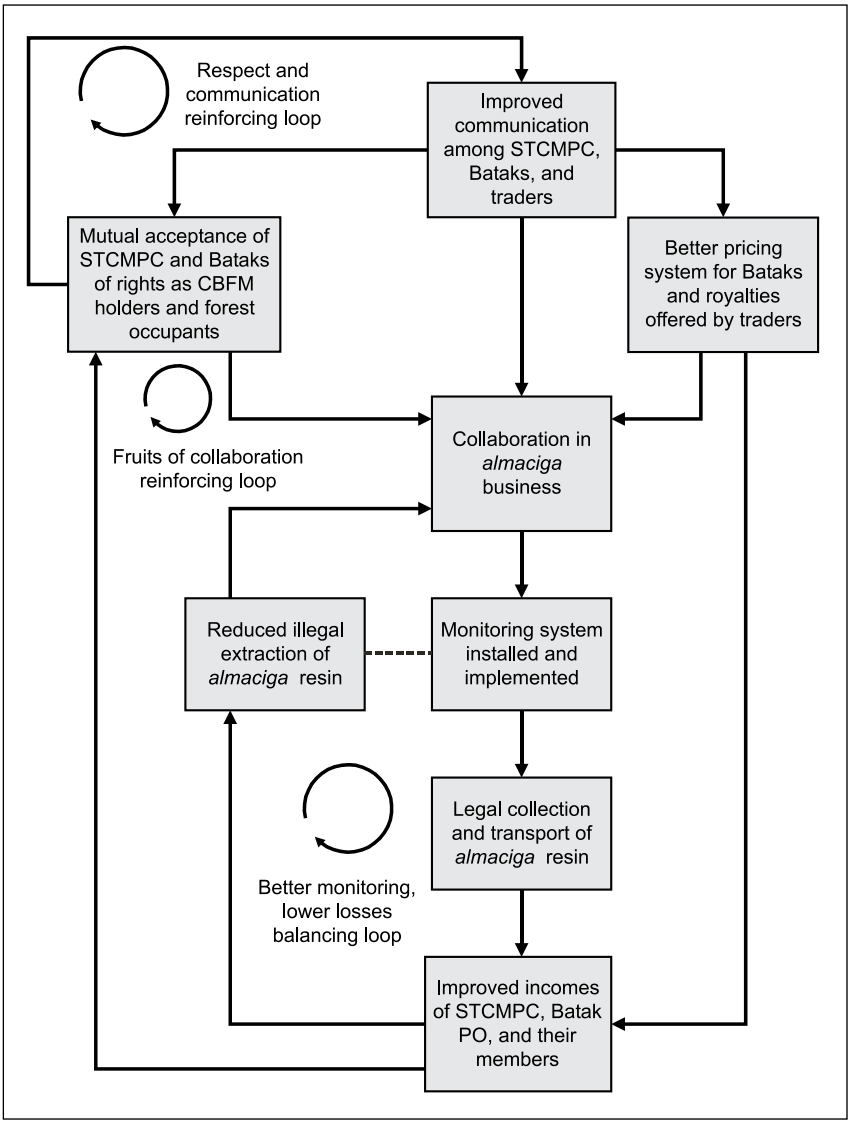

Figure 6-8. *Emergent outcomes of ACM in winning approval for annual working plan*

The ACM team did not directly facilitate that participatory process; it was the PO's board of directors that decided to engage a wider circle of members and stakeholders and devised the new system. The process produced a very encouraging outcome in the form of faster approval of the plan by DENR. The smaller interventions that had been directly facilitated by the ACM research team created conducive conditions for the larger outcome.

Controlling illegal activities

Another emergent outcome is the improved mechanism to monitor and control illegal extraction in the forest, in particular *almaciga* resin extraction. This was the result of the resolution of the boundary dispute and collaborative local monitoring (Figure 6-9).

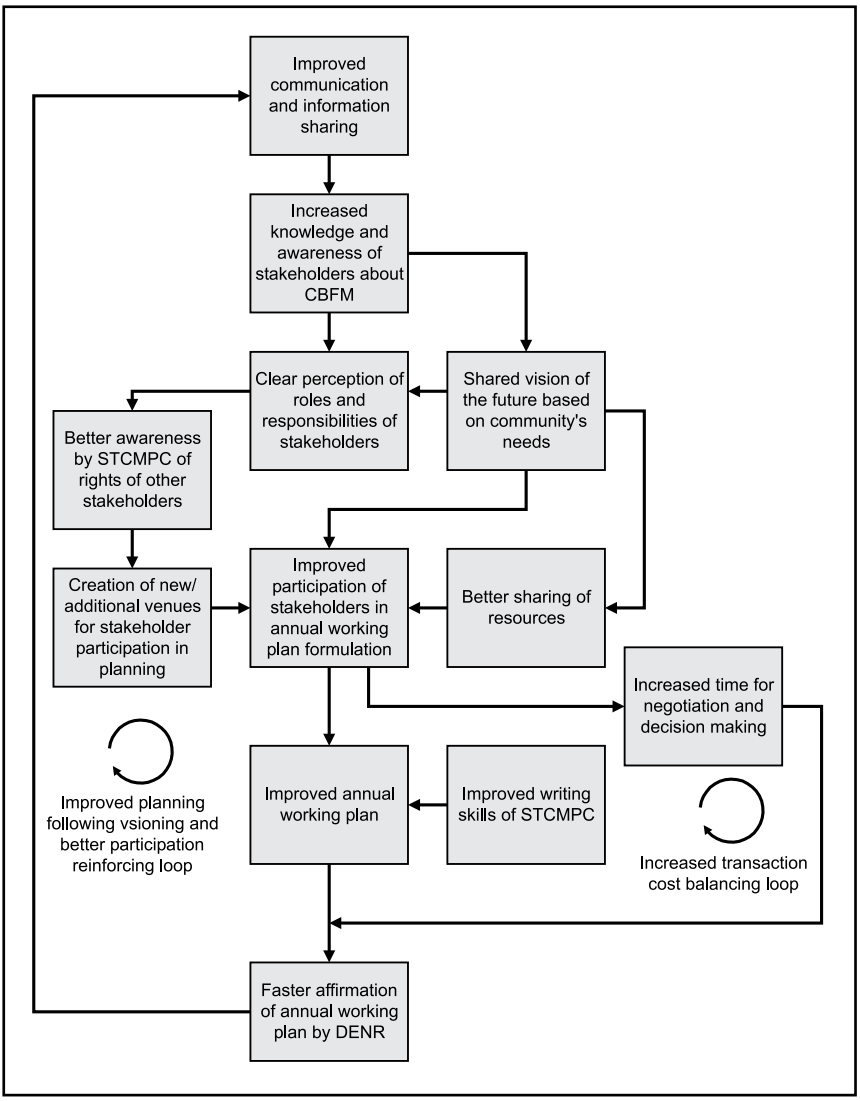

Figure 6-9. *Emergent outcomes of ACM in reducing illegal resin extraction and trading*

The boundary dispute was resolved by a partnership agreement between the PO and the Bataks for *almaciga* extraction and trading and in controlling illegal activities. At the same time, the PO was conducting its collaborative monitoring and found that the volume of resin extracted was less than they had expected. They suspected illegal extraction activities and subsequently monitored and controlled these illegal activities in coordination DENR, the city and village governments, the Bataks, Tagbanua, and the fishermen's group. This collaborative monitoring effort would not have taken place without increased communication and trust among the PO and other stakeholders.

Challenges in community forest management

Lack of partnerships

It has been pointed out that the authority over community forestry in the Philippines is not fully devolved, and that partnerships among DENR, local governments, and people's organisations are rare. Closer examination indicated that the devolution was often conditional, with DENR still retaining control (Gauld 2000; Edmunds and Wollenberg 2001). The complexity of the issues faced by the POs requires the involvement of other government agencies besides DENR. This is especially relevant now that foreign funding and DENR's financial resources are limited. Local government and other institutions may have the skills, knowledge and resources that would complement those of DENR, and we learned that they would willingly lend their assistance to the POs.

In addressing the lack of partnerships in community forestry implementation, the ACM team undertook a stakeholder analysis and subsequently engaged representatives of these stakeholders in discussing areas of common interest on which collaboration and partnerships could be developed. It was clear that not all aspects of implementation should be handled in partnerships with all institutions at the same time. Analysis of their mandates, interests, strengths and weaknesses allowed the institutions to identify areas that needed collaborative efforts and to strategise their resource allocation. As the result, the POs in both ACM sites established linkages with and received support from the Department of Trade and Industry, Palawan Tropical Forest Protection Project, Department of Agriculture, Municipal Health office, and several local and international NGOs.

A multistakeholder forum also appears to be a useful platform to improve communication and facilitate collaboration in places where institutional roles and interests overlap. Such a forum can bring together the information, perspectives, experience and knowledge held by different stakeholders. It may take time for a multistakeholder body to function effectively, as in the case of the Protected Area Management Board at the ACM Bukidnon site. Established in 1993, the board comprises the park superintendent, indigenous leaders, and representatives from DENR, municipal and village governments, local NGOs and POs. Although the board was dominated by government representatives, the dynamics within the board improved over time as stakeholders saw the usefulness of the forum and the indigenous members gained confidence in expressing their concerns openly. There had been several attempts to establish multistakeholder forums, such as the Technical Working Group for Resource Management and other provincial technical working groups, in Palawan in previous years, indicative of stakeholders' interest in collaborating and coordinating their efforts. These forums may well be one solution to the institutional complexity in Palawan.

Lack of conscious learning

Forest management planning and implementation in both ACM sites has been mechanistic and linear. The POs manage their forests by following DENR requirements and procedures; reflections on their experience and evaluations of their work plans were sporadic, and lessons learnt were not incorporated into future strategies (Arda-Minas 2002; Lorenzo 2002). This situation was exacerbated by the complexities of DENR regulations, which gave the POs little opportunity to experiment and devise innovative solutions. The POs hesitated to take risks for fear of penalties and suspension of their permits. The lack of immediate feedback mechanisms caused a lot of frustration among those who were engaged in daily forest management, including DENR staff.

The ACM learning tightened up the feedback loops in forest management implementation. In facilitated meetings, the POs began to evaluate their actions and management strategies and use the lessons learnt to improve their subsequent management plans, and the ACM team attempted to increase the POs' awareness of the importance of monitoring as a learning tool. The team also helped the Palawan cooperative develop a system, through participatory processes,[10] to monitor the volume of forest resources

extracted and control illegal activities. This experience showed that the POs would monitor their natural resources if the results were meaningful and useful to them.

DENR's blueprint for monitoring, called Environmental Performance Monitoring, was intended to help POs throughout the country evaluate their progress and improve their management systems. Unfortunately, the intent was not clearly communicated, and many POs perceived monitoring as a new burden. The PO in the ACM site, for example, worried that DENR would use Environmental Performance Monitoring as a tool to assess their performance and penalise them if they scored low. The POs needed to be involved in designing the monitoring system and experience for themselves how it could help them. DENR staff cannot help every PO to develop its own system, but they can encourage POs to tailor the current system's criteria and indicators framework to their local conditions and, more importantly, adopt a hands-off policy with regards to the collected data.

Overemphasis on technical forestry and productivity

Gauld (2000) asserts that DENR's strong emphasis on the technical and productivity aspects of forestry indicates that the transition from a top-down to a bottom-up approach is not complete. The POs in both sites found it difficult to meet the agency's technical requirements without external assistance. In the Palawan site, DENR staffing constraints left the PO with no choice but to hire a forester. This created dependency and burdened the organisation financially.

At the same time, DENR has overlooked the social, economic and institutional aspects of forest management. The agency was not fully familiar with the community groups, their dynamics, their dependency on forests and forest resources, and their experience in resource management, or the different ethnicities, occupations and political interests of the community members[11]. As the result, the granting of forest management rights to people's organisations often created divisions and conflicts between the POs and other community groups. A PO, for example, may restrict the forest-related activities of villagers who are not members of the organisation, creating opposition to its work. Such conflicts could be avoided if DENR staff did the groundwork necessary to understand the community and the power interplay between the PO and other community groups. Knowledge

of the intracommunity relations is crucial for DENR staff in developing the POs into cohesive and durable institutions.

Lack of incentives for people's organisations

Economic incentives encourage communities to participate (Gilmour and Fisher 1997), and without them, it will be difficult to maintain interest in forest management, especially where people are struggling with poverty. One resident of Barangay Basac said, 'It is difficult to think about long-term benefits coming to us in the next five years when today we are hungry and have nothing to eat tomorrow; it is more difficult to think about the future generation when today you can hardly feed your children'.

Several POs had DENR reforestation contracts that provided economic incentives for their members, but once the rehabilitation work ended, the incentives disappeared. Extractive activities were usually limited to small volumes of nontimber forest products, such as rattan, bamboo, resin, honey, or dead wood; this was the case for the PO in the Palawan site. Forest resources may be sufficient to provide economic incentives to the POs for a certain period of time, but in general, their tenurial areas are of marginal economic importance. As Li (2002) points out, the upland communities of the Philippines were given management rights over state forestland only after the most profitable opportunity—timber extraction—had run its course and the elites had found better investments elsewhere. DENR views nonforest income-generating activities as viable alternatives for meeting the POs' needs and in controlling people's dependency on forest resources. The agency therefore supports 'pump-priming' activities to generate financial capital that the POs can invest in nonforest income-generating activities. Unfortunately, these enterprises have often failed, the POs cannot provide much-needed income for their members, and interest and participation wane.

Although DENR has no mandate for POs' economic development, because forest resource management is intertwined with livelihood, it cannot ignore the importance of addressing the economic needs of PO members. By proactively approaching the organisations that do have the resources and the mandate to provide economic assistance, DENR may be able to channel resources to the POs. During the ACM project in Bukidnon, a drug manufacturer considered establishing partnerships with the PO because it needed agricultural areas to grow herbs. DENR could offer incentives for

private companies to engage in such partnerships with the POs and help rural communities reach fair benefit-sharing agreements.

Limitations of ACM

The case studies presented in this chapter show that ACM can strengthen the implementation of community-based forest management. Many positive outcomes were observed in the two research sites. The ACM concept and processes, however, are not without limitations and drawbacks.

The application of ACM is limited by the willingness of stakeholders to discuss, negotiate and work together towards their common goals. Where they are not willing to resolve their conflicts, ACM cannot operate effectively or produce positive outcomes. In deadlock situations, it may be necessary to wait for a change of leadership and see whether the new leader is more willing to collaborate. Furthermore, because the strength of ACM lies in its ability to deal with complexities and uncertainties, stakeholders must be willing to engage in an extensive process of learning and iteration before the 'best solution' can be identified. Thus ACM may not be the appropriate process in situations where the problems are simple and the appropriate solutions have been tried out and proven effective elsewhere.

The main challenge that the ACM facilitators faced in the Philippines was the limited duration of the project. Different people learn at different paces. Although positive outcomes were observable during the project, ACM processes need to be internalised by the local stakeholders. Success in both sites hinged on the facilitation skills of outsiders—the ACM team—whose presence was temporary. Although the necessary attitude, knowledge and skills can be developed, local facilitators would have to take off their institutional 'hats' to prevent a conflict of interest (real or perceived) from hampering their effectiveness.

The implementation of ACM has not resulted in policy change or ideological shift in the Philippines. Although community forestry in the Philippines is highly regarded in Asia, continuing state control is reflected in community forestry policies and implementation. Because such fundamental problems could not be solved by the ACM project, the team attempted to increase policy makers' awareness of them. The team established a national steering committee of key policy makers and prominent players in community forestry and at periodic meetings described the challenges faced by local

stakeholders in the two ACM sites. It was expected that increasing committee members' awareness of the fundamental problems would lead to better policies and programmes.

The ACM team worked 'inside' the community forestry system in the Philippines in anticipation of achieving significant impacts. This strategy, however, may also have reinforced two weakness of the programme. First, the granting of forest management rights to people's organisations can sideline other forest users and push them into marginal economic niches (Li 2002); by working directly with the POs and increasing their social capital, the ACM team may have compounded the power imbalance between the POs and the marginalised groups. Second, by helping the POs meet DENR's technical, legal, and administrative requirements, the team may have inadvertently reinforced these constraints.

Conclusion

Community forestry in the Philippines was initially designed to engage local communities in rehabilitating degraded forests. The emphasis therefore has been on technical forestry and management for productivity, with little attention on local institutions within the community, their political and social dynamics and their economic needs. Large areas of forestland have been devolved, but the management of community forests by people's organisations was not sufficiently supported by conducive policies, economic opportunities and capacity building. Furthermore, DENR staff were hesitant to share power and engage in partnerships with local government and local communities, as indicated by their bureaucratic requirements.

Our three-year project showed that the ACM approach can address those challenges. Stakeholder analysis identified the relevant players, and engaging them in community forest management improved collaboration among the PO members and other local people. By putting the POs at the heart of ACM processes, ACM enhanced their members' skills, capacities, awareness and confidence in communication, networking, proposal making, recordkeeping, and management of small enterprises. The POs have exercised a more democratic process of forest management planning and decision making. ACM made collaboration and learning intentional and deliberate. The cycles of reflection, planning, action and reflection encouraged people to observe and monitor the outcomes of their decisions and adapt subsequent actions accordingly. These have improved the capacity

of the POs to better deal with changing conditions and uncertainties in forest management.

ACM concept and processes are not without limitations. To produce positive outcomes, the processes have to be facilitated skillfully. This requires experience, time and resources. ACM also depends on the willingness of community, government and nongovernmental institutions to communicate, treat one another as equal partners, collaborate, learn and improve their forest management strategies along the way. Given all these key ingredients, however, ACM could substantially improve community forestry in the Philippines.

Acknowledgements

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Endnotes

1 This figure refers to the official category of 'forestland' that the state government classified as public domain or state property. Some of the forestland, however, does not contain any trees.

2 These programmes provided a short land tenure of two to three years for the recipients, except for Communal Tree Farm, which has a renewable 25-year contract.

3 Based on Letter of Instruction No. 1260, issued by the Office of the President.

4 Based on the Presidential Executive Order No. 263.

5 DENR (1998) specified that to qualify, the community must till a portion of the area within that forestland, traditionally depend on forest resources for livelihood and reside within or adjacent to the area.

6 Based on the Presidential Executive Order No. 192, Section 5.

7 Republic Act No. 7610 of 1991. It should be pointed here that the Legal Government Code was implemented long before CBFM became a national programme.

8 This is a special project of the Palawan Council for Sustainable Development.

9 The group also explored various income-generating activities in the attempt to improve the benefits for members using ACM processes. See Hartanto *et al.* (2003).

10 The processes used in developing this local monitoring system are described in Hartanto *et al.* (2002a).

11 Gauld (2000) considers this the result of the predominant reductionist understanding of 'community' among policy makers. Community is seen as homogeneous entity socially, economically and politically.

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Chapter 7.

Discussion and Conclusions

Cynthia McDougall, Ravi Prabhu and Robert Fisher

THE CASE STUDIES PRESENTED in Chapters 3, 4, 5 and 6 provide insights into whether, and under what conditions, an adaptive collaborative management approach contributes to improved outcomes for people and forests. The ACM approach was applied in very different contexts by research teams that brought their own interests and emphases to the process of participatory action research. Although this creates challenges in drawing meaning across cases, it also illuminates the diverse realities of community-based forestry systems and thus lays the foundation for the lessons.

In drawing our conclusions, we explore the lessons of CIFOR's Adaptive Collaborative Management Research Project from several angles and reconsider the three research questions we posed in Chapter 1:

1. what factors and conditions shape an ACM approach, the need for it, and its effects;
2. what processes and strategies can catalyse and sustain social learning and collaboration; and
3. what are the outcomes or effects of an ACM approach on people, institutions and forests.

Following an analysis of the differences and similarities of research contexts (i.e., conditions), we discuss changes in social learning and collaborative processes (i.e., outcomes) and finally the degree of institutionalisation of the approach in the communities. As appropriate, we will draw on our model from Chapter 2 as an explanatory aid.

Differences and similarities in research contexts

Contexts

First, we highlight the obvious similarities in the contexts and communities where we conducted the research:

- We were engaging with local people as the central actors—and potential beneficiaries of change—and with the forest resources on which they depend for their livelihoods .
- The local people had power deficits in relation to local government agencies, traders, entrepreneurs and others.
- The communities were heterogeneous in composition, divided by factors such as caste, ethnicity, length of residence, gender, wealth, age, status and power.
- Forest resources played an important role in local peoples' livelihoods, including subsistence and nontimber uses.
- Conflict, latent or overt, was occurring amongst community members and between community members and outside stakeholders.

Additionally, the people in all the research communities wanted to improve their social, political or livelihood situations by engaging in the project. Both local communities and partners expressed a need for greater—and sustainable—outcomes from their forests and were willing to seek this through social learning and collaboration-based innovations in their relations, governance and management.

Differences in context existed as well. The communities had different histories and relationships to the forests—some largely agrarian, others much more intimately involved in the forest, culturally as well as economically. The devolution status in each country was different. Indonesia found itself in the post-Soeharto era of chaotic decentralisation, where the term was still hotly debated and the institutional frameworks for its implementation were lacking. The result was a *laissez-faire* situation where the old rules seemed

to have broken down, with no new ones yet to replace them. In Nepal and the Philippines, on the other hand, decentralisation and devolution had progressed, and whole ministries, government departments and sections of civil society were devoted to ensuring frameworks for decentralisation.

Although community forestry had multiple stakeholders in each country, the level of complexity and competition for the resources was far higher in the Indonesian sites than in Nepal or the Philippines. This is because of the higher value of Indonesia's forest timber and the consequent rampant legal and illegal logging.

Forest management and governance had reached a different level of institutional maturity and stability in each community. Nepal and the Philippines have formal and recognised local forestry institutions—the community forest user groups and the people's organisations, respectively; however, these institutions varied, from community forest user groups that were largely inactive and barely functional (in Nepal) to sites with established human and institutional capacity (in the Philippines). In the Indonesian sites the traditional institutions' legitimacy had been largely eroded yet no new institutions had evolved in which people could come together to manage their community resources and negotiate with outside actors.

The forests themselves were also very different—from the lowland dipterocarp forests in Indonesia and the Philippines to mixed natural and planted tropical montane forests in Nepal. The commercial value of the forests varied as well, with high value driving competition and rapid degradation in the Indonesian sites and a lower commercial value and consequently more stable forest situation in Nepal.

Application to governance and management

In Malinau (Chapter 5) the research team was using an adaptive approach to its own program of activities and facilitation, whereas the other three teams focused on catalysing adaptiveness in the governance and management of forest systems[1]; that is, they encouraged adaptive collaborative management by the groups they were facilitating. These three teams of course took a collaborative, learning-based and flexible approach to their own research, but this is not the focus of their chapters.

Although different, the Malinau case can still inform this discussion because of its focus on sparking 'spontaneous orders of cooperation' amongst forest stakeholders through active facilitation, and it contributes insights especially about the challenges of working in such a complex and highly charged environment. We should remember, though, that its focus is more on sharing information amongst actors to support cooperation, rather than catalysing social or institutional transformation through social learning.

Scale

Another important difference was the scale at which the ACM approach was being catalysed and studied. The Nepal chapter describes the smallest scale: researchers worked with a single community forest user group in each site. In using the ACM approach, the groups were engaging with other stakeholders, but the scale of application was local. Similarly, in Palawan (Philippines) the people's organisation was seeking to make a transition to an ACM approach. In Bukidnon (Philippines) and in the two Indonesian sites, on the other hand, ACM involved interactions with both local and outside stakeholders—reflecting both the communities' perceived needs to define their 'space' in a chaotic time and the lack of formal and functioning local management institutions. Although the researchers in Jambi and Pasir, like those in Nepal and the Philippines, were working to make management and governance adaptive and collaborative, they used ACM as an 'intervention'. One way to understand this difference is from the perspective of 'end user' of the research lessons: whereas in Nepal and the Philippines the local community forest groups might be expected to institutionalise the ACM approach (either on their own or with supporting facilitation from an outside actor), in Jambi and Pasir the ACM approach was more intended for use by NGOs in their work to create the basis for effective local management in a chaotic context. And the Malinau researchers learnt lessons about how facilitation teams can be adaptive in their own processes.

Consistent with the very different scales and contexts within which they operated, then, each team focused on different issues and entry points:

- In Nepal, where the community forestry program is well developed, the emphasis was on enhancing adaptive and collaborative approaches at the user group level, including on linking with meso-level actors,[2] with the goal of enhancing equity in governance and outcomes and increasing benefits from the forests.

- In the Philippines, where the rhetoric of participation and decentralisation was at odds with actual local control, the emphasis was on applying action learning to make small, incremental steps towards local decision making as well as increasing benefits from the forest.
- In Indonesia, where radical decentralisation had occurred without an effective institutional basis for cooperation, the focus was on carving out clearer rights for local communities and building better multistakeholder relations. Reflecting differences in research teams and local priorities, in Jambi and Pasir this was more oriented toward the learning process and human capital, whereas in Malinau there was a strong policy and policy information emphasis.

Ownership of facilitation roles

In Malinau the ACM team facilitated throughout the project, from the period of observation to reflections on action learning interventions. The other ACM teams worked to more rapidly shift responsibility for facilitation to local actors. The short time available for these three cases explains why the most effective transitions to local ownership of the approach took place in the followup phase of the Nepal project—that is, after the project had formally concluded; there, all facilitation from the outset had been led by trained, backstopped, and networked local and meso-level teams.

Time frames

The work in Malinau commenced in 1998 and continued until 2002[3]. The other three projects ran for three years, between 1999 and 2002, plus a separately funded phase for Nepal that went from 2004 to 2007. The relatively short durations of the Indonesia and Philippines projects precluded large-scale changes or even assessments of the extent to which adaptive learning processes had been institutionalised. The project periods were actually shorter than they appear, given the time taken to establish project procedures and partnerships. The extension of the Nepal project into a second phase makes assessment of longer-term change more practical.

As a result, any conclusions about outcomes are preliminary and suggestive. There was certainly not enough time to improve forest conditions at any

significant scale or see measurable improvements in livelihood outcomes. Improvements in people's capacities and social processes are much more evident.

If we apply our ACM model to this analysis of similarities and differences, we should expect to find Nepal and the Philippines closer to material or instrumental action than Indonesia. The communities in the case study sites in Nepal and the Philippines would be more 'empowered through self-organisation' because they had already spent considerable time on 'communicative action', clarifying their vision of community forestry. In Indonesia, communicative action around community forestry (in the formal sense) was still in its early stages, and we might expect to see communities beginning to move towards some forms of strategic action as a result of finding their empowerment through a common meaning and purpose.

Did ACM lead to change?

Let us begin by asking how change might be discerned, given the relatively short duration of the projects. The clearest sign would be tangible evidence, especially at larger scales. This evidence would be that much more credible if the counterfactual could also be demonstrated, but such a baseline would have demanded at the very least a huge and ethically questionable investment in passive observation of 'control' sites, if not a parallel universe. And in fact, early reviewers of the project recognised the difficulties and advised against using a counterfactual. Thus, any evidence of change has to be based on a before-and-after comparison. This is indeed what all four case studies endeavoured to do. Problems of interpretation of changes and residual confirmation bias remain, although the latter was held to a minimum by focusing as much as possible on actors' statements rather than researchers' interpretation.

Changes in institutional capital

In all sites, researchers noted some strengthening of the local forest management institutions. In fact, in Nepal, two of the four research sites—sites that had been considered institutionally average or below average in 1999—received district forest office prizes in a competition for institutional development during the final research phase. Changes included

improvements in access to (influence on) decision making by women and marginalised forest users, in both representation and participation; more explicit attention to equity in rules, regulations and distribution of resources; significant increases in multidirectional information flows amongst users and between forest users and other agencies[4]; increases in transparency and accountability and supporting mechanisms; development of increased internal capacity to manage conflicts; and increased engagement of more forest users and mechanisms for sharing leadership and ownership.

Changes in social and human capital

The most significant changes that resulted from adoption of an ACM approach during the project period seem to be in human and social capital. We consider these significant both because of the degree of change in the sites and also because we perceive these forms of capital as essential building blocks for other forms of capital, such as financial benefits from forests.

Prior to the participatory action research, social capital in all sites ranged from low to medium. Researchers and local people agreed that the limitations were restricting effective and equitable forest governance and management. Changes noted in all three country sites included increased trust and respect within groups of forest users, and between forest users and other groups; increased collective action within the forest user groups and between the groups and other stakeholders; and increased satisfaction amongst nonelite community members with access to decision making, training and other opportunities, and with the quality of decision-making and planning processes[5]. One common factor in the building of social capital was the increased willingness to cooperate. Addressing conflict and power differences was a significant part of the ACM approach, both directly and indirectly, through social learning, governance innovations and active facilitation. Shifting power relations, however, is an extremely challenging undertaking. An ACM approach in several cases created space for negotiation, helped set the stage for more level engagement, and gave marginalised people 'levers', but actual levelling of power cannot be planned, forced or guaranteed, only encouraged.

The ACM approach tended to increase human capital in all sites because it emphasised ongoing learning and capacity building by developing skills in facilitation, leadership, participatory decision making and planning processes, recordkeeping, and in some cases, funding-proposal

writing. Researchers in all countries noted the increased knowledge and understanding of community forest policy and regulations by the forest users. In some cases, the means of generating forest-related knowledge also changed: although there was some 'reproductive learning' (e.g., through forest management training), collective knowledge was developed through enhanced information sharing and social learning processes[6]. Skills and knowledge increased in communication and negotiation, conflict management, leadership, the development of policy and joint action plans, and technical aspects of forestry, such as nursery management. Researchers also saw an increase in the self-confidence of many forest users, including marginalised people, and of the groups as a whole in dealing with outside groups. One example is a poor, lower-caste Nepali woman who developed the confidence to challenge a community forest user group decision. She used the ACM-based self-monitoring and transparent objectives setting to get the community forest user group to reconsider its decision—in itself a sign of flexibility and learning. The Indonesian case study also illustrates the importance of confidence—encouraged by a facilitated process—in people's ability to tackle problems themselves.

Improvements in social and *human capital* illustrated in the Jambi and Pasir cases included the following:

- The incidence of conflict amongst community leaders went down.
- Reciprocity amongst community members (e.g., voluntary work on agricultural plots) went up.
- Previously poor relationships between original people and settlers improved.
- Relationships with neighbouring communities improved.
- Collective knowledge developed within stakeholder groups (e.g., women) because of improved relationships.
- Sharing of information and knowledge increased amongst stakeholder groups.
- Social networks and platforms developed.
- Discriminatory regulations that prohibited settlers from owning agricultural plots were relaxed.
- Community representation mechanisms, as illustrated by the involvement of settlers and women in village decision making, began working better.
- The management of village affairs was adjusted, and structures and processes related to decision making at the village level improved.

- Community leadership shifted towards institutions developed by the community itself, rather than top-down ones imposed by higher levels of government.

In the Nepal cases, ACM approaches to community forest management appear to have contributed to the following increases in social capital within community forest user groups:

- Marginalised people, though they still faced poverty-related barriers, such as lack of time, were better represented and more engaged in decision making.
- Communication within the user group was enhanced.
- The quality of internal and external relationsimproved.
- Equity in decision making and benefit sharing received more emphasis within the group.
- Access to decision making, trainings and other opportunities was more open to women and the poor.
- Individuals and the group as a whole had more confidence in taking up challenges.
- Conflict management was more effective.

In the Philippines case, accounts of the application of participatory action research cycle clearly show how even small, incremental steps led to change:

- Stakeholders were able to collaborate to resolve boundary conflicts.
- The herbal medicine enterprise got off to a good start.
- Communication skills improved, and the newsletter prompted the forestry agency to investigate a case of illegal extraction.
- Collaborative learning improved the effectiveness of labour exchange.

The Nepal, Philippines and Jambi and Pasir cases thus show significant signs that local institutions or communities were striving to base their governance and relations, as well as management and 'problem solving', in social learning and collaboration.

Changes to natural, physical and financial capital

Influence on the quality, quantity and sustainability of natural, physical and financial capital is the long-term 'acid' test of an ACM approach. Although

the timeframe of the research prevents us from seeing significant outcomes, the positive changes in social and human capital did begin to stir changes in the more tangible, economic aspects.

In none of the case studies did natural, physical or financial capitals suffer as a result of the adoption of an ACM approach. This is not to say that some groups did not profit more than others: the relatively high transaction costs of a learning and collaboration approach seemed to favour richer members of local communities over poorer ones in Indonesia, although the explicit equity focus in Nepal may have countered this tendency slightly, with poorer members doing relatively better.

As expected, no major changes in forest condition were observed. There were, however, signs of increased local efforts to increase value or condition of the forest system across the sites. One was intensified efforts to enhance the subsistence or commercial value of forests by planting bamboo, fruit trees, timber species, rubber trees or traditional herbals. In the Philippines, a direct investment in natural capital was the planting of herbal and medicinal gardens in Basac (and concomitant improvement to livelihoods, if not to financial capital), and in all three countries these efforts led to reductions in illegal extraction of forest products.

In all Nepal sites there has been a decrease in infraction of CFUG rules, including by elite members.

Unclear boundaries are an important problem because 'open access' encourages behaviours that lead to overexploitation and the tragedy of the commons. In all the case studies, much was done to resolve boundary disputes. Although the inventories necessary to determine the effects were not or could not be carried out, there are good grounds to assume that an improvement in natural and possibly physical resources would follow.

Furthermore, in some Nepal and Philippines sites, the self-monitoring processes appeared to heighten awareness of forest conditions and thus motivate people to manage the land sustainably; groups at several sites developed or expanded nurseries for reforestation[7], made changes in silviculture, or rewrote the rules about use. In Palawan, new rules governed the exploitation of *almaciga* resin and cutting of immature trees. In Nepal, rules on the cutting of green trees for fuelwood were enacted despite their cost to the community today. These are clear investments in natural capital.

Although the increased interest in forest sustainability is positive for forests (and in the long term, for livelihoods), researchers in the Nepal case study raise warning flags about the possible effect of protection of natural capital and on equity: if the desire to improve forest condition leads to increasingly protectionist regulations, marginalised groups may suffer. The researchers therefore emphasise the need for monitoring-based planning to include a focus on equity and take place in a forum in which all groups can influence decisions and mitigate potentially harmful outcomes and uncertainties.

Some households in sites in all countries have started to see small-scale returns from income-generating activities. Probably more important, all the communities increased the number and activeness of remunerative initiatives, thus laying the foundation for future gains. Whether the communities will in fact benefit depends on market conditions and continued resource availability. In Nepal, the new transparency and accountability of user group fund management were an indicator of financial asset enhancement, especially for middle-income and marginalised users. In Palawan, the higher guaranteed purchase price for *almaciga* resin most certainly would augment the incomes of resin collectors. In most other cases, however, weak markets and market infrastructure as well as inadequate organisation in the production and value chains meant that little impact on financial capital could be expected during the project period. Indeed, this suggests that the ACM model (Chapter 2) lacks sophistication in terms of a hierarchy of 'empowerment through material gains'. It would seem that a safety net or improvements in subsistence living can be expected in early iterations, but it will take increasing sophistication in all three phases and several iterations before we can expect to see significant impacts on financial capital as a result of empowerment through material gains.

On the whole, more material gains were achieved in Nepal and the Philippines than in Indonesia. Using the model in Chapter 2 once more, the relative strength of Nepal's and the Philippines' 'axle' of community forestry norms, rules and institutions may be the explanation. Indonesia was just exploring what community forestry meant, and the ACM research team entered Malinau, Pasir and Jambi to help facilitate some of this discussion by opening new channels of communication, exploring mental models and encouraging the emergence of 'shared visions, meaning and purpose' for community forestry. In Nepal and the Philippines, these questions had been answered, at least sufficiently to establish a foundation for innovation and community gains. In these cases, the communicative

action (or strategic action) was more about how to improve community forestry than about how to embark upon it.

Social learning and collaboration

When the ACM project was first conceptualised, considerable emphasis was placed on the development and testing of supportive tools, such as participatory mapping, visioning and various games. Such tools did prove useful in the ACM projects. Box 7-1 outlines the primary tools, and further readings on the approach and the tools are listed at the end of the chapter. However, *tools are not the essence of* ACM. Always regarded as merely supportive, they receded even further in importance as routinely shared reflection and learning came to the fore as the basis for adaptation in community governance and forest management.

Box 7-1. Tools developed during ACM project

Several innovative tools were developed and tested by the project team and found successful: methods for identifying stakeholders and understanding their perceptions; tools to support the process of translating visions into 'models' that can be interrogated; tools and approaches for developing indicators; methods for supporting participatory decision making centred on multicriteria analysis; approaches for developing collaborative monitoring; and finally, the articulation of an adaptive collaborative management approach.

Although structured differently in each case, shared—or social—learning by stakeholders was the engine of the approach in the Philippines, Indonesia (Pasir and Jambi) and Nepal. In some cases (e.g., the forest user groups in Nepal), social learning received more emphasis within community institutions; in others, it took place between community institutions and other stakeholders. In some contexts, it was embedded in the ongoing governance and planning of community forestry; in others, it was used in problem-solving initiatives. In all three of these case studies, however, this learning was facilitated with the intention of making it transformative and thus the engine for addressing conflicts and stagnation in governance or management. In Malinau, on the other hand, the emphasis was on communicative learning and the sharing of information amongst stakeholders, especially in relation to policy.

A second essential element of the ACM approach is collaboration. In the Philippines, Nepal, and Jambi and Pasir, collaboration meant learning together. The actors were different in each case but always brought diverse perspectives and, for the most part, tensions. In the Nepal case particularly, collaboration also meant inclusive decision making—working with marginalised people. Finally, in these three cases, collaboration involved action with other stakeholders (including resisting or challenging other stakeholders as appropriate). In the chaotic and highly fractured context of Malinau, the researchers determined that their aim should be not structured collaboration but 'spontaneous orders of cooperation'. Their conscious emphasis on being open to sudden opportunities for cooperation amongst stakeholders, they believe, enabled them to facilitate more cooperation than they could have achieved with any formal platform or agenda.

In promoting learning and collaboration, one lesson learnt by all teams and articulated in the Malinau chapter is that facilitation is not neutral. Facilitation can spark critical reflection and connections amongst actors and find windows of opportunity for addressing conflicts and power imbalances. But in the Nepal cases, for example, the facilitators were consciously working constantly to create space—and power—for low-caste people in a system that traditionally excludes and marginalises them.

In sum, the adaptive collaborative management approach seeks to develop and support collaboration, communication, conscious social learning and adaptation. Implementation requires not only identifying actors but also bridging their diverse mental models and needs and addressing latent conflict. It calls for developing and maintaining governance and management as cycles of action and shared reflection and learning. It requires collaborative monitoring and consciously adjusting understandings and actions. And it calls for flexibility in planning and implementation: those involved must be willing challenge their own assumptions and be prepared to learn and change.

As the project progressed, shared learning and collaboration emerged in different forms and to different degrees. Box 7-2 is an example of the flow of interrelated steps and processes, based on a combination of the cases.

Box 7-2. Steps in adaptive collaborative management

The process of adaptive collaborative management can be described as a series of interrelated steps on a spiral of learning and improvement. These steps, however, are not necessarily to be taken consecutively. Steps 1 through 4 (especially 4) are followed when initiating the approach but then rechecked throughout the process and adjusted accordingly. And because the steps describe a spiral, practitioners loop through them, adjusting their understanding, plans and actions as they progress.

The following is an example of the steps taken in an ACM approach:

1. Understanding who is involved and who should be involved and creating collective agreement to work together.
2. Understanding the system, its components and its feedback loops, and identifying uncertainties and gaps in understanding.
3. Understanding and reviewing the history of governance, management, presuppositions (i.e., paradigms and assumptions) and outcomes and lessons from the past.
4. Working to develop attitudes, norms, structures and processes that enable all actors to engage equitably and contribute effectively.
5. Identifying a common future vision and setting shared goals.
6. Considering options, keeping in mind the system and the uncertainties.
7. Selecting the best alternative—for that moment in time—and developing a plan for this alternative that takes into account the uncertainties (e.g., including plans to fill in or test knowledge gaps).
8. Accepting that the plan may not work as anticipated and therefore setting up strategies for observing its intended and unintended effects (i.e., a monitoring system).
9. Implementing the plan.
10. Observing the effects (i.e., monitoring).
11. Reflecting, as a group, on the effects and changes to the system; sharing insights and knowledge and if necessary calling on additional outside knowledge and skills; and reviewing perceptions, assumptions and understanding.
12. Adjusting the plan if necessary.

We offer that list with the reminder that the steps are an illustration only. ACM is not a recipe or prescription, and if the steps are misinterpreted, the essential elements of working collectively to learn and improve could be lost. Supporting the emergence of an ACM approach is a process of action learning that allows for local adaptation and ownership.

Institutionalisation of ACM

Institutionalisation of the approach in the research sites

We have argued that ACM leads to promising signs of increased capacity and that social learning and collaboration were the key to the process. People began to address issues in a different way, and these new approaches had some positive outcomes. However, our case studies describe short interventions with external facilitators. Has the emerging adaptive collaborative management approach been internalised by the local communities and actors, and will it continue beyond the project period?

At least at the start, active outside facilitation was the key to initiating adaptive behaviour and collaboration. But as the Indonesian study points out, the transaction costs of facilitation are high, as are the costs of participation, especially to poor people who lose valuable time when attending frequent meetings.

The Malinau project had a core facilitation team of five people who were involved throughout the project. This obviously helped to provide continuity, but comparable levels of involvement would be hard to achieve in many sites. Malinau was unusual in that it was a CIFOR research site, where more intensive long-term involvement is perhaps easier than would be common elsewhere. Furthermore, the team has had difficulty finding others to take over the facilitation role as they try to phase themselves out.

The Nepal case study chapter discusses the question of the institutionalisation of adaptive collaborative management processes. It notes signs that people's changed attitudes and behaviours continued after the project ended, although meetings were held less regularly. Preliminary findings from the followup research phase are perhaps a more important indicator: leadership of the process by local and meso facilitators—people trained, backstopped and linked together by the project—has been strong enough to suggest institutionalisation of the approach and ownership by the local community. At the time of writing, the approach was being shared and facilitated in dozens of new communities by local and meso partner facilitators entirely under the initiative of these (unpaid) partners.

Looking beyond the research sites

Reflecting on the potential applicability of an ACM approach—and lessons from the project—to community forestry in Asia, Don Gilmour (2002) one of the advisers to the project, used a simplified typology of forestry-related decentralisation:

- countries where decentralisation of forest management is well established and national collaborative management programmes are in place;
- countries where decentralisation policy has recently been implemented but experience at the decentralised level is limited, and there are numerous trials of collaborative management options;
- countries in the early stages of decentralisation where there are at least some emerging trials of collaborative management options; and,
- countries with strong central government control over forests and few trials of collaborative management options.

Based on this simplified typology, Table 7-1 roughly clusters the three research countries, as well as other Asian nations, and categorises the potential roles of an adaptive collaborative management approach.

Table 7-1. Applicability of ACM in Asian nations

Status of decentralisation	*Potential for ACM*
Well established Nepal, India, Philippines	Enhancing equity, advocacy and benefits of community forestry by refining and adjusting established programs and supporting frameworks and services, including facilitation to support collaboration and social learning.
Limited Lao PDR, Cambodia, Vietnam, Thailand, China	Using elements and steps of ACM approach as guideposts to inform expanding community forestry policy and service frameworks, including facilitation to support collaboration and social learning.
Emerging Indonesia	Similar to 'Limited' but with increased emphasis on (1) fundamental building or rebuilding of local institutions and clarification of rights and responsibilities; and (2) the development of multiple trials (with active facilitation).
Almost nonexistent Myanmar, Malaysia, Sri Lanka	More limited scope for uptake at this stage except in trials; as decentralisation occurs, similar to 'Emerging' but with more trial projects.

The potential benefits of an ACM approach as outlined in the table are supported by the evidence from the case studies in this book, in that ACM impacts seemed greatest in these situations:

- where forest-dependent stakeholders had at least de facto access to, and control over, forest resources;
- where government policy and institutional framework provided sufficient space for local stakeholders to create and manage their own community forestry programmes, either by supporting the creation of stakeholders' own natural resource institutions and organisations or by adapting existing government ones to better accommodate stakeholders' needs and perspectives;
- where government and/or civil society programmes supported the development of human and social capital and were not necessarily linked only to forestry programs; and
- where institutions and organisations, governmental and nongovernmental alike, were open to incorporating a learning attitude in their programs and activities and building in adaptiveness in their policies, programs or projects.

Conclusions

The patterns of processes and outcomes described in Chapters 3, 4, 5, and 6 reflect the model of adaptive collaborative management offered in Chapter 2. The Philippine and Nepal case studies show local groups striking out towards material gains from a fairly strong basis in strategic action related to their self-organisation. The communities undertook confident processes of social learning about herbal medicine or *almaciga* resin or border disputes or decision making, and groups and individuals that were previously unconnected to each other were now connected. By contrast, in Indonesia the struggle was to find some shared vision or meaning. In Jambi and Pasir the communities worked to develop a shared vision, overcome mistrust and 'learned helplessness' and improve communication and relationships before moving on to strategic action around processes of self-organisation and social learning. In the Malinau case there is repeated reference to 'hot groups', which appear to be ephemeral communities of practice, perhaps based on transient need but more likely reflecting instability and the lack of a shared vision and mutual commitment. The result seems to be constant sliding back and forth between the two phases of communicative and strategic action.

The ACM explanatory model has some limitations—especially as it is applied at supracommunity levels, best illustrated by the Malinau case study. Although this team was not facilitating an ACM approach per se, its efforts to facilitate 'spontaneous orders of cooperation' across the district lead to insights about catalysing positive change at a large scale—where there are potentially several 'axles' with the concomitant ACM phases turning simultaneously at different levels. Taking into account interactions at this scale raises the issue of how material action by powerful external actors (such as building a road or creating a map that disregards local rights) might affect strategic or communicative action by less powerful players. This is particularly a dilemma if the two sets of actors have not been effectively—and lastingly—drawn together by common purpose and converging interests.

The Malinau researchers underscore that dilemma when they point out that 'the most powerful agencies of strategic importance to communities' interests were often not interested in collaborating with [the facilitation team], while those that were less strategic or weaker politically were'. At this level, there was no basis for communicative action between the two groups: there were no incentives for the powerful actors to risk engagement that might reduce their power or benefits or create additional tensions. The current ACM model would suggest that the less powerful groups need to proceed on their own through the three phases and build internal institutional, social and human capital and alliances until they can challenge the power of the external actors—and engage them in effective communicative action.

At least two forces in the ACM model can allow such cycles to build momentum. First is through both top-down and bottom-up adjustments to norms, rules and institutions in resource management (i.e., the axle at the centre of the model). The Indonesian state was in the process of making top-down adjustments with its push to decentralisation. Nepal and the Philippines had already been through a few iterations of this process. Bottom-up aspects include the development of more inclusive and effective institutions, as illustrated in the Nepal case. Second is the presence of active, learning-oriented facilitation. When appropriate and effective, this kind of facilitation can create momentum for building the bottom-up institutional strengthening. Especially if the local community has ownership, the facilitation can be an engine in this phase of communicative action—and thus ultimately lead towards other forms of action.

Our basic hypothesis in this research—as outlined in Chapter 1—was that the provision of opportunities for collaborative learning, negotiation and planning could contribute to better management of complexity and better negotiation amongst people with differing and competing objectives for forest management. Based on the research presented in these pages, an adaptive collaborative management approach does offer a viable approach for enhancing the quality of governance in the complex conditions of community-based forestry. Although the trends look promising, the short duration of the research and the myriad confounding factors recommend that we be cautiously rather than strongly optimistic about ACM's ability to enhance livelihoods for local people and achieve more equitable governance and sustainable outcomes.

This brings us back to one of the reasons for wanting to share the learning from the research: community forestry can be seen as a microcosm of global environmental management. Just as forest-dependent people face the challenges of increasingly limited resources, a growing multitude of resource users, and dynamic natural systems, so too do nations and in fact the entire global community. Diverse human systems are intertwined with—and dependent on—each other and these natural systems. In the years since the research began, it has become increasingly clear that although rigid, linear approaches may be more readily managed by bureaucracies and top-down policy frameworks, they cannot help rural communities achieve resilience and well-being. It is time to move on from policies and practices developed under paradigms of environmental control and 'consequence-free' action. Just as the communities in this research have struggled to build their own resilience, the global community needs to build its own collective resilience through more humble, learning-based and flexible approaches that draw on diverse and collective wisdom.

Endnotes

1 The reason for the difference between the Malinau initiative (Chap 5) and the rest of the case studies: began earlier than the other three cases and was not part of the ADB funded ACM project. As pointed out in Chapter 5, the project 'sought to empower *local communities to increase their access and control over forest benefits and decisions*' through 'stimulating cooperation among stakeholders'. Unlike the other three projects it did not aim to test ACM approaches to assess their effectiveness.

2 In this context 'meso-level' Signifies levels of governance between the 'local' or community level, where primary users and managers of forests are active, and the national level where broad policy and legislation are developed and regulated.

3 The Malinau case is different from the other three case studies not only because it is part of a longer term research program, one that arose out of a commitment by CIFOR to the Indonesian government to carry out research in the Bulungan Research Forest, it was different also because of the size of the research team—over five individuals, as opposed to one or two at the other sites—the nature of agency exercised by that researcher team as compared to the other ACM teams.

4 In the Palawan case, the ACM processes involved the PO interacting and networking beyond the local and city levels, and up to the provincial level, which also increased their capacity to influence policy (e.g. policy on forest charges/fees).

5 We note that while the majority of local people involved expressed satisfaction with the redistribution of power in decision-making that was emerging in most of the sites, some traditional power holders in the communities were less satisfied because this implied a loss of privilege. In a number of cases (but not all), these individuals' attitudes also appeared to shift somewhat over the course of the research.

6 These included, for example, self-monitoring, or small group reflection (such as in Nepal an investigation group on causes of previous failure of bamboo seedlings), and the implementation of various activities such as trials and experiments (for example, broomgrass and bamboo trials).

7 While this is positive for forests (and potentially long-term for livelihoods) this also carries the risk that increased awareness of poor forest condition may lead to increasingly protectionist regulations, which could bring hardship to marginalised groups if plans are not included to mitigate these risks; *reinforcing the need for the monitoring-based planning to take place in a forum in which all groups, including marginalised ones, can effectively influence decisions, and potentially harmful equity-related outcomes can be anticipated and addressed* (McDougall *et al.* 2002).

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This book is about conscious attempts by local communities in three Asian countries to improve the management of their forests. It explores how collaborative learning, negotiation and planning, involving different actors, in forest communities in Indonesia, Nepal and the Philippines, can contribute to better management in some quite surprising ways. It provides 'plausible causal connections' between the action research of the Adaptive Collaborative Management Research Project implemented by the Center for International Forestry Research (CIFOR) and the outcomes for the groups of people (and their forests) involved in the research. There are broader lessons to be derived for development practitioners and researchers from these experiences with Adaptive Collaborative Management as the global community grapples with managing complex human-ecological systems.

The phrase "ACM" is frequently referred to in the literature and at workshops and conferences, but with little amplification. This book is the best descriptive account of ACM I have seen, and Chapter 2 could become a primer on what the concept really means beyond just an acronym for a current fad and one that is rarely fully understood.

Don Gilmour
International consultant on community forestry,
formerly with IUCN's Forest Conservation Programme

In a world characterized by unpredictable shocks and stresses, forest users and managers need alternatives and backup options. Social learning helps generate these options, building resilience in linked systems of forests and people. This volume contributes to a deeper understanding of the issues around deliberate social learning and collaboration, with chapters on four Asian cases.

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