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INTEGRATED PROTECTED AREA CO-MANAGEMENT (IPAC)

**Community Based Natural Resource Management Training
Workshop**

May-June 2011



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INTEGRATED PROTECTED AREA CO-MANAGEMENT (IPAC)

COMMUNITY BASED NATURAL RESOURCE
MANAGEMENT TRAINING WORKSHOP

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Contents

Final Report.....	2
Short Training Course on Community-Based Natural Resource Management.....	2
Appendix 1	4
Integrated Protected Area Co-Management Project	4
Short course on Community-Based Natural Resources Management	4
Day 1. Critical Ideas in CBNRM	4
Day II. Issues Of Governance	5
Day III. Initiatives to Promote CBNRM	6
Day IV. CBNRM in A Broader Context	7
Appendix 2	8
Integrated Protected Area Co-Management Project	8
Curriculum/Detailed Plan of the CBNRM short course	8
Day I. Critical Ideas In CBNRM	8
Training Sessions / Topics	8
Day II. Issues Of Governance	11
Training Sessions / Topics	11
Day III. Initiatives To Promote CBNRM.....	15
Training Sessions / Topics	15
Day IV. Recapitulations, Applications	17
Training Sessions / Topics	17
Appendix III	19
Annotated Bibliography.....	19
Community-Based Natural Resources Management.....	19
Books.....	55
Appendix IV.....	56
List of Participants	56
Short Training Course on Community-based Natural Resource Management.....	56
Appendix V.....	58
Background.....	58
Objectives (Scope).....	58
Tasks (Performance Requirements).....	60
Deliverables.....	60

FINAL REPORT

Short Training Course on Community-Based Natural Resource Management

By Krisnawati Suryanata

University of Hawaii

Background

The Integrated Protected Area Co-Management (IPAC) is a United States Agency for International Development (USAID)/Bangladesh that contributes to sustainable natural resource management and enhanced biodiversity conservation in targeted forest and wetland landscapes with the goal of preserving the natural capital of Bangladesh while promoting equitable economic growth and strengthening environmental governance. IPAC is implemented by the Ministry of Environment and Forests (MoEF), and Ministry of Fisheries and Livestock (MoFL), through a consortium of partners led by International Resources Group (IRG).

The IPAC contract provides for technical advisory services and other support to be provided over a five year period (June 2008- June 2013) to Government of Bangladesh (GOB) environment, forestry and fisheries agencies responsible for the conservation of wetland and forest protected areas across Bangladesh. This network of forest and wetland protected areas is now recognized as the Nishorgo Network. Over the remainder of the project, the IPAC team will continue to work directly with key stakeholders at the local level to support the further development and scaling-up of the conservation and co-management of protected forest and wetland ecosystems in the Nishorgo Network of Bangladesh.

IPAC has been active in capacity building initiatives to improve ‘people skills’ - how to work with people in a co-management setting; and ‘technical skills’ –to effectively conserve the biodiversity assets in protected areas. This short course addresses another facet of the capacity building program. It brings a macro perspective to pose questions that explore co-management conceptually. It aims to enhance the analytical skills of participants by drawing from diverse global experience in community-based natural resource management.

Workshop Implementation

Dr. Krisnawati Suryanata, Professor of Geography from the University of Hawaii provided a short-term consultancy for the training that ran from May 7 to June 7, 2011. During this period she prepared and facilitated two short courses on community-based natural resource management (CBNRM). The first workshop was held for four days, May 23-26. Fifteen participants, consisting mostly of mid-level, field-based GoB officials from Forest Department (FD), Department of Fisheries (DoF) and Department of Environment (DoE), attended the first workshop. The second workshop was held on May 29-June 1, targeting personnel from partner non-governmental organizations of IPAC, and was attended by 17 participants. The names of workshop participants and their affiliations are attached in the appendix.

Approximately a quarter of the workshop participants have worked in various aspects of community-based natural resource management or in co-management for several years. About an equal number did not have much exposure to CBNRM approach prior to the workshop. The rest (roughly half) were somewhat familiar with CBNRM, but did not have much practical experience with it. Regardless of their degree of experience with the approach, however, a majority held a rather static view of CBNRM. A few expressed some frustration on the gap between the promised benefits of CBNRM and the limited realization they witnessed on the ground.

During the four days of each workshop, the consultant facilitated participants to critically examine the dilemmas of community-based natural resource management approach, and when appropriate, apply the concepts to their work in Bangladesh. The workshop began with an overview of resource management paradigms, and the key assumptions that influence the development of community-based natural management approach. Participants learned a few analytical tools to examine the potential benefits *and* the pitfalls of various co-management strategies, particularly as these strategies are placed in the context of broader economic (market) and political forces. A central concept that underlay the discussion throughout the workshop was how the core relationships of “reputation-trust-reciprocity”¹ (Ostrom 1998) hold the key to collective action. Participants were encouraged to conceptualize and measure success of co-management efforts in the ability of stakeholders to inculcate trust in each other, and in the institutions critical to collective action. Participants then attempted to analyze the co-management and community-based management cases in Bangladesh using the concepts discussed in this workshop. The full schedule of the workshop, and a detailed curriculum /course plan are attached in the appendix.

Workshop Assessment

In the interactive atmosphere of the workshops, an overwhelming majority of the workshop participants became very open to new and critical ideas, regardless of institutional affiliations or prior experience in CBNRM. Candid observations of each other’s practices, as well as of their own, were shared during the numerous discussions in the workshops. A significant positive byproduct of the workshop was the opportunity for workshop participants for networking. In hindsight, it is obvious that we could have capitalized more on the intangible benefit of open communication and discussion if participants of the two workshops were more integrated.

While the lead consultant did not have any prior experience of working in Bangladesh, it did not pose any significant hindrance to the workshop implementation. All participants have a working knowledge of English language and the combination of (fewer) lectures and (more) hands-on exercises made the materials generally accessible to all participants. Workshop participants contributed their knowledge of the Bangladeshi experience with co-management and CBNRM, which we analyzed during the workshop.

¹ Ostrom, E. (1998). "A behavioral approach to the rational choice theory of collective action." American Political Science Review **92**(1): 1-22.

Assessment at the end of the workshops showed participants' understanding of CBNRM to have expanded and included not only the elements and objectives of CBNRM, but also processes critical to building trust amongst stakeholders. Participants also appreciated the demystification of a number of over-simplified concepts that have led to many missteps in CBNRM. The workshops did not provide any easy answer to the difficult and complex questions, but acknowledging these complexities was considered to be key to removing the sense of disbelief and frustration that had begun to creep into the participants mind when experience from the field had not been as straightforward. The challenge that remains is to provide an enabling environment for the more nuanced conceptualization of CBNRM to be implemented in the planning and operation of co-management.

Appendixes

1. Workshop schedule
2. Detailed plan / curriculum of short course on Community-Based Natural Resource Management
3. Annotated bibliography of key literature on Community-Based Natural Resource Management
4. List of workshop participants
5. Statement of Work

Appendix 1

Integrated Protected Area Co-Management Project

Short course on Community-Based Natural Resources Management

Workshop Schedule, 23 May – 1 June 2011

Day 1. Critical Ideas in CBNRM

The goal of today's discussion is to demystify CBNRM by examining the broad development of ideas related to natural resource management over the past half century.

Time	Training sessions / topics
9:00 – 9:15	Registration
9:15 – 10:00	Inauguration; Welcome remarks, introduction and background of IPAC project; introduction of CBNRM workshop
10:00 – 10:15	Health break and tea
10:15 – 1:00	1. Introduction Paired interviewing and introduction 2. Why CBNRM? What are the conventional views underlying the centralized state management model? How did CBNRM emerge as a legitimate alternative to the centralized state management model?
1:00 – 2:00	Lunch
2:00 – 4:30 (with flexible tea break time)	3. Demystifying CBNRM What are the assumptions that underlie the wide adoption of CBNRM by State Governments and International Organizations? How do these assumptions hold on the ground? 4. Community, Core relationships, and Collective Action What constitute a 'community'? How would a community respond to external and internal pressures in order to maintain a cohesive boundary and identity? How does a community inculcate cooperation and collective action amongst its members?

Day II. Issues Of Governance

The second day examines mechanisms and political processes that can lead to effective governance of natural resources.

Time	Training Sessions / Topics
9:00 – 10:45	5. Property and Access to Resources What are the ways that people gain and ensure access to natural resources? How do property institutions develop rules of access? How do property institutions affect the management of common resources such as forests and seas?
10:45 – 11:00	Health break and tea
11:00 – 1:00	6. Participation Examining the realities of popular participation and political representation. Who participates? What are the goals of participation? What are the different forms of participation? What do different stakeholders see as the value of increased participation? What are the risks of increased community participation?
1:00 – 2:00	Lunch Break
2:00 – 4:30 (with flexible tea break time)	7. Monitoring/Sanctions/Rule Enforcement What types of norms or rules govern effective CBNRM? How do these rules become established, and how do they adapt to new pressures? What types of enforcement mechanisms are in place? What are the sanctions of non-compliance? How do local institutions adapt to the shared responsibility espoused by co-management regimes?

Day III. Initiatives to Promote CBNRM

The goal of the third day is to critically examine several tools that have often been promoted as central to CBNRM, and to evaluate the contexts that would allow the initiatives to be effective (or risky).

Time	Training Sessions / Topics
9:00 – 10:45	8. The Value of Local Knowledge Why should we promote the use of local knowledge in CBNRM? How do we assess the ‘validity’ of local knowledge? How do we weigh the relative importance of local knowledge and scientific knowledge in any particular CBNRM situation? What are the reasons that certain types of knowledge become valuable?
10:45 – 11:00	Health break and tea
11:00 – 1:00	9. CBNRM and rural livelihoods To what extent do local communities depend on natural resources within the protected areas for their livelihoods? What are the livelihood strategies that could be consistent with conservation goals? What are the types of initiatives in which communities can be engaged with the markets? What are the challenges that face micro enterprises in building a viable economic basis for community-based resource regimes? Under what conditions are local micro enterprises likely to be successful?
1:00 – 2:00	Lunch Break
2:00 – 4:30 (with flexible tea break time)	10. Decentralization and co-management What are the promised benefits and risks of decentralization? What are the structural and practical challenges to effective decentralization/co-management? Which authority and responsibility can be ‘shared’? What are the common barriers to effective co-management and what actions can help overcoming the barriers

Day IV. CBNRM In A Broader Context

Time	Training Sessions / Topics
9:00 – 11:00	11. CBNRM design principles This session will review Elinor Ostrom’s eight design principles (<i>Governing the Commons</i> , 1990). Participants will be invited to apply these principles to the local cases relevant to them, and to begin identify structural challenges that face the communities they are working with in Bangladesh protected areas.
11:00 – 11:30	Health break and tea/coffee
11:30 – 1:00	12. Adaptive Co-management Adaptive management relies on the ability of decision makers to use information from policy experiments (including those that fail) as input for subsequent policy formulation. What are the challenges to using adaptive management in a community-based initiative? What are the rationales for “scaling up” from site-based management to networks or larger-scale community or co-management initiatives?
1:00 – 2:00	Lunch Break
2:00 – 3:00	13. Closing session, certificate presentation

Appendix 2

Integrated Protected Area Co-Management Project Curriculum/Detailed Plan of the CBNRM Short Course

Day I. Critical Ideas In CBNRM

The goal of today's discussion is to demystify CBNRM by examining the broad development of ideas related to natural resource management over the past half century.

Training Sessions / Topics
<p>Morning Session [2 hours and 45 minutes]</p> <p>1. Introduction Paired interviewing and introduction</p> <p>2. Why CBNRM? What are the conventional views underlying the centralized state management model? How did CBNRM emerge as a legitimate alternative to the centralized state management model?</p> <p><u>Key readings:</u></p> <p>Feeny, D., S. Hanna, et al. (1996). "Questioning assumptions of the 'tragedy of the commons'." <u>Land Economics</u> 72(2): 187-205.</p> <p>The "tragedy of the commons" argument predicts the overexploitation of resources held in common. There is a great deal of evidence to the contrary. The descriptive accuracy and predictive validity of six categories of assumptions of the argument are examined. These include individual motivations, characteristics of individuals, nature of institutional arrangements, interactions among users, the ability of users to create new arrangements, and the behavior of regulatory authorities. The tragedy of the commons argument is seriously incomplete. It needs to be replaced by a richer and more accurate framework.</p> <p><i>We start the session with a 'mind map' exercise. Mind map helps to brainstorm and examine pre-existing concepts that each participant brings to the workshop. At the completion of the course workshop, we draw another version of the mind map.</i></p> <p><i>Then the session briefly reviews the conventional views underlying the centralized state management model that predominate in the management of common property resource. They include the logic of collective action, the prisoners' dilemma, and the tragedy of the commons. We review the emergence of CBNRM as a <u>legitimate</u> alternative to the centralized state management model, and Elinor Ostrom winning the Nobel Prize in economics.</i></p>

Afternoon Session [two hours and 30 minutes]

3. Demystifying CBNRM

What are the assumptions that underlie the wide adoption of CBNRM by State Governments and International Organizations? How do these assumptions hold on the ground?

4. Community, Core relationships, and Collective Action

What constitute a 'community'? How would a community respond to external and internal pressures in order to maintain a cohesive boundary and identity? How does a community inculcate cooperation and collective action amongst its members?

Key readings

Agrawal, A. and C. C. Gibson (1999). "Enchantment and Disenchantment: The Role of Community in Natural Resources Conservation." World Development 27(4): 629-649.

The poor conservation outcomes that followed decades of intrusive resource management strategies and planned development have forced policy makers and scholars to reconsider the role of community in resource use and conservation. In a break from previous work on development which considered communities a hindrance to progressive social change, current writings champion the role of community in bringing about decentralization, meaningful participation, and conservation. But despite its recent popularity, the concept of community is rarely defined or carefully examined by those concerned with resource use and management. We seek to redress this omission by investigating "community" in work concerning resource conservation and management. We explore the conceptual origins of the community, and the ways the term has been deployed in writings on resource use. We then analyze those aspects of community most important to advocates for community's role in resource management — community as a small spatial unit, as a homogeneous social structure, and as shared norms — and indicate the weaknesses of these approaches. Finally, we suggest a more political approach: community must be examined in the context of development and conservation by focusing on the multiple interests and actors within communities, on how these actors influence decision-making, and on the internal and external institutions that shape the decision-making process. A focus on institutions rather than "community" is likely to be more fruitful for those interested in community-based natural resource management.

Li, T. M. (2002). "Engaging Simplifications: Community-Based Resource Management, Market Processes and State Agendas in Upland Southeast Asia." World Development 30(2): 265-283.

In the struggle to secure resource rights for rural populations who gain their livelihoods from state-claimed lands, advocacy agendas highlight community interest in, and capacity for, sustainable resource management. In the uplands of Southeast Asia, the strategic simplifications of community-based natural resource management (CBNRM) advocacy are being translated into legal frameworks and program

initiatives which make rights conditional upon particular forms of social organization and livelihood, as well as conservation outcomes. When set in the context of agricultural intensification among both indigenous and migrant populations, and the desire of many upland dwellers to claim the benefits of a fuller citizenship, CBNRM offers a problematic basis for justice

Ostrom, E. (1998). "A behavioral approach to the rational choice theory of collective action." American Political Science Review 92(1): 1-22.

Extensive empirical evidence and theoretical developments in multiple disciplines stimulate a need to expand the range of rational choice models to be used as a foundation for the study of social dilemmas and collective action. After an introduction to the problem of overcoming social dilemmas through collective action, the remainder of this article is divided into six sections. The first briefly reviews the theoretical predictions of currently accepted rational choice theory related to social dilemmas. The second section summarizes the challenges to the sole reliance on a complete model of rationality presented by extensive experimental research. In the third section, I discuss two major empirical findings that begin to show how individuals achieve results that are "better than rational" by building conditions where reciprocity, reputation, and trust can help to overcome the strong temptations of short-run self-interest. The fourth section raises the possibility of developing second-generation models of rationality, the fifth section develops an initial theoretical scenario, and the final section concludes by examining the implications of placing reciprocity, reputation, and trust at the core of an empirically tested, behavioral theory of collective action.

We Will Start The Session With A Brainstorming Session To Uncover CBNRM Assumptions And Realities. The Assumptions That We Will Explore Include Scale, Cohesiveness, Capacity, And Most Importantly, The Idea Of (Stable And Harmonious) Community. We Will Continue With An Exercise To Understand Our Own Definition Of 'Community' And What Bounds A Community When Confronted To Forces Of Change. To Gain A More Dynamic Understanding Of Community, We Will Focus On The Processes That Form And Shape A Community. We Will Review Studies That Critique The Notion That Communities Are Undifferentiated, Bounded By Common Values And Interests. At This Point It Would Be Good To Have Some Local Examples On The Diversity Of Communities, Interests, And Changes Affecting The Communities.

We Will Have A Game Of Cooperation / Non-Cooperation To Highlight Core Relationships (Trust, Reciprocity, And Reputation) That Need To Be Nurtured In Order To Build A Dynamic Community That Can Adapt To Change.

At The End Of The First Day, Participants Should Understand Why CBNRM Has Often Been Depicted As Simple. Yet - As They Have Encountered On The Ground – This Simplified Notion Does Not Match The Realities On The Ground. Participants Need Not Be Disheartened By The Complexity, But Knowing Well That Acknowledging It Is The First Step To Working Towards The Solution.

Day II. Issues Of Governance

The second day examines mechanisms and political processes that can lead to effective governance of natural resources.

Training Sessions / Topics

Morning Session I [three hours]

5. Property Relations and Access to Benefits

What are the ways that people gain and ensure access to natural resources? How do property institutions develop rules of access? How do property institutions affect the management of common resources such as forests and seas?

Key readings

Schlager, E. and E. Ostrom (1992). "Property rights regimes and natural resources: A conceptual analysis." Land Economics **68**(3): 249-262.

The term common-property resource is an example of a term repeatedly used to refer to property owned by a government or by no one. It is also used for property owned by a community of resource users. Such usage leads to confusion in scientific study and policy analysis. A conceptual schema for arraying property-rights regimes that distinguishes among diverse bundles of rights ranging from authorized user, to claimant, to proprietor, and to the owner is developed. This conceptual schema is applied in order to analyze findings from a variety of empirical settings, including the Maine lobster industry. Instead of blind faith in private ownership, common-property institutions, or government intervention, scholars need a better understanding of: 1. the conditions that enhance or detract from the emergence of more efficient property-rights regimes related to diverse resources, 2. the stability of instability of these systems when challenged by various types of exogenous or endogenous changes, and 3. the costs of enforcing regulations that are not agreed upon by those involved.

Vandergeest, P. (1997). "Rethinking Property." The Common Property Digest **41**: 4-6.

suggests that we think about property not only as rules and laws, but also as ordinary, everyday practices. This approach implies that research on resource tenure might usefully begin with observations of what people do, rather than questions about rules and laws. A focus on practice also gives us a window into the complexity of rural resource tenure and helps us avoid the tendency to reduce all property relations into one of three pre-given categories: state, private, and common property.

6. Participation

Examining the realities of popular participation and political representation. Who participates? What are the goals of participation? What are the different forms of participation? What do different stakeholders see as the value of increased participation? What are the risks of increased community participation?

Key readings:

Rocheleau, D. and R. Slocum (1995). Participation in Context: Key Questions. Power, Process and Participation - Tools for Change. L. W. R. Slocum, D. Rocheleau and B. Thomas-Slayter. London, Intermediate Technology Publications: **17-30**

Participatory development can bring about positive and negative change, depending on the relations of power embedded in the broader social relations as well as in the participatory process itself. The paper focuses on the practice and process of participatory research, planning and governance in the context of community development, addressing the following questions: why, relations of power, who, time frame, spatial and organizational scales, and what methods.

Arnstein, S. R. (1969). "A ladder of citizen participation." Journal of the American planning association **35**(4): 216-224.

The heated controversy over "citizen participation," "citizen control", and "maximum feasible involvement of the poor," has been waged largely in terms of exacerbated rhetoric and misleading euphemisms. To encourage a more enlightened dialogue, a typology of citizen participation is offered using examples from three federal social programs: urban renewal, anti-poverty, and Model Cities. The typology, which is designed to be provocative, is arranged in a ladder pattern with each rung corresponding to the extent of citizens' participation in determining the plan and/or program.

The objective of discussion on property institutions is to sensitize the course participants to the nuances of property as a social institution, understanding that effective access requires that claims are morally/socially/culturally justified; and that these claims are enforceable. We can conceptualize property rights as a 'bundle of rights', allowing us to unravel the complexity of conflicting claims and layers of enforcement mechanisms.

To discuss the issue of participation, we will start with a brainstorming of the different forms of participation that workshop participants are familiar with. Then we will have an exercise "keep it up!" to illustrate the trade off between participation and efficiency – that non-participatory procedures often are the most efficient way of making decisions.

Using Sherry Arnstein's "ladder of participation" we then critically examine strategies of encouraging community participation that matches the goals and the mechanisms – hence reducing the disappointment and disillusionment that have often accompanied community based projects. This is also a good time to remind workshop participants on the core relationships (reputation, trust, reciprocity) introduced on the first day. In order to sustain commitment, participatory efforts cannot remain stuck at the lower rungs of the ladder –or else the project would earn the 'reputation' of not truly be participatory.

We will also explore the practical challenges to people participating (e.g. time, venue, appropriate forum) – as well as structural challenges associated with the relative positions of people in society (e.g. uneven skills, economic power, political positions).

Afternoon Session [two hours and 30 minutes]

7 Monitoring/Sanctions/Rule Enforcement

What types of norms or rules govern effective CBNRM? How do these rules become established, and how do they adapt to new pressures? What types of enforcement mechanisms are in place? What are the sanctions of non-compliance? How do local institutions adapt to the shared responsibility espoused by co-management regimes?

Key readings:

Acheson, J. M., J. A. Wilson and R. S. Steneck (1998). Managing chaotic fisheries. Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience. F. Berkes and C. Folke. Cambridge, Cambridge University Press: 390-413

For several decades, fisheries management has been based on stock recruitment models, leading to policies designed to control the amount of effort and the quantity of fish caught. This approach has not been notably successful. In this paper we take the view that this problem arises from the complex and likely chaotic nature of fisheries. This attribute of fisheries creates a very difficult and costly information problem, which renders attempts to control the long term numerical abundance of individual species virtually impossible. We argue that feasible management must address the relatively stable parameters of fisheries systems — habitat and basic biological processes, and that this demands management attention to the fine as well as the broad scale attributes of the system. Attention to detail at these differing scales implies the need for a layered or hierarchical management structure. The need to minimize information costs also suggests an emphasis on decentralized, community-based approaches to management. A review of the anthropological literature shows that such approaches are common in many societies.

Zerner, C. (1994). "Through a green lens: The construction of customary environmental law and community in Indonesia's Maluku Islands." Law and Society Review **28**(5): 1079-1122.

In the Maluku Islands of Eastern Indonesia, a center of global diversity in coral reef systems and the historic center of trade in cloves and other spices, tenure practices known as sasi have flourished for at least a century. This article analyzes changes in the ways Dutch colonial officials, Indonesian government officials, and environmental NGOs have interpreted Moluccan customary law and local institutions. Dutch colonial accounts of sasi, a generic name for a historic family of institutions, laws, and ritual practices that regulated access to fields, reefs, and rivers, suggest that sasi was a synthetic, highly variable body of practices linked to religious beliefs and local cultural ideas of nature. During the past two decades, as international and national conservation discourses have proliferated and a movement has developed to support indigenous Indonesian cultural communities, Indonesian NGOs and the Ministry of the Environment have promoted, and largely created,

images of sasi as an environmental institution and body of customary law promoting sustainable development, conservation, and social equity. This article focuses on how sasi has been continuously reinterpreted by a variety of actors, following the trajectory of changing institutional interests and images.

We begin by brainstorming the types of enforcement problems that workshop participants have encountered or have heard of in working with protected areas in Bangladesh. They are also invited to speculate on the possible causes and solutions. We examine the effectiveness of de facto rules and compare them with de jure rules.

We will again use the concept of core relationship to illustrate how perception of rules' fairness and consistent enforcement is critical to any effort of exacting compliance. We will also revisit the idea of meaningful participation discussed in the morning's session in rule making which leads to the legitimacy of the rules. Finally we will look at how co-management arrangements must carefully reconcile the gaps and overlaps in rule making and rule enforcement

Day III. Initiatives To Promote CBNRM

The goal of the third day is to critically examine several tools that have often been promoted as central to CBNRM, and to evaluate the contexts that would allow the initiatives to be effective (or risky).

Training Sessions / Topics

Morning Session [three hours]

8. The Value of Local Knowledge

Why should we promote the use of local knowledge in CBNRM? How do we assess the 'validity' of local knowledge? How do we weigh the relative importance of local knowledge and scientific knowledge in any particular CBNRM situation? What are the reasons that certain types of knowledge become valuable?

9. CBNRM and rural livelihoods

To what extent do local communities depend on natural resources within the protected areas for their livelihoods? What are the livelihood strategies that could be consistent with conservation goals? How do property rights affect the management of common resources such as forests and seas? What are the challenges that face micro enterprises in building a viable economic basis for community-based resource regimes? Under what conditions are local micro enterprises likely to be successful?

Key readings:

Belcher, B., M. Ruiz-Perez and R. Achdiawan (2005). "Global patterns and trends in the use and management of commercial NTFPs: Implications for livelihoods and conservation." World Development **33**(9): 1435-1452.

Summary Understanding of the role and potential of nontimber forest products (NTFPs) for livelihood improvement and conservation has been hindered by a lack of a clear theoretical framework and a functional typology of cases. To help fill this gap, we did a comparative analysis of 61 cases of commercial NTFP production in Africa, Asia, and Latin America. Cases were documented using a standardized set of descriptors organized into categories describing various aspects of the production-to-consumption system. Exploratory analysis yielded useful case groupings by (a) household economic strategy and (b) NTFP production strategy. These groups and their key characteristics are used as a basis for discussing the development and conservation implications of NTFPs.

Dove, M. R. (1993). "A Revisionist View of Tropical Deforestation and Development." Environmental Conservation **20**(1): 17-24, 56.

This study critiques one of the prevailing theories of tropical deforestation, namely that the forest is being cleared because its riches have been overlooked (the purported solution to which is the marketing of 'rainforest crunch'). The major challenge of resource development in tropical forests is not to give more

development opportunities to forest peoples but to take fewer away. In examining gold mining, rattan gathering, and truck-farming in Indonesia, the author argues that when a forest resource acquires greater value in the broader society, it is appropriated by external entrepreneurs at the expense of local communities. Thus, the predisposition of political and economic forces in the broader society to take over successful resource development in the tropical forest. Contemporary efforts to develop 'non-timber forest products' are reinterpreted, in this light, as attempts to allocate to the forest dwellers the resources of least interest to the broader society. The absence of research in this area is attributed not to academic oversight but to conflicting political-economic interests. The lesson of this analysis is not to ignore minor forest products, but to place them — and their potential development value for indigenous forest peoples — clearly within their proper political-economic context. Any resolution of the problems of tropical forest development and conservation must begin by first searching for the institutional forces that restrict the forest dwellers' ownership and productive use of existing resources.

Discussion on local knowledge would emphasize the dynamic nature of knowledge. Knowledge systems are only useful if stakeholders have the power to exercise them, power that is shaped by political and economic relations. Using this framework, we can avoid categorizing knowledge systems in non-productive dichotomies (local vs. western; traditional vs. modern etc.), but in the ability of stakeholders to control, adopt and use the knowledge to further their respective objectives. Afterwards, we make an inventory of different types of resource dependence for communities living near protected areas. To critically assess the sustainability of these initiatives, we will review the 'big stone, little man' parable narrated by Michael Dove and the theory of access (Ribot and Peluso, 2000) and identify the critical links that are present or not present in the case studies.

Day IV. Recapitulations, Applications

On this last day, we will review and apply the various concepts we have discussed in the workshop. At the end of the workshop, we will ask participants to help identify challenges to co-management of protected areas in Bangladesh.

Training Sessions / Topics
<p>MORNING SESSION [four hours]</p> <p>11. CBNRM design principles</p> <p>What are the eight design principles for robust self governing regimes identified by Elinor Ostrom (<i>Governing the Commons</i>, 1990)?</p> <p><i>This session recapitulates the various discussions on the elements of CBNRM by organizing them as 'eight design principles'.</i></p> <p><i>Workshop participants will then work in small groups to assess whether each of the principles is present or not present in the co-management initiatives they are working with, to begin identifying structural challenges that face the communities they are working with. Each group then is invited to present their findings/analysis to the full audience.</i></p>
<p>12. Adaptive co-management</p> <p>Adaptive management relies on the ability of decision makers to use information from policy experiments (including those that fail) as input for subsequent policy formulation. What are the challenges to using adaptive management in a community-based initiative? What are the rationales for “scaling up” from site-based management to networks or larger-scale community or co-management initiatives?</p> <p><u>Key readings:</u></p> <p>Berkes, Fikret (2009). "Evolution of co-management: Role of knowledge generation, bridging organizations and social learning." <u>Journal of Environmental Management</u> 90(5): 1692-1702.</p> <p>Over a period of some 20 years, different aspects of co-management (the sharing of power and responsibility between the government and local resource users) have come to the forefront. The paper focuses on a selection of these: knowledge generation, bridging organizations, social learning, and the emergence of adaptive co-management. Co-management can be considered a knowledge partnership. Different levels of organizations, from local to international, have comparative advantages in the generation and mobilization of knowledge acquired at different scales. Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking. Social learning is one of these tasks, essential both for</p>

co-operation of partners and an outcome of the co-operation of partners. It occurs most efficiently through joint problem solving and reflection within learning networks. Through successive rounds of learning and problem solving, learning networks can incorporate new knowledge to deal with problems at increasingly larger scales, with the result that mature co-management arrangements become adaptive co-management in time.

In this session we will review the development of ideas on co-management and social learning, and to learn from the lessons in many different forms of co-management practices. There is no single way of building effective co-management regimes, but a few principles that have yielded positive outcomes can be identified. They include building trust and social capital, co-production of knowledge, networking, conflict resolution, and building visions and goals.

Recognizing that in most kinds of co-management there are multiple government agencies and multiple local actors at play, the formal structure and power sharing arrangements should not be seen as the starting point of co-management – but as the result. Instead, co-management is a problem solving process that involves negotiation, deliberation, knowledge generation, and joint learning. This process has a major impact in building trust and cooperation from a multitude of actors.

Closing session, certificate presentation

Appendix III

Annotated Bibliography

Community-Based Natural Resources Management Integrated Protected Area Co-management (IPAC) IRG/USAID/Bangladesh

May/June 2011

Acheson, James M. (2006). "Institutional Failure in Resource Management." Annual Review of Anthropology **35**(1): 117-134.

Many of the world's natural resources are in a state of crisis. The solution to this crisis is to develop effective management institutions, but there is no consensus on what those institutions are. Some economists favor solving resource-management problems through the institution of private property; others advocate central government control; and many anthropologists see local-level management as the solution. In this review, I argue that all these governance structures fail under certain conditions. However, the factors contributing to failure in each of these institutional forms differ radically, and the causes of that failure are not always predicted on the basis of existing theory. This chapter contains a review of the literature on the factors identified as causing the failure of private-property regimes, government-controlled resources, and local-level management. We will have to learn to match the resource problems with governance institutions and specific management techniques if we are to manage resources effectively. We also will have to understand the complex biosocial factors influencing sustainability.

Acheson, James M. and Roy J. Gardner (2004). "Strategies, Conflict and the Emergence of Territoriality: The Case of the Maine Lobster Industry." American Anthropologist **106**(2): 296-307.

In this article, we use game theory to understand the emergence of various kinds of territorial arrangements in the Maine lobster fishery during the past century. Using the Nash equilibria of models of the fishery as our theoretical framework, we show that informal territorial arrangements in this fishery went through three sequential stages. These stages are the result of decisions by groups of lobster fishermen to defend fishing areas or invade those of other groups. A large number of factors influence these defensive and offensive strategies: concentrations of lobsters, the adoption of better technology, transportation costs, ecological changes, trap monitoring costs, the ability to organize defensive and offensive groups, and better law enforcement—all of which are captured by crucial parameters of our model. We argue that this technique can be applied to elucidate territorial changes more generally.

Acheson, James M. and Laura Taylor (2001). "The Anatomy of the Maine Lobster Comanagement Law." Society & Natural Resources **14**(5): 425-441.

In fisheries management circles, there is growing interest in comanagement in which authority for managing fish stocks is shared between government agencies and the fishing industry. This article discusses the implementation of the new comanagement system in the Maine lobster industry, which was initiated in 1995. The law has clearly been successful in that lobster fishermen have been able to generate rules to constrain their own exploitive effort. By 1998, all of the

management zones had voted for a strict trap limit, and by 2000, four of the seven zones had voted for limited entry rules. At the same time, five different kinds of problems had come to the fore, including several varieties of distributional conflicts, two kinds of constitutional issues, boundary disputes, controversies caused by federal intervention, and problems caused by changes in the scale of management. Not all of these problems were expected, and some have been solved with more success than others.

Acheson, James M., James A. Wilson and Robert S. Steneck (1998). Managing chaotic fisheries. Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience. Fikret Berkes and Carl Folke. Cambridge, Cambridge University Press: 390-413.

For several decades, fisheries management has been based on stock recruitment models, leading to policies designed to control the amount of effort and the quantity of fish caught. This approach has not been notably successful. In this paper we take the view that this problem arises from the complex and likely chaotic nature of fisheries. This attribute of fisheries creates a very difficult and costly information problem, which renders attempts to control the long term numerical abundance of individual species virtually impossible. We argue that feasible management must address the relatively stable parameters of fisheries systems — habitat and basic biological processes, and that this demands management attention to the fine as well as the broad scale attributes of the system. Attention to detail at these differing scales implies the need for a layered or hierarchical management structure. The need to minimize information costs also suggests an emphasis on decentralized, community-based approaches to management. A review of the anthropological literature shows that such approaches are common in many societies.

Agrawal, Arun (2001). "State Formation in Community Spaces? Decentralization of Control over Forests in the Kumaon Himalaya, India." Journal of Asian Studies **60** (1): 9-41.

Arun Agrawal's article concerns the management of the forest resources and its implications for community and state formation in the Kumaon Himalaya (north India) during the course of the twentieth century. The article traces the varying ways in which forest councils mediated between the state and the people who depended on the forests. His empirical evidence comes both from records of infractions of the rules of the forest councils and his own field work. Details on the rules of collective forest management; Approaches to ensure equal allocation and distribution of benefits from forest management.

Agrawal, Arun (2001). "Common Property Institutions and Sustainable Governance of Resources." World Development **29**(10): 1649-1672.

The literature on common property-based resource management comprises many important studies that seek to specify the conditions under which groups of users will self-organize and sustainably govern resources upon which they depend. Using three of the more comprehensive such studies, and with an extensive review of writings on the commons, this paper demonstrates that the enterprise of generating lists of conditions under which commons are governed sustainably is a flawed and impossibly costly research task. For a way out, the paper examines the relative merits of statistical, comparative, and case study approaches to studying the commons. It ends with a plea for careful research design and sample selection, construction of causal mechanisms, and a shift toward comparative and statistical rather than single-case analyses. Such steps are necessary for a coherent, empirically-relevant theory of the commons.

Agrawal, Arun and Ashwini Chhatre (2006). "Explaining success on the commons: Community forest governance in the Indian Himalaya." World Development **34**(1): 149-166.

Summary In the past two decades, scholarship on resource use and management has emphasized the key role of institutions, communities, and socio-economic factors. Although much of this writing acknowledges the importance of a large number of different causal variables and processes, knowledge about the magnitude, relative contribution, and even direction of influence of different causal processes on resource management outcomes is still poor at best. This paper addresses existing gaps in theory and knowledge by conducting a context-sensitive statistical analysis of 95 cases of decentralized, community-based, forest governance in Himachal Pradesh, and showing how a range of causal influences shape forest conditions in diverse ecological and institutional settings in the Indian Himalaya. In focusing attention on a large number of cases, but drawing on findings from case studies to motivate our analysis and choice of causal influences, our study seeks to combine the strengths of single case-oriented approaches and larger-N studies, and thereby contributes to a more thorough understanding of effective resource governance.

Agrawal, Arun and Clark C. Gibson (1999). "Enchantment and Disenchantment: The Role of Community in Natural Resources Conservation." World Development **27**(4): 629-649.

The poor conservation outcomes that followed decades of intrusive resource management strategies and planned development have forced policy makers and scholars to reconsider the role of community in resource use and conservation. In a break from previous work on development which considered communities a hindrance to progressive social change, current writings champion the role of community in bringing about decentralization, meaningful participation, and conservation. But despite its recent popularity, the concept of community is rarely defined or carefully examined by those concerned with resource use and management. We seek to redress this omission by investigating "community" in work concerning resource conservation and management. We explore the conceptual origins of the community, and the ways the term has been deployed in writings on resource use. We then analyze those aspects of community most important to advocates for community's role in resource management — community as a small spatial unit, as a homogeneous social structure, and as shared norms — and indicate the weaknesses of these approaches. Finally, we suggest a more political approach: community must be examined in the context of development and conservation by focusing on the multiple interests and actors within communities, on how these actors influence decision-making, and on the internal and external institutions that shape the decision-making process. A focus on institutions rather than "community" is likely to be more fruitful for those interested in community-based natural resource management.

Agrawal, Arun and Krishna Gupta (2005). "Decentralization and Participation: The Governance of Common Pool Resources in Nepal's Terai." World Development **33**(7): 1101-1114.

Decentralization has emerged as an important instrument of environmental and development policy in the last two decades. Presumed benefits of environmental policy decentralization depend in significant measure on broad participation in the programs that governments create to decentralize decision making related to resource management. This paper uses data from protected areas in Nepal's Terai to examine who participates in environmental decentralization programs. On the basis of our statistical analysis, we highlight the fact that the likelihood of participation in community-level user groups is greater for those who are economically and socially better-off. We also find that individuals who have greater access to and who visit government offices related to decentralization policies more often are also more likely to

participate in user groups created by state officials. Finally, we find a negative correlation between education and levels of participation. Our study and analysis support the argument that for decentralization policies to be successful on equity issues, it is important to build institutional mechanisms that encourage poorer and more marginal households to access government officials, improve access to educational opportunities, and create incentives to promote more interactions between less powerful rural residents and government officials.

Agrawal, Arun and Elinor Ostrom (2001). "Collective Action, Property Rights, and Decentralization in Resource Use in India and Nepal." Politics & Society **29**(4): 485-514.

National governments in almost all developing countries have begun to decentralize policies and decision making related to development, public services, and the environment. Trends toward decentralization have become especially strong in the past two decades. Existing research on the subject has enhanced our understanding of the effects of decentralization and thereby has been an effective instrument in the advocacy of decentralization. But most analyses, especially where environmental resources are concerned, have been less attentive to the political coalitions that prompt decentralization and the role of property rights in facilitating the implementation of decentralized decision making. Because decentralization of resource management is ultimately about how rights to resources are distributed among actors at different levels in a politico-administrative hierarchy, theories of property rights are a valuable tool to analyze the effectiveness of decentralization efforts. By comparing decentralization in four cases in South Asia*Forest Councils in Kumaon in India, Joint Forest Management in India, the Parks and People Program in Nepal's Terai, and Community Forestry legislation in Nepal*this article provides answers to two questions When do governments decentralize environmental decision making? and Which types of property rights must be devolved if decentralized decision making is to be effective?

Agrawal, Arun and Jesse Ribot (1999). "Accountability in Decentralization: A Framework with South Asian and West African Cases." The Journal of Developing Areas **33**(4): 473-.

By and large, environmental decentralization laws and their implementation are falling short of producing the most basic conditions necessary for effective decentralization. The authors argue that transfer of power and accountable and representative local institutions are necessary elements of effective decentralization.

Armitage, Derek (2002). "Socio-institutional dynamics and the political ecology of mangrove forest conservation in Central Sulawesi, Indonesia." Global Environmental Change **12**(3): 203-217.

Mangrove forests provide a range of ecological and socio-economic benefits in coastal zones throughout the world's tropical regions. Yet the conversion of mangrove forest, due in particular to aquaculture development, is occurring at a dramatic rate. Drawing on insights and concepts offered by political ecology and complex systems, processes of mangrove forest conversion and aquaculture development in the coastal zone of Banawa District, Central Sulawesi, are analyzed. This is accomplished by exploring: (1) the comparative benefits of aquaculture developments and intact mangrove forest ecosystems; (2) a policy narrative supportive of intensified aquaculture development at the expense of common property resource systems in the region; and (3) the manner in which this narrative interacts with cross-scale administrative, institutional, economic, socio-cultural and property rights dynamics. The analysis suggests that policy and management issues aimed at conserving mangrove forests and alleviating the ecological and socio-economic impacts of aquaculture development in the region are not simply a matter of government

formulating, enforcing and monitoring regulations that guard against mangrove forest conversion. Rather, there is a need to formulate, propose, implement and monitor strategies that contest existing policy narratives and challenge entrenched economic interests and power relationships.

Armitage, D. (2005). "Adaptive capacity and community-based natural resource management." Environmental Management **35**(6): 703-715.

Why do some community-based natural resource management strategies perform better than others? Commons theorists have approached this question by developing institutional design principles to address collective choice situations, while other analysts have critiqued the underlying assumptions of community-based resource management. However, efforts to enhance community-based natural resource management performance also require an analysis of exogenous and endogenous variables that influence how social actors not only act collectively but do so in ways that respond to changing circumstances, foster learning, and build capacity for management adaptation. Drawing on examples from northern Canada and Southeast Asia, this article examines the relationship among adaptive capacity, community-based resource management performance, and the socio-institutional determinants of collective action, such as technical, financial, and legal constraints, and complex issues of politics, scale, knowledge, community and culture. An emphasis on adaptive capacity responds to a conceptual weakness in community-based natural resource management and highlights an emerging research and policy discourse that builds upon static design principles and the contested concepts in current management practice.

Armitage, D. and D. Johnson (2006). "Can resilience be reconciled with globalization and the increasingly complex conditions of resource degradation in Asian coastal regions." Ecology and Society **11**(1): 2.

This paper explores the relationship between resilience and globalization. We are concerned, most importantly, with whether resilience is a suitable conceptual framework for natural resource management in the context of the rapid changes and disruptions that globalization causes in social-ecological systems. Although theoretical in scope, we ground this analysis using our experiences in two Asian coastal areas: Junagadh District in Gujarat State, India and Banawa Selatan, in Central Sulawesi, Indonesia. We present the histories of resource exploitation in the two areas, and we attempt to combine a resilience perspective with close attention to the impact of globalization. Our efforts serve as a basis from which to examine the conceptual and practical compatibility of resilience with globalization. The first challenge we address is epistemological: given that resilience and globalization have roots in different disciplines, do they share a sufficiently common perception of change and human action to be compatible? Second, we address the issue of how resilience can be a viable management objective in the rapidly changing context of globalization. We identify scale as particularly important in this regard.

Armitage, D. R., R. Plummer, F. Berkes, R. I. Arthur, A. T. Charles, I. J. Davidson-Hunt, A. P. Diduck, N. C. Doubleday, D. S. Johnson and M. Marschke (2008). "Adaptive co-management for social-ecological complexity." Frontiers in Ecology and the Environment **7**(2): 95-102.

Building trust through collaboration, institutional development, and social learning enhances efforts to foster ecosystem management and resolve multi-scale society–environment dilemmas. One emerging approach aimed at addressing these dilemmas is adaptive co-management. This

method draws explicit attention to the learning (experiential and experimental) and collaboration (vertical and horizontal) functions necessary to improve our understanding of, and ability to respond to, complex social–ecological systems. Here, we identify and outline the core features of adaptive co-management, which include innovative institutional arrangements and incentives across spatiotemporal scales and levels, learning through complexity and change, monitoring and assessment of interventions, the role of power, and opportunities to link science with policy.

Arnstein, S. R. (1969). "A ladder of citizen participation." Journal of the American planning association 35(4): 216-224.

The heated controversy over “citizen participation,” “citizen control”, and “maximum feasible involvement of the poor,” has been waged largely in terms of exacerbated rhetoric and misleading euphemisms. To encourage a more enlightened dialogue, a typology of citizen participation is offered using examples from three federal social programs: urban renewal, anti-poverty, and Model Cities. The typology, which is designed to be provocative, is arranged in a ladder pattern with each rung corresponding to the extent of citizens' power in determining the plan and/or program.

Baker, J. Mark (1998). "The Effect of Community Structure on Social Forestry Outcomes: Insights from Chota Nagpur, India." Mountain Research and Development 18(1): 51-62.

Social forestry integrates rural people with forest management in an attempt to improve rural welfare and reverse environmental degradation. Social forestry depends on people, yet the ability to assess opportunities for it is primarily based on technical criteria. Uniform social forestry programs are implemented in communities with different social characteristics without a clear understanding of the effects of those characteristics on people's actions and the outcomes of the program. Based on survey research among eighteen villages in the hilly Chota Nagpur Plateau, southeastern Bihar, India, this paper uses theories of collective action and common property resource management to investigate the relationship between social differentiation, local institutional capacity and wealth distribution, and the likelihood of success of private or community-based social forestry strategies. The results provide the basis for distinguishing among communities according to the probable effectiveness of different forms of social forestry, as well as for determining appropriate roles for external organizations interested in promoting social forestry. Additionally, the paper includes discussion of other factors such as local leadership, land and tree tenure, relations with external institutions, and ecological variation which affect social forestry outcomes.

Baker, Mark (1997). "Common Property Resource Theory and the 'Kuhl' Irrigation Systems of Himachal Pradesh, India." Human Organization 56(2): 199-208.

This article analyzes the differential stresses of increasing nonfarm employment on 39 gravity flow irrigation systems (*kuhls*) in Himachal Pradesh, India. By fragmenting common dependence on agriculture, increasing nonfarm employment has created stresses within kuhl regimes which manifest as declining participation, increased conflict, and the declining legitimacy of customary rules and authority structures. However, these effects are not evenly distributed across all kuhl regimes. I use insights from theories of common property resource systems to explain how and why some kuhl regimes have persisted without changing, most have transformed and endure, and a few have collapsed.

Belcher, Brian, Manuel Ruiz-Perez and Ramadhani Achdiawan (2005). "Global patterns and trends in the use and management of commercial NTFPs: Implications for livelihoods and conservation." World Development **33**(9): 1435-1452.

Summary Understanding of the role and potential of nontimber forest products (NTFPs) for livelihood improvement and conservation has been hindered by a lack of a clear theoretical framework and a functional typology of cases. To help fill this gap, we did a comparative analysis of 61 cases of commercial NTFP production in Africa, Asia, and Latin America. Cases were documented using a standardized set of descriptors organized into categories describing various aspects of the production-to-consumption system. Exploratory analysis yielded useful case groupings by (a) household economic strategy and (b) NTFP production strategy. These groups and their key characteristics are used as a basis for discussing the development and conservation implications of NTFPs.

Belsky, Jill (2000). The meaning of the Manatee: An examination of community-based ecotourism discourse and practice in Gales Point, Belize. People, Plants, and Justice: The Politics of Nature Conservation. Charles Zerner. New York, Columbia University Press: 285-308.

While the celebration of community in conservation provides legitimization to contest centrist coercive protected area management strategies of community in resource management writings and in particular strategies such as ecotourism are often on simplistic images and generic models that ignore politics. Based on research in a community-based rural ecotourism project in Gales Point Manatee Belize from 1992-1998 the paper provide concrete example of how the politics of class gender and patronage inequities limit the co-management of ectourism associations equitable distribution of ecotourism income and support for conservation regulations across the community. Attention to multiple interests and identities within the rural community and their relationships to external actor political institution and national policies are critical to understanding the challenges facing community-based conservation in Belize and demonstrated the relevance of such attention elsewhere.

Berkes, Fikret (2004). "Rethinking Community-Based Conservation." Conservation Biology **18**(3): 621-630.

Community-based conservation (CBC) is based on the idea that if conservation and development could be simultaneously achieved, then the interests of both could be served. It has been controversial because community development objectives are not necessarily consistent with conservation objectives in a given case. I examined CBC from two angles. First, CBC can be seen in the context of paradigm shifts in ecology and applied ecology. I identified three conceptual shifts*toward a systems view, toward the inclusion of humans in the ecosystem, and toward participatory approaches to ecosystem management*that are interrelated and pertain to an understanding of ecosystems as complex adaptive systems in which humans are an integral part. Second, I investigated the feasibility of CBC, as informed by a number of emerging interdisciplinary fields that have been pursuing various aspects of coupled systems of humans and nature. These fields*common property, traditional ecological knowledge, environmental ethics, political ecology, and environmental history*provide insights for CBC. They may contribute to the development of an interdisciplinary conservation science with a more sophisticated understanding of social-ecological interactions. The lessons from these fields include the importance of cross-scale conservation, adaptive comanagement, the question of incentives and multiple stakeholders, the use of traditional ecological knowledge, and development of a cross-cultural conservation ethic.

Berkes, Fikret. (2006). "From community-based resource management to complex systems: the scale issue and marine commons." Ecology and Society **11**(1): 45.

Most research in the area of common property (common-pool) resources in the last 2-3 decades sought the simplicity of community-based resource management cases to develop theory. This was mainly because of the relative ease of observing processes of self governance in simple cases. However, this creates a problem. Whether the findings of small-scale, community-based commons can be scaled up to generalize about regional and global commons is much debated. Even though some of the principles from community-based studies are likely relevant across scale, new and different principles may also come into play at different levels. Cross-scale institutions (such as institutions of co-management) have something in common: they provide ways to deal with complex adaptive systems. They all pertain to various aspects of complexity, such as self-organization, uncertainty, and resilience, and deal with the challenges of scale. Communities themselves can be seen as complex systems -- embedded in larger complex systems. Thus, community-based resource management needs to deal with cross-scale governance and external drivers of change, as I illustrate with examples of marine commons.

Berkes, Fikret. (2007). "Community-based conservation in a globalized world." Proceedings of the National Academy of Sciences **104**(39): 15188-15193.

Communities have an important role to play in biodiversity conservation. However, community-based conservation as a panacea, like government-based conservation as a panacea, ignores the necessity of managing commons at multiple levels, with vertical and horizontal interplay among institutions. The study of conservation in a multilevel world can serve to inform an interdisciplinary science of conservation, consistent with the Convention on Biological Diversity, to establish partnerships and link biological conservation objectives with local development objectives. Improving the integration of conservation and development requires rethinking conservation by using a complexity perspective and the ability to deal with multiple objectives, use of partnerships and deliberative processes, and learning from commons research to develop diagnostic tools. Perceived this way, community-based conservation has a role to play in a broad pluralistic approach to biodiversity protection: it is governance that starts from the ground up and involves networks and linkages across various levels of organization. The shift of attention to processes at multiple levels fundamentally alters the way in which the governance of conservation development may be conceived and developed, using diagnostics within a pluralistic framework rather than a blueprint approach.

Berkes, Fikret (2009). "Evolution of co-management: Role of knowledge generation, bridging organizations and social learning." Journal of Environmental Management **90**(5): 1692-1702.

Over a period of some 20 years, different aspects of co-management (the sharing of power and responsibility between the government and local resource users) have come to the forefront. The paper focuses on a selection of these: knowledge generation, bridging organizations, social learning, and the emergence of adaptive co-management. Co-management can be considered a knowledge partnership. Different levels of organization, from local to international, have comparative advantages in the generation and mobilization of knowledge acquired at different scales. Bridging organizations provide a forum for the interaction of these different kinds of knowledge, and the coordination of other tasks that enable co-operation: accessing resources, bringing together different actors, building trust, resolving conflict, and networking. Social learning is one of these tasks, essential both for the co-operation of partners and an outcome of

the co-operation of partners. It occurs most efficiently through joint problem solving and reflection within learning networks. Through successive rounds of learning and problem solving, learning networks can incorporate new knowledge to deal with problems at increasingly larger scales, with the result that maturing co-management arrangements become adaptive co-management in time.

Berkes, Fikret, Iain Davidson-Hunt and Kerril Davidson-Hunt (1998). "Diversity of Common Property Resource Use and Diversity of Social Interests in the Western Indian Himalaya." Mountain Research and Development 18(1): 19-33.

Resources of mountain environments are often held and used as commons. This paper examines the use of mountain commons in two villages in the Manali area, Kulu Valley, Himachal Pradesh, India, where the land settlement of 1886 provided the local people with well defined resource rights and allowed a degree of local control. Each village had a resource area which included a series of zones from agricultural land at about 2,000 m to the highest pastures at about 4,000 m. Within this area, ten categories of land use were identified: three kinds of private property agricultural land; four kinds of common-property grazing land; and three kinds of forest land, two of which had elements of common-property. Diversity of land use was due to a diversity of interests based on gender, caste, and ethnicity. Village-based social institutions, mahila mandals and mimbers, allowed these diverse interests a voice in resource management.

Blaikie, Piers (2006). "Is Small Really Beautiful? Community-based Natural Resource Management in Malawi and Botswana." World Development 34(11): 1942-1957.

Summary Community-based natural resource management (CBNRM) remains a popular policy with many international funding institutions, in spite of growing evidence of its disappointing outcomes. It is underpinned by theoretically justified benefits which serve to reproduce and market it. The paper explores approaches to understand and rectify these failures. The conclusion is that explanatory effort should be expanded from the "facilitating characteristics" of potentially successful CBNRM sites to include two sets of interfaces--those between donors and recipient states, and between the state (especially the local state) and CBNRMs at the local level. Illustrative examples in Botswana and Malawi are given throughout the discussion.

Briggs, John and Joanne Sharp (2004). "Indigenous knowledges and development: a postcolonial caution." Third World Quarterly 25(4): 661-676.

As a result of the failure of formal top-down development, there has recently been increased interest in the possibilities of drawing upon the indigenous knowledges of those in the communities involved, in an attempt to produce more effective development strategies. The concept of indigenous knowledge calls for the inclusion of local voices and priorities, and promises empowerment through ownership of the process. However, there has been little critical examination of the ways in which indigenous knowledges have been included in the development process. Drawing upon postcolonial theory, this article suggests that indigenous knowledges are often drawn into development by both theorists and development institutions in a very limited way, failing to engage with other ways of perceiving development, and thus missing the possibility of devising more challenging alternatives.

Brosius, Peter J., Anna Tsing and Charles Zerner (1998). "Representing Communities: History and Politics of Community-Based Resource Management." Society and Natural Resources 11: 157-168.

Recent years have witnessed the emergence of a loosely woven transnational movement, based particularly on advocacy by nongovernmental organizations working with local groups and communities, on the one hand, and national and transnational organizations, on the other, to build and extend new versions of environmental and social advocacy that link social justice and environmental management agendas. One of the most significant developments has been the promotion of community-based natural resource management programs and policies. However, the success of disseminating this paradigm has raised new challenges, as concepts of community, territory, conservation, and indigenous are worked into politically varied plans and programs in disparate sites. We outline a series of themes, questions, and concerns that we believe should be addressed both in the work of scholars engaged in analyzing this emergent agenda, and in the efforts of advocates and donor institutions who are engaged in designing and implementing such programs.

Campbell, Bruce, Alois Mandondo, Nontokozo Nemarundwe, Bevlyne Sithole, Wil De Jong, Marty Luckert and Frank Matose (2001). "Challenges to Proponents of Common Property Resource Systems: Despairing Voices from the Social Forests of Zimbabwe." World Development 29(4): 589-600.

There is a fair degree of misplaced optimism about common property resource (CPR) management. In investigation common property issues for woodlands in communal areas in Zimbabwe, we are struck by the numerous case studies showing a crackdown of local institutions for CPR management, and the lack of any emerging alternative institutions for such management. There are a number of contribution economic, social and ecological factors to this phenomenon. We argue that the formal rule-based systems that form the cornerstones of the proposed CPR systems are far removed from the current institutional systems, rooted in norm-based controls. We suggest that advocacy of CPR systems has to be tempered with critical analysis.

Carlsson, Lars and Fikret Berkes (2005). "Co-management: concepts and methodological implications." Journal of Environmental Management 75(1): 65-76.

Co-management, or the joint management of the commons, is often formulated in terms of some arrangement of power sharing between the State and a community of resource users. In reality, there often are multiple local interests and multiple government agencies at play, and co-management can hardly be understood as the interaction of a unitary State and a homogeneous community. An approach focusing on the legal aspects of co-management, and emphasizing the formal structure of arrangements (how governance is configured) runs the risk of neglecting the functional side of co-management. An alternative approach is to start from the assumption that co-management is a continuous problem-solving process, rather than a fixed state, involving extensive deliberation, negotiation and joint learning within problem-solving networks. This presumption implies that co-management research should preferably focus on how different management tasks are organized and distributed concentrating on the function, rather than the structure, of the system. Such an approach has the effect of highlighting that power sharing is the result, and not the starting point, of the process. This kind of research approach might employ the steps of (1) defining the social-ecological system under focus; (2) mapping the essential management tasks and problems to be solved; (3) clarifying the participants in the problem-solving processes; (4) analyzing linkages in the system, in particular across levels of organization and across geographical space; (5) evaluating capacity-building needs for enhancing the skills and

capabilities of people and institutions at various levels; and (6) prescribing ways to improve policy making and problem-solving.

Chambers, Robert (1994). "Participatory Rural Appraisal (PRA): Challenges, potentials and paradigms." World Development 22(10): 1437-1454.

much of the spread of participatory rural appraisal as an emerging family of approaches and methods has been lateral, South-South, through experiential learning and changes in behavior, with different local applications. Rapid spread has made quality assurance a concern, with dangers from instant fashion, rushing, formalism, and ruts. Promising potentials include farmers' own farming systems research, alternatives to questionnaire surveys, monitoring, evaluation, and lateral spread by local people, empowerment of the poorer and weaker, and policy review. Changes in personal behavior and attitudes, and in organizational cultures, are implied. PRA parallels and resonates with paradigm shifts in the social and natural sciences, business management, and development thinking, supporting decentralization, local diversity, and personal responsibility.

Charnley, Susan and M. R. Poe (2007). "Community Forestry in Theory and Practice: Where Are We Now?" Annual Review of Anthropology 36(1): 301-336.

Community forestry refers to forest management that has ecological sustainability and local community benefits as central goals, with some degree of responsibility and authority for forest management formally vested in the community. This review provides an overview of where the field of community forestry is today. We describe four case examples from the Americas: Canada, the United States, Mexico, and Bolivia. We also identify five hypotheses embedded in the concept of community forestry and examine the evidence supporting them. We conclude that community forestry holds promise as a viable approach to forest conservation and community development. Major gaps remain, however, between community forestry in theory and in practice. For example, devolution of forest management authority from states to communities has been partial and disappointing, and local control over forest management appears to have more ecological than socioeconomic benefits. We suggest ways that anthropologists can contribute to the field.

Cornwall, Andrea (2003). "Whose Voices? Whose Choices? Reflections on Gender and Participatory Development." World Development 31(8): 1325-1342.

Efforts to promote participation in projects, programs and policy consultation would appear to offer the prospect of giving everyone who has a stake a voice and a choice. But community-driven development, participatory planning and other fine-sounding initiatives that make claims of "full participation" and "empowerment" can turn out to be driven by particular gendered interests, leaving the least powerful without voice or much in the way of choice. Bringing a gender perspective to bear on the practice of participation in development may assist in identifying strategies for amplifying voice and access to decision making of those who tend to be marginalized or excluded by mainstream development initiatives. Yet "gender"--like "participation"--has multiple meanings. In this article, I explore some of the tensions, contradictions and complementarities between "gender-aware" and "participatory" approaches to development. I suggest that making a difference may come to depend on challenging embedded assumptions about gender and power, and on making new alliances out of old divisions, in order to build more inclusive, transformatory practice.

Dewi, Sonya, Brian Belcher and Atie Puntodewo (2005). "Village economic opportunity, forest dependence, and rural livelihoods in East Kalimantan, Indonesia." World Development 33(9): 1419-1434.

Summary The changing role of forests in people's livelihoods in frontier areas is important from the perspective of poverty alleviation and forest conservation. This study explores the link between expanding economic opportunities, forest dependence, and welfare in 73 villages. Village economic options, forest cover, and land suitability for agriculture and forestry are determining factors of people's well-being. Increased accessibility to markets and deforestation are strongly associated with economic diversity at the village level. Increased economic diversity, larger areas of forests, more intensive land use, higher endowments of agricultural land and forest, and higher village population are related to increased well-being.

Dove, Michael R. (1993). "A Revisionist View of Tropical Deforestation and Development." Environmental Conservation 20(1): 17-24, 56.

This study critiques one of the prevailing theories of tropical deforestation, namely that the forest is being cleared because its riches have been overlooked (the purported solution to which is the marketing of 'rainforest crunch'). The major challenge of resource development in tropical forests is not to give more development opportunities to forest peoples but to take fewer away. In examining gold mining, rattan gathering, and truck-farming in Indonesia, the author argues that when a forest resource acquires greater value in the broader society, it is appropriated by external entrepreneurs at the expense of local communities. Thus, the predisposition of political and economic forces in the broader society to take over successful resource development in the tropical forest. Contemporary efforts to develop 'non-timber forest products' are reinterpreted, in this light, as attempts to allocate to the forest dwellers the resources of least interest to the broader society. The absence of research in this area is attributed not to academic oversight but to conflicting political-economic interests. The lesson of this analysis is not to ignore minor forest products, but to place them — and their potential development value for indigenous forest peoples — clearly within their proper political-economic context. Any resolution of the problems of tropical forest development and conservation must begin by first searching for the institutional forces which restrict the forest dwellers' ownership and productive use of existing resources.

Dove, Michael R. (2002). "Hybrid histories and indigenous knowledge among Asian rubber smallholders." International Social Science Journal 54(173): 349-359.

The article tends to show the inadequacy of the concept of indigenous knowledge and suggests that this perceived inadequacy is itself part of a larger intellectual process. It analyzes the history of the construction of knowledge of rubber cultivation and says that the movement, invention, and contest are inconsistent with the concept of indigenous knowledge. This inconsistency stems, in particular, from two critical "realignments" involved in the transplanting of Hevea from South America to South-East Asia, separation of rubber from not just its biological but also its cultural environment and experimentation with the system of rubber production. It is suggested that the benefits of removing a plant from its social, economic, political, and conceptual environment may equal if not exceed those of removing a plant from its biological environment. It is also noted that this removal made possible the development of a far more efficient technology of exploitation. This removal also made possible additional, subtler innovations that were key to the future success of its cultivation by Southeast Asian smallholders.

Dovie, Delali B. K. (2003). "Rural economy and livelihoods from the non-timber forest products trade. Compromising sustainability in southern Africa?" International Journal of Sustainable Development & World Ecology **10**(3): 247-262.

The role of non-timber forest products in sustaining rural economies of the southern African region has been underestimated because of inadequate policy recognition. As a result, factors affecting the sustainability of these important resources are being undermined. The aim of the paper is to examine trade in two selected NTFPs and implications for sustaining the resource base in Zimbabwe and South Africa. In eastern Zimbabwe, baobab (*Adausonia digitata*) bark is harvested for craft purposes, but in danger of destruction in the short term as a result of harvesting and trade arrangements. Unless appropriate harvesting and marketing mechanisms including harvesting cycles and adaptive management are adopted, the baobabs and livelihoods of humans will be threatened in the next decade. For wood products from communal woodlands in the South African study, uncontrolled trade poses danger to sustaining the natural woodlands. In both case studies, the role of non-resident NTFP dealers is a source of inevitable threat in promoting sustainable harvesting and trade. Market forces of demand and supply factors are identified as opportunities or threats and presented in a conceptualised framework. Additionally, the NTFP sector management will need to include opportunistic improvement of small-scale agropastoralism.

Duncan, Christopher R. (2007). "Mixed Outcomes: The Impact of Regional Autonomy and Decentralization on Indigenous Ethnic Minorities in Indonesia." Development & Change **38**(4): 711-733.

This article examines how indigenous ethnic minorities in Indonesia are being affected by the implementation of decentralization and regional autonomy policies. New legislation transferred responsibility and authority over various issues, including resource extraction and local governance, from the central government to regional authorities at the district level. Members of the growing indigenous rights movement hoped that this decentralization process would allow ethnic minority communities to retain or regain control over natural resources through local-level politics. Furthermore, some ethnic minorities saw the implementation of decentralization as an opportunity to return to local forms of land tenure and resource management that had been disparaged by the national government for most of the twentieth century. However, these new laws also encourage district level governments to generate income through natural resource exploitation, as they will receive a certain percentage of these revenues. Minority communities could be adversely affected as local governments disregard their land rights in efforts to raise income to cover their new expenses, essentially continuing the practices of previous governments. This article examines the new opportunities, as well as the new threats, posed by decentralization to ethnic minorities throughout Indonesia.

Feeny, David, Susan Hanna and Arthur F. McEvoy (1996). "Questioning assumptions of the 'tragedy of the commons'." Land Economics **72**(2): 187-205.

The "tragedy of the commons" argument predicts the overexploitation of resources held in common. There is a great deal of evidence to the contrary. The descriptive accuracy and predictive validity of six categories of assumptions of the argument are examined. These include individual motivations, characteristics of individuals, nature of institutional arrangements, interactions among users, the ability of users to create new arrangements, and the behavior of regulatory authorities. The tragedy of the commons argument is seriously incomplete. It needs to be replaced by a richer and more accurate framework.

Fortmann, Louise (1995). "Talking claims: Discursive strategies in contesting property." World Development **23**(6): 1053-1063.

This article examines discursive strategies in the struggle over property rights in rural Zimbabwe. Stories told by villagers and the owners or former owners of nearby large commercial farms are analyzed in terms of their framing of the issue, the voice of the teller, time frame and audience. Villagers' stories are shown to legitimize present claims in terms of past recognition of their access rights. Farmers' stories are shown to attempt to shift part of the legitimacy of their property claims onto grounds of ecological stewardship.

Fox, Jonathan (1996). "How does civil society thicken? the political construction of social capital in rural Mexico." World Development **24**(6): 1089-1103.

The growth of the building-block organizations of an autonomous civil society in an authoritarian environment depends on the "political construction" of social capital. Social capital can be coproduced by state and local societal actors or by the interaction of local societal actors and external actors in civil society. Social capital may also be produced from below, but external allies still turn out to be crucial in the ability of such organizations to survive. An examination of variety in political dynamics across different regions and over time in rural Mexico provides ample illustration of these general points.

Fox, Jefferson (2002). "Siam mapped and mapping in Cambodia: Boundaries, sovereignty, and indigenous conceptions of space." Society & Natural Resources **15**(1): 65-78.

Examines the differences and similarities between the introduction of mapping into Thailand and efforts to map customary land use in Cambodia. Analysis on mapping problems; Description of mapping procedure; Implications for community mapping. This article explores differences and similarities between the introduction of mapping into Thailand in the beginning of the nineteenth century and efforts to map customary land use in Cambodia at the end of the 20th century. The comparison suggests that indigenous conceptions of space have been overwhelmed by the need to have a location that can be recognized by political power. That mapping should not stop with the delineation of boundaries but needs to be carried to its conclusion in the recognition of the bundles of overlapping, hierarchical rights that define property. Finally, who does the mapping is not as essential as who controls the maps. Imbedded within the context of who makes and controls maps is the challenge of balancing the need for community participation*with implications for lower levels of technology and accuracy*against the need to establish legal rights to these lands*with implications for more sophisticated technology and greater accuracy.

Fox, Jefferson, Krisnawati Suryanata, Peter Herschok and Albertus Hadi Pramono (2008). Mapping boundaries, shifting power: The socio-ethical dimensions of participatory mapping. Contentious Geographies: Environment, Meaning, and Scale. Mike Goodman, Max Boykoff and Kyle Evered. Aldershot, Hampshire, UK, Ashgate.

Rural communities have adopted spatial information technology (SIT) for developing management plans, monitoring change, or asserting territorial claims. The socio-ethical implications of these technologies, particularly in developing countries, are yet to be examined. This paper reviews the concept of ironic effects in technology deployment, and utilizes it to critically examine the use of SIT in rural communities in Asia that pointed toward emergent issues such as increased conflict, resource privatization, and loss of common property. While there are good reasons for communities to engage in mapping, they need to be informed of likely unintended consequences of these actions.

Francis, Paul and Robert James (2003). "Balancing Rural Poverty Reduction and Citizen Participation: The Contradictions of Uganda's Decentralization Program." World Development **31**(2): 325-337.

Uganda's ambitious decentralization program is analyzed in terms of a "Dual-Mode" system of local governance. Under a "technocratic mode," conditional funding from the center is earmarked for particular programs but with little local participation. In contrast, the "patronage mode" is an elaborate system for local "bottom-up" planning, but with limited resources, which are largely consumed in administrative costs and political emoluments. Along with the spoils of a committee system controlling contracts and appointments, these resources provide the means for building political alliances and loyalty. In the absence of a culture of transparency and civic engagement to assure downward accountability, it remains to be seen whether decentralization can promote both efficient service delivery and local empowerment simultaneously.

Klooster, Daniel James (2002). "Toward Adaptive Community Forest Management: Integrating Local Forest Knowledge with Scientific Forestry." Economic Geography **78**(1): 43.

This case study of indigenous communities in highland Michoacán, Mexico, examines data on forest change, woodcutting practices, social history, and a recent forest inventory and management plan prepared by a professional forester. It assesses the social and environmental fit of both local knowledge and scientific forestry and considers their abilities to contribute to sustainable forest management. Both bodies of knowledge are limited in their ability to inform the social practice of environmental management. The local forest knowledge system is particularly hampered by a limited ability to monitor the forest's response to woodcutting, while scientific forestry lacks the institutional flexibility to ensure the just and effective implementation of restrictions and prescriptions. This article recommends cross-learning between scientific resource managers and woodcutters, participatory environmental monitoring to assess the results of different cutting techniques, and explicit management experiments to facilitate institutional learning at the community level. This kind of adaptive management approach permits the flexible integration of local knowledge, scientific forestry, and appropriate institutional parameters to modulate human needs and goals with the discordant harmonies of inhabited and heavily used forests in a constant state of flux under processes of succession, disturbance, and spatial variation. Several barriers to this kind of institutional innovation exist, but outside intervention has the potential to change the dynamics of institutional evolution.

Lake, Robert W. (2002). Bring back big government. International Journal of Urban & Regional Research, Blackwell Publishing Limited. **26**: 815-822.

Argues that the national state is the scale of the state institution best able to marshal the political, discursive and material resources necessary to achieve goals of social justice. State's enactment of the distribution of functions that some observers interpret as a reduction in state power; Strategic and tactical arguments for a return of big government in the United States. Despite widespread claims of its demise, the national state is the scale of the state institution best able to marshal the political, discursive and material resources necessary to achieve goals of social justice, defined as a decrease in income inequality, at local, national and global scales. The appearance of the withering away of the state is deceptive, since it is the state itself that is enacting the distribution of functions that some observers interpret as a reduction in state power. The arguments for a return of big government are both strategic and tactical. Strategically, central government has been responsible for every major social policy advance in the United States in the twentieth century. Tactically, the institutions comprising decentralized governance, including local governments, non-profit foundations and community-based organizations, are inadequate to the task. The role of big government in pursuit of social justice entails discursive and regulatory

functions, each in turn suggesting an attendant political project for academics and activists. What is at stake is not a quantitative redistribution of state power but a qualitative redirection of the purposes to which that power is applied. Uncritical insistence on the end of the nation state may create a self-defeating self-fulfilling prophecy that conceals important opportunities for political realignment.

Larsen, Soren C. (2003). "Promoting Aboriginal Territoriality Through Interethnic Alliances: The Case of the Cheslatta T'en in Northern British Columbia." Human Organization **62**(1): 74-84.

Across rural North America, aboriginal and nonaboriginal people have formed strategic alliances to defend what are perceived to be common resources and attachments to place. Thus far, little is known about how these partnerships have factored into indigenous pursuits of territorial autonomy. This article describes how the Cheslatta T'en, a Dakelh (Carrier) community in north-central British Columbia, established a measure of control over their homeland after forming an alliance with local nonnative residents. Cheslatta leaders used cultural exchanges and social networks generated by the alliance to fashion territorial initiatives that, when taken together, channel popular environmentalism, provincial forestry policies, and ancestral ethnoecology into collective identity, action, and authority. As a result, the band has attained political influence over its traditional lands without participating in the province's treaty settlement process. Interethnic partnerships in rural areas are particularly relevant to political ecology because they reveal how the common experience of powerlessness can generate new forms of resource management that synthesize diverse constructions of nature. In this way, the paper contributes to the growing empirical work on such alliances and to emerging frameworks for a political ecology of social movements. It also adds to the ethnographic literature on the colonial encounter in British Columbia by highlighting the role of interethnic collaboration in contemporary rural resource management projects.

Larson, Anne M. (2002). "Natural Resources and Decentralization in Nicaragua: Are Local Governments Up to the Job?" World Development **30**(1): 17-31.

Both decentralization and natural resource management literature suggest that natural resources could benefit from the redistribution of centralized management authority. Yet, neither has sufficiently examined the processes already underway in numerous developing countries to decentralize resource management from central to municipal government authorities. This study reviews the role of 21 local governments in forest management in Nicaragua. It finds that most interventions are economically motivated, and that three key factors are needed for local governments to be good resource managers: capacity, incentive and long-term commitment. These three factors are part of a process in which civil society can play a critical role.

Larson, Anne M. (2004). "Formal Decentralisation and the Imperative of Decentralisation 'from Below': A Case Study of Natural Resource Management in Nicaragua." European Journal of Development Research **16**(1): 55-70.

This essay argues that decentralisation of natural resource management is a political process resisted by central government due to the feared loss of power and/or economic resources to local governments. In Nicaragua, although the formal process of power transfers largely stagnated from 1997 to 2003, decentralisation 'from below' continued to advance thanks to political pressure from civil society and municipal governments and the increasing legitimacy of local authority. At the same time, many municipal governments have little interest in resource management where there are few apparent economic benefits. Local governments, however,

respond among other pressures to pressure from constituents and non-governmental organisations to take on resource-management initiatives. At both levels of government, local and grass-roots processes are necessary conditions to make formal decentralisation democratic and responsible.

Larson, A. M., D. Barry and Ganga Ram Dahal (2010). "New Rights for Forest-Based Communities? Understanding Processes of Forest Tenure Reform." International Forestry Review **12**(1): 78-96.

This article reports on findings from a research project, in more than 30 sites in 10 countries in Africa, Asia and Latin America, aimed at analyzing cases where changes in formal tenure rights for forest-based communities had recently occurred or were in process. Though by far largest proportion of the world's forests are owned by the state, over a quarter of forests in developing countries are now owned by or assigned to communities. This suggests, at least in some ways, a marked departure from the historic trend towards centralizing. The project, led by the Center for International Forestry Research in coordination with the Rights and Resources Initiative in 2006–2008, sought to identify issues and concerns from the perspective of socially and economically vulnerable groups that were seeking rights reforms. The objectives were to understand reform processes, particularly the extent to which community rights had improved in practice. This article reports on the analysis of three aspects of the reforms: the broad global trends shaping them, challenges in implementation and outcomes for livelihoods and forests.

Leach, Melissa and James Fairhead (2002). "Manners of contestation: "citizen science" and "indigenous knowledge" in West Africa and the Caribbean." International Social Science Journal **54**(173): 299-311.

All knowledge is socially produced, dissolving divides between indigenous or scientific and lay or expert knowledge into a plethora of partial perspectives and situated practices among diverse social actors. Nevertheless, this theoretical dissolution should not be allowed to mask very real differences in the manners of engagement or contestation between knowledge systems. Two cases from the Caribbean and Africa, where rural hunters are engaging with international and state-sponsored science and policy around national parks, illustrate such differences. These differences reflect the social and institutional relations of science and the particular histories through which they have developed and social and historical relations that have also shaped strategic uses and representations of categories such as "indigenous" and "citizen." The very different ways that the politics of knowledge have unfolded in Guinea and Trinidad and Tobago reflect how their respective colonial and post-independence histories have played differently into contemporary social relations of science. In Guinea, until independence in 1958, there was little research in institutions of science outside the white-dominated colonial service, whether in the natural or social sciences.

Li, Tania Murray (2000). "Articulating indigenous identity in Indonesia: resource politics and the tribal slot." Comparative Studies in Society and History **42**(1): 149-179.

the paper set out an alternative approach to the question of indigenism to suit the diversity of conditions and struggles in the Indonesian countryside, and alert to the political risks and opportunities posed by particular framings. The paper argues that a group's self-identification as indigenous is not natural or inevitable, but neither it is simply invented, adopted, or imposed. It is, rather, a positioning drawing upon historically sedimented practices, landscapes, and repertoires of meaning, and emerges through particular patterns of engagement and struggle.

Li, Tania Murray (2002). "Engaging Simplifications: Community-Based Resource Management, Market Processes and State Agendas in Upland Southeast Asia." World Development **30**(2): 265-283.

In the struggle to secure resource rights for rural populations who gain their livelihoods from state-claimed lands, advocacy agendas highlight community interest in, and capacity for, sustainable resource management. In the uplands of Southeast Asia, the strategic simplifications of community-based natural resource management (CBNRM) advocacy are being translated into legal frameworks and program initiatives which make rights conditional upon particular forms of social organization and livelihood, as well as conservation outcomes. When set in the context of agricultural intensification among both indigenous and migrant populations, and the desire of many upland dwellers to claim the benefits of a fuller citizenship, CBNRM offers a problematic basis for justice

Lowry, Kem (2002). "Decentralized coastal management." InterCoast Network **42**: 1; 42-45.

Discusses practical dilemmas in the design of decentralized management, including the 'implementation gap' –inconsistencies between policy goals conceived at one level of or branch of government and the translation of those goals into specific resource management activities at another level or by other agencies.

Lowry, Kem, Peter Adler and Neal Milner (1997). "Participating the public: Group process, politics, and planning." Journal of Planning Education and Research **16**(3): 177-187.

The use of new group process techniques in the review of projects and in developing plans and policies can result in meetings that are more civil, more efficient and more satisfying to participants, and more useful in terms of the information that is generated. However, planners must be aware that facilitated processes can be used to deflect discussion of value issues, to control difficult participants, and to manipulate participatory processes. we need to pay more attention to the larger issues about deliberative politics, about the relationships between facilitated meetings and agency agendas, and about the the criteria for appraising the outcomes of facilitated processes. This essay describes the extensive use of group processes for planning in a variety of substantive meetings in Hawaii. Based on this experience we offer some norm of good practice that indicate how we might be more attentive to the micro politics of group processes and their use in planning processes.

Majid Cooke, Fadzilah (2003). "Maps and Counter-Maps: Globalised Imaginings and Local Realities of Sarawak's Plantation Agriculture." Journal of Southeast Asian Studies **34**(2): 265-284.

This article examines differences and overlaps in imagined spatial ideas of rural Sarawak which underpin official and community mapping. It looks at the ways in which 'counter-mapping' is used by indigenous communities to support their claims to traditional land rights when these are contested by other parties.

McCarthy, John F. (2004). "Changing to Gray: Decentralization and the Emergence of Volatile Socio-Legal Configurations in Central Kalimantan, Indonesia." World Development 32(7): 1199-1223.

Decentralization policy narratives articulated by donor agencies tend to describe decentralization as a technical process of policy design and implementation, advocating decentralization as a solution to particular problems. Drawing on research carried out in the Indonesian province of Central Kalimantan following the inception of a decentralization program, this article examines how political processes at the national, district and village levels have led to highly volatile socio-legal configurations that create insecurity and heighten resource conflicts. It concludes that while the politics surrounding decentralization in different domains have ensured that the patterns of governance inherited from the past remain precariously distant from the objectives of good governance, decentralization has also opened up space for positive changes. Copyright 2004 Elsevier

McCay, Bonnie J. and Svein Jentoft (1996). "From the Bottom Up: Participatory Issues in Fisheries Management." Society & Natural Resources 9: 237-250.

"Co-management" is among several slogans used to indicate a dissatisfaction with present systems and a movement to more decentralized systems of marine resource management. The authors note the necessary distinction between decentralization and participatory management and use comparative analyses of case studies of fisheries management systems in Scandinavian and North American countries and New Zealand to explore potential for both decentralization and delegation of authority in fisheries management. The article focuses on issues of representation, domain, and communication in the design of fisheries management systems. It notes the value of the concept of subsidiarity, recently adopted in the process of European integration, and raises the question of sources of more "communicative rationality" in the social and political processes surrounding fisheries management.

McDermott, Melanie Hughes (2001). Invoking community: Indigenous people and ancestral domain in Palawan, the Philippines. Communities and the Environment: Ethnicity, Gender and the State in Community-Based Conservation. Arun Agrawal and Clark C. Gibson. New Brunswick, NJ, Rutgers University Press: 32-62.

Indigenous people, their allies, and the states which they have recently challenged have centered their contests over rights and resources on the issue of boundaries--boundaries of territory and boundaries of identity. In the case of one Philippine indigenous community and its struggle for state recognition of its ancestral domain, however, this study finds that boundaries are less important than 'pathways,' i.e., flows across boundaries. If boundaries represent social relations of inclusion and exclusion from group membership and access to resources, pathways indicate social relations of access and exchange. This paper examines how local responses to changing macro political-economic factors, in particular migration, markets, and state interventions, transform these boundary and pathway relations, and thereby resource use patterns and the productivity and diversity of the landscapes they shape.

Millar, Craig (1996). "The Shetland way: Morality in a resource regime." Coastal Management 24: 195-216.

development is a process of transformation within and among the decision making institutions of a management regime. As social institutions, technology and property are moralities. Aquaculture, as a new technology requiring the establishment of private property rights in a commons, is a development especially sensitive to the moral dimension. Salmon farmers in

Shetland have established themselves within a resource regime that is characterized by a consistent morality known as "the Shetland Way". As a morality compelling mutual aid toward rural development, it obliges consultation among participants and defense from external authorities within the larger nation state regime. The success of the regime is dependent on trust, and that trust is embedded in the morality of the regime. Using a number of strategies, participants have actively built trust among themselves and extended it as a strategy of external relations.

Mohan, Giles and Kristian Stokke (2000). "Participatory development and empowerment: the dangers of localism." Third World Quarterly 21(2): 247-268.

Recent discussions in development have moved away from holistic theorisation towards more localised, empirical and inductive approaches. In development practice there has been a parallel move towards local 'participation' and 'empowerment', which has produced, albeit with very different agendas, a high level of agreement between actors and institutions of the 'new' Left and the 'new' Right. This paper examines the manifestations of this move in four key political arenas: decentralised service delivery, participatory development, social capital formation and local development, and collective actions for 'radical democracy'. We argue that, by focusing so heavily on 'the local', the see manifestations tend to underplay both local inequalities and power relations as well as national and transnational economic and political forces. Following from this, we advocate a stronger emphasis on the politics of the local, ie on the political use of 'the local' by hegemonic and counter-hegemonic interests.

Mukul, Sharif Ahmed, Mohammad Belal Uddin, A. Z. M. Manzoor Rashid and Jefferson Fox (2010). "Integrating livelihoods and conservation in protected areas: understanding the role and stakeholder views on prospects for non-timber forest products, a Bangladesh case study." International Journal of Sustainable Development & World Ecology 17(2): 180-188.

Protected areas (PAs) represent a key global strategy in biodiversity conservation. In tropical developing countries, the management of PAs is a great challenge as many contain resources on which local communities rely. Collection and trading of non-timber forest products (NTFPs) is a well-established forest-based livelihood strategy, which has been promoted as a potential means for enhanced conservation and improved rural livelihoods in recent years, even though the sustainability or ecological implications have rarely been tested. We conducted an exploratory survey to understand the role and stakeholder views on conservation prospects and perceived ecological feasibility of NTFPs and harvesting schemes in a northeastern PA of Bangladesh, namely the Satchari National Park. Households (n = 101) were interviewed from three different forest dependency categories, adopting a stratified random sampling approach and using a semi-structured questionnaire. The study identified 13 locally important NTFPs, with five being critically important to supporting local livelihoods. Our study suggests that collection, processing and trading in NTFPs constitutes the primary occupation for about 18% of local inhabitants and account for an estimated 19% of their cash annual income. The household consensus on issues relating to NTFPs and their prospective role in conservation was surprisingly high, with 48% of respondents believing that promotion of NTFPs in the PA could have positive conservation value. The majority (71%) of households also had some understanding of the ecological implications of NTFP harvesting, sustainability (53%) and possible management and monitoring regimes (100%). With little known about their real application in the field, our study suggests further investigations are required to understand the ecological compatibility of traditional NTFP harvesting patterns and management.

Nath, Tapan Kumar and Makoto Inoue (2010). "Impacts of Participatory Forestry on Livelihoods of Ethnic People: Experience from Bangladesh." Society & Natural Resources **23**(11): 1093-1107.

As a strategy of social development, the Bangladeshi government has attached the highest priority to participatory forestry (PF) since the early 1980s. In this article, we examine the impacts of PF on livelihoods of ethnic people, drawing empirical data from three villages involved in two PF projects. The projects have varying impacts on livelihoods of participating villagers. Disparities in income and forest conditions in the study villages were traced to factors including forest production technologies (agroforestry), the top-down approach of project management, failure to create awareness about project benefits, and the inability of project staff members to organize planters. Findings also indicate that PF projects are not sufficient to conserve and develop forests without assuring people's basic needs-food security and regular income sources. Meeting the diversified needs of people necessitates a long-term integrated plan that focuses on sustainable management of land, water, and other resources with a coordinated approach.

Nazarea, Virginia D. (2006). "Local Knowledge and Memory in Biodiversity Conservation." Annual Review of Anthropology **35**(1): 317-335.

Abstract For the past two decades, biodiversity conservation has been an area of concerted action and spirited debate. Given the centrality of biodiversity to the earth's life support system, its increasing vulnerability is being addressed in international conservation as well as in research by anthropologists and other social scientists on the cultural, economic, political, and legal aspects of human engagement with biological resources. The concepts of biodiversity as a social construct and historical discourse, of local knowledge as loaded representation and invented tradition, and of cultural memory as selective reconstruction and collective political consciousness have also been the foci of recent critical reflection.

Nelson, Fred and Arun Agrawal (2008). "Patronage or Participation? Community-based Natural Resource Management Reform in Sub-Saharan Africa." Development and Change **39**(4): 557-585.

This article examines the institutional factors that account for the outcome of efforts to decentralize control over natural resources to local communities. It focuses on the political nature of institutional processes associated with decentralization in sub-Saharan Africa through a comparative analysis of wildlife management reforms in seven east and southern African countries. Institutional reforms are largely dependent on state authorities' patronage interests, which in turn are shaped by the relative economic value of wildlife, the degree of central control over commercial utilization, and the accountability of governance institutions. Our findings have a range of practical implications for the design of CBNRM initiatives and institutional reform strategies.

Olsson, Per, Carl Folke and Fikret Berkes (2004). " Adaptive Comanagement for Building Resilience in Social–Ecological Systems." Environmental Management **34**(1): 75-90.

Ecosystems are complex adaptive systems that require flexible governance with the ability to respond to environmental feedback. We present, through examples from Sweden and Canada, the development of adaptive comanagement systems, showing how local groups self-organize, learn, and actively adapt to and shape change with social networks that connect institutions and organizations across levels and scales and that facilitate information flows. The development took place through a sequence of responses to environmental events that widened the scope of local management from a particular issue or resource to a broad set of issues related to ecosystem

processes across scales and from individual actors, to group of actors to multiple-actor processes. The results suggest that the institutional and organizational landscapes should be approached as carefully as the ecological in order to clarify features that contribute to the resilience of social–ecological systems. These include the following: vision, leadership, and trust; enabling legislation that creates social space for ecosystem management; funds for responding to environmental change and for remedial action; capacity for monitoring and responding to environmental feedback; information flow through social networks; the combination of various sources of information and knowledge; and sense-making and arenas of collaborative learning for ecosystem management. We propose that the self-organizing process of adaptive comanagement development, facilitated by rules and incentives of higher levels, has the potential to expand desirable stability domains of a region and make social–ecological systems more robust to change.

Ostrom, Elinor (1998). "A behavioral approach to the rational choice theory of collective action." American Political Science Review 92(1): 1-22.

Extensive empirical evidence and theoretical developments in multiple disciplines stimulate a need to expand the range of rational choice models to be used as a foundation for the study of social dilemmas and collective action. After an introduction to the problem of overcoming social dilemmas through collective action, the remainder of this article is divided into six sections. The first briefly reviews the theoretical predictions of currently accepted rational choice theory related to social dilemmas. The second section summarizes the challenges to the sole reliance on a complete model of rationality presented by extensive experimental research. In the third section, I discuss two major empirical findings that begin to show how individuals achieve results that are "better than rational" by building conditions where reciprocity, reputation, and trust can help to overcome the strong temptations of short-run self-interest. The fourth section raises the possibility of developing second-generation models of rationality, the fifth section develops an initial theoretical scenario, and the final section concludes by examining the implications of placing reciprocity, reputation, and trust at the core of an empirically tested, behavioral theory of collective action.

Ostrom, Elinor (2000). "Collective action and the evolution of social norms." Journal of Economic Perspectives 14(3): 137-158.

This paper describes both theoretical and empirical avenues of research on the underpinnings of collective action, first focusing on the experimental evidence and potential theoretical explanations, and then on the real-world empirical evidence. A core question is how potential cooperators signal one another and design institutions that reinforce rather than destroy conditional cooperation.

Ostrom, Elinor, Joanna Burger, Christopher B. Field, Richard B. Norgaard and David Policansky (1999). "Revisiting the commons: Local lessons, global challenges." Science 284(5412): 278-282.

Discusses insights on problems and conditions that will favor sustainable uses of common-pool resources. Nature of common-pool resources; Institutions for managing and governing common-pool resources; Evolution of norms and design of rules; Importance of institutional diversity and biological diversity in survival.

Ostrom, Elinor and Harini Nagendra (2006). "Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory." Proceedings of the National Academy of Science of the USA **103**(51): 19224-19231.

Governing natural resources sustainably is a continuing struggle. Major debates occur over what types of policy "interventions" best protect forests, with choices of property and land tenure systems being central issues. Herein, we provide an overview of findings from a long-term interdisciplinary, multiscale, international research program that analyzes the institutional factors affecting forests managed under a variety of tenure arrangements. This program analyzes satellite images, conducts social-ecological measurements on the ground, and tests the impact of structural variables on human decisions in experimental laboratories. Satellite images track the landscape dimensions of forest-cover change within different management regimes over time. On-the-ground social-ecological studies examine relationships between forest conditions and types of institutions. Behavioral studies under controlled laboratory conditions enhance our understanding of explicit changes in structure that affect relevant human decisions. Evidence from all three research methods challenges the presumption that a single governance arrangement will control overharvesting in all settings. When users are genuinely engaged in decisions regarding rules affecting their use, the likelihood of them following the rules and monitoring others is much greater than when an authority simply imposes rules. Our results support a frontier of research on the most effective institutional and tenure arrangements for protecting forests. They move the debate beyond the boundaries of protected areas into larger landscapes where government, community, and comanaged protected areas are embedded and help us understand when and why deforestation and regrowth occur in specific regions within these larger landscapes.

Peluso, Nancy Lee and Peter Vandergeest (2001). "Genealogies of the Political Forest and Customary Rights in Indonesia, Malaysia, and Thailand." Journal of Asian Studies **60**(3): 761.

Discusses how the outcomes of debates about the extent of political forests came to be expressed within the law in Indonesia, Malaysia and Thailand. Investigation on the genealogy of political forests in selected regions in Asia; Reasons for choosing the regions; Techniques of controlling political forests.

Perez, Manuel Ruiz, Zhong Maogong, Brian Belcher, Xie Chen, Fu Maoyi and Xie Jinzhong (1999). "The role of bamboo plantations in rural development: The case of Anji County, Zhejiang, China." World Development **27**(1): 101-114.

Bamboos have often been viewed as inferior products, labeled as the "poor man's timber." Development groups have proposed bamboo production as an opportunity for increasing the wealth of the lower-income groups. This paper is a study of the household economy of 200 bamboo farmers in eight townships of Anji County in China. The authors describe the process of transformation of rural China from communes to the household responsibility system, the differentiated rate of development among farmers and the role of bamboo in that change. A multiple regression analysis was carried out to study the factors that influence farmers' incomes and their evolution. A warning is sounded against using bamboo production to target low-income groups, as well as relying solely on aggregated data when drawing conclusions on income disparities in China.

Persha, Lauren, Harry Fischer, Ashwini Chhatre, Arun Agrawal and Catherine Benson (2010). "Biodiversity conservation and livelihoods in human-dominated landscapes: Forest commons in South Asia." Biological Conservation 143(12): 2918-2925

Strict protected areas are a critical component in global biodiversity conservation, but the future of biodiversity conservation may well depend upon the ability to experiment successfully with a range of institutional forms, including those that permit human use. Here, we focus on forest commons in human-dominated landscapes and their role in biodiversity conservation at the same time as they provide livelihood benefits to users. Using a dataset of 59 forest commons located in Bhutan, India, and Nepal, we estimated tree species richness from plot vegetation data collected in each forest, and drew on interview data to calculate a livelihoods index indicating the overall contribution of each forest to villager livelihoods for firewood, fodder, and timber. We found that tree species richness and livelihoods were positively and significantly correlated ($\rho = 0.41$, $p < 0.001$, $N = 59$). This relationship held regardless of forest type or country, though significance varied somewhat across these two factors. Further, both benefits were similarly associated with several drivers of social-ecological change (e.g., occupational diversity of forest users, total number of users, and forest size), suggesting identification of potential synergies and complexes of causal mechanisms for future attention. Our analysis shows that forest commons in South Asia, explicitly managed to provide livelihoods for local populations, also provide biodiversity benefits. More broadly, our findings suggest that although strict protected areas are effective tools for biodiversity conservation, a singular focus on them risks ignoring other resource governance approaches that can fruitfully complement existing conservation regimes.

Pinkerton, Evelyn (1999). "Factors in Overcoming Barriers to Implementing Co-management in British Columbia Salmon Fisheries." Ecology and Society 3(2): 2. [Online] URL <http://www.consecol.org/vol3/iss2/art2/>

Ten years of research and efforts to implement co-management in British Columbia fisheries have demonstrated that we lack neither good models nor the political will in communities to design and test local and regional institutions for successful involvement in various aspects of management. The barriers lie rather in the distrust and resistance of management agencies and the lack of broadly organized political support. The nature of the barriers and some of the elements of a successful approach to overcoming them are identified and discussed. The analysis is focused around the barriers encountered by two differently situated fishing communities or regions that have launched conservation initiatives through cooperation between local aboriginal and nonaboriginal fishing groups. In attempting to overcome the political barriers, the communities seek to develop expertise in selective fishing technology for more sustainable harvest, principled multi-stakeholder negotiation, marketing, shared databases, and preliminary ecosystem monitoring. The communities exemplify small- and medium-scale bottom-up approaches to adaptive management. The analysis shows the key and possibly unique contributions of processes at these levels, and suggests how they can be scaled up and linked to processes at other levels. Both types of analysis are largely missing in adaptive management theory, which has tended to focus on larger scale processes and to dismiss the potential of smaller scale ones to transform, expand, and link. This analysis focuses on salmon (*Oncorhynchus* spp.) fisheries of British Columbia, Canada, but the literature suggests that the findings have far broader applicability.

Pinkerton, Evelyn, Robyn Heaslip, Jennifer Silver and Kira Furman (2008). "Finding "Space" for Comanagement of Forests within the Neoliberal Paradigm: Rights, Strategies, and Tools for Asserting a Local Agenda." Human Ecology **36**(3): 343-355.

As neoliberalism continues to influence environmental governance, it affects notions about the appropriate level of community involvement in resource management. Under more recent iterations, hybrid forms of governance are emphasized, including government–civil society partnerships and approaches geared towards harnessing the strengths of local communities. Here we explore the characteristics of different resource management rights, strategies, and tools through which communities can find political space to assert their own agendas within a neoliberalized policy environment. We examine the successful use of some of these approaches by communities during the initial development of community forests policy and practice in British Columbia, Canada. While we confirm the complex, contingent and case-specific nature of opportunities for comanagement created through neoliberal policy elements, we suggest that space does exist for community forest bodies to assert local values, goals and strategies, demonstrating the creativity, ingenuity and determination of communities to attain a real voice in management.

Plummer, Ryan and Derek Armitage (2007). "A resilience-based framework for evaluating adaptive co-management: Linking ecology, economics and society in a complex world." Ecological Economics **61**(1): 62-74.

Adaptive co-management brings together collaborative and adaptive approaches in pursuit of sustainable resource use and social-ecological resilience. Enthusiasm for this management approach, however, is countered by recent critiques regarding outcomes. A lack of evidence from consistent evaluation of adaptive co-management further exacerbates this situation. This paper revisits the issue of evaluation in natural resource management and recasts it in light of complex adaptive systems thinking. An evaluative framework for adaptive co-management is developed which directs attention toward three broad components: ecosystem conditions, livelihood outcomes and process and institutional conditions. Scale-specific parameters are offered for each component to facilitate systematic learning from experience and encourage cross-site comparisons. Conclusions highlight the importance of systematically incorporating evaluation into the adaptive co-management process and recognize the challenge for resource agencies and researchers to shift from a conventional to a complex adaptive system perspective.

Pomeroy, Robert S. (1995). "Community-based and co-management institutions for sustainable coastal fisheries management in Southeast Asia." Ocean and Coastal Management **27**(3): 143-62.

Fisheries experts now recognize that resource conflicts can be diminished and resources better managed when fishers and other resource stakeholders are more involved in management, and access rights are distributed more effectively and equitably. There is an increasing commitment by governments in Southeast Asia to policies and programs of decentralization and community-based management and co-management. The planning and implementation of these management systems will require the development of new legal, administrative and institutional arrangements at both national and community levels to complement contemporary political, economic, social and cultural structures.

Rahnema, Majid (1992). "Participation." The Development Dictionary: A Guide to Knowledge as Power. Wolfgang Sachs. London and New Jersey, Zed Books: 116-131.

Interrogates the meanings of the word "participation" when separated from its context and used for manipulative purposes.

Rangan, Haripriya (1997). "Property vs. Control: The State and Forest Management in the Indian Himalaya." Development and Change 28(1): 71-94.

The latest orthodoxy to emerge in environmental literature centres on the notion that state ownership of forests results in poor management and ecological degradation. Depending on their political persuasion, scholars, policy-makers and activists either advocate privatization of state forests, or demand their transferral to local communities as solutions for promoting sustainable forest management. This article argues that such proposals are flawed because they assume that ownership status determines the ways in which resources are used and managed. It argues that an analytical distinction needs to be made between property and control for understanding the complex interplay of social, economic, political and ecological factors that influence forest stock, composition and quality. Through a historical analysis of the development of state forestry in the Indian Himalaya, the article shows how state ownership of forests does not result in the monolithic imposition of proprietary rights, but emerges instead as an ensemble of access and management regimes.

Rangan, Haripriya and Marcus B. Lane (2001). "Indigenous Peoples and Forest Management: Comparative Analysis of Institutional Approaches in Australia and India." Society & Natural Resources 14(2): 145-160.

This article examines recent institutional approaches that address questions of access to forest resources and issues of redistributive justice for indigenous peoples in Australia and India. For over two decades, both countries have seen the emergence of claims to forest access and ownership made by indigenous communities that have been historically disadvantaged and marginalized from the benefits of mainstream social and economic development. The analysis focuses on regional forest agreements (RFA) in Australia and joint forest management (JFM) experiments in India through a comparative analytical framework defined by three concepts—access, control, and substantive democracy—to assess the relative strengths and weaknesses of institutional processes that aim to engage in sustainable management of forest resources.

Ribot, Jesse C. (1998). "Theorizing Access: Forest Profits along Senegal's Charcoal Commodity Chain." Development & Change 29(2): 307.

The questions at the centre of this article are: who profits from commercial forestry, and how? Through access mapping with commodity chain analysis, this study examines the distribution of benefits from Senegal's charcoal trade and the multiple market mechanisms underpinning that distribution. Benefits from charcoal are derived from direct control over forest access, as well as through access to markets, labour opportunities, capital, and state agents and officials. Access to these arenas is based on a number of inter-related mechanisms including legal property, social identity, social relations, coercion and information control. A commodity chain is the series of relations through which an item passes, from extraction through conversion, exchange, transport, distribution and final use. Access mapping involves evaluating the distribution of benefits along the chain, and tracing out the mechanisms by which access to benefits is maintained. It sheds light on the limited role of property, the embedded nature of markets, and the role of extra-legal structures and mechanisms in shaping equity and efficiency in resource use. It does so in a

socially situated, multi-local manner, spanning the geographic spread of production and exchange. It also illuminates the practical issues surrounding establishment of community participation in benefits from and control over natural resources.

Ribot, Jesse C. (2009). "Authority over Forests: Empowerment and Subordination in Senegal's Democratic Decentralization." Development & Change **40**(1): 105-129.

Senegal's 1998 forestry code transfers rights to control and allocate forest access to elected rural councils, ostensibly giving the elected authorities significant material powers with respect to which they can represent the rural population. But the Forest Service is unwilling to allow rural councils to exercise these powers. To retain control, foresters use pressure, bribes and threats while taking advantage of the inability of the rural representatives to influence actors higher up in government. They justify themselves with arguments of national good and local incompetence. The foresters ally with urban-based forest merchants and are supported by the sub-prefect. Despite the transfer of forest rights, the foresters continue to allocate access to lucrative forest opportunities -- in this case charcoal production and exchange -- to the merchants. Despite holding effective property rights over forest, such as the right to exclude others, rural councils remain marginal and rural populations remain destitute. The councils cannot represent their populations and therefore cannot gain legitimacy: they have no authority. Despite progressive new laws, the Forest Service helps to maintain Senegal's healthy urban charcoal oligopsonies, while beating back fledgling local democracy.

Ribot, Jesse C., Arun Agrawal and Anne M. Larson (2006). "Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources." World Development **34**(11): 1864-1886.

Summary Decentralization initiatives have been launched in the majority of developing countries, but these rarely lay the foundations necessary to reach decentralization's purported efficiency and equity benefits. This paper uses a comparative empirical approach to show how central governments in six countries--Senegal, Uganda, Nepal, Indonesia, Bolivia, and Nicaragua--use a variety of strategies to obstruct the democratic decentralization of resource management and, hence, retain central control. Effective decentralization requires the construction of accountable institutions at all levels of government and a secure domain of autonomous decision making at the local level.

Ribot, J. C. and N. L. Peluso (2003). "A Theory of Access*." Rural Sociology **68**(2): 153-181.

The term "access" is frequently used by property and natural resource analysts without adequate definition. In this paper we develop a concept of access and examine a broad set of factors that differentiate access from property. We define access as "the ability to derive benefits from things," broadening from property's classical definition as "the right to benefit from things." Access, following this definition, is more akin to "a bundle of powers" than to property's notion of a "bundle of rights." This formulation includes a wider range of social relationships that constrain or enable benefits from resource use than property relations alone. Using this framing, we suggest a method of access analysis for identifying the constellations of means, relations, and processes that enable various actors to derive benefits from resources. Our intent is to enable scholars, planners, and policy makers to empirically "map" dynamic processes and relationships of access.

Rocheleau, Dianne and Rachel Slocum (1995). Participation in Context: Key Questions. Power, Process and Participation - Tools for Change. L. Wichhart R. Slocum, D. Rocheleau and B. Thomas-Slayer. London, Intermediate Technology Publications: 17-30.

Participatory development can bring about positive and negative change, depending on the relations of power embedded in the broader social relations as well as in the participatory process itself. The paper focuses on the practice and process of participatory research, planning and governance in the context of community development, addressing the following questions: why, relations of power, who, time frame, spatial and organizational scales, and what methods.

Rose, Carol M. (1994). Property and persuasion : essays on the history, theory, and rhetoric of ownership. Boulder, Colo., Westview Press.

Property theory is one of the most active and exciting battlegrounds of contemporary political and social thought. In this important contribution to the theory of property, Carol Rose sympathetically examines the two currently dominant traditions—neoconservative utilitarianism and liberal communitarianism—acknowledging the strengths of each and laying the groundwork for a theory to bridge the gap between them. She argues that community norms must underlie any property regime, and expands the horizons of property theory, exploring the role of narrative and storytelling in the establishment of these norms.

Salafsky, Nick and Eva Wollenberg (2000). "Linking livelihoods and conservation: A conceptual framework and scale for assessing the integration of human needs and biodiversity." World Development 28(8): 1421-1438.

Although there has been increasing interest in trying to link the livelihoods of people living near natural resources to the conservation of those resources, there has been little attempt to systematically assess or measure this linkage. We develop a conceptual framework for defining the linkage between livelihood activities and conservation. We then develop a scale to assess the strength of linkage across five dimensions: species, habitat, spatial, temporal and conservation association. We test the framework and scale by evaluating 39 project sites in the Biodiversity Conservation Network. Finally, we discuss the relevance of linkage to designing appropriate conservation strategies.

Salam, M. A., T. Noguchi and M. Koike (2005). "Factors influencing the sustained participation of farmers in participatory forestry: a case study in central Sal forests in Bangladesh." Journal of Environmental Management 74(1): 43-51.

Abstract: Wide acceptance of sustainable development as a concept and as the goal of forest management has shifted forest management policies from a traditional to a people-oriented approach. Consequently, with its multiple new objectives, forest management has become more complex and an information gap exists between what is known and what is utilized, which hinders the sustained participation of farmers. This gap arose mainly due to an interrupted flow of information. With participatory forestry, the information flow requires a broad approach that goes beyond the forest ecosystem and includes the different stakeholders. Thus in participatory forest management strategies, policymakers, planners and project designers need to incorporate all relevant information within the context of the dynamic interaction between stakeholders and the forest environment. They should understand the impact of factors such as management policies, economics and conflicts on the sustained participation of farmers. This study aimed to use primary cross-sectional data to identify the factors that might influence the sustained participation of farmers in participatory forestry. Using stratified random sampling, 581

participants were selected to take part in this study, and data were collected through a structured questionnaire by interviewing the selected participants. To identify the dominant factors necessary for the sustained participation of farmers, logistic regression analyses were performed. The following results were observed: (a) sustained participation is positively and significantly correlated with (i) satisfaction of the participants with the tree species planted on their plots; (ii) confidence of the participants that their aspired benefits will be received; (iii) provision of training on different aspects of participatory forestry; (iv) contribution of participants' money to Tree Farming Funds. (b) The sustained participation of farmers is negatively and significantly correlated with the disruption of local peoples' interests through implementation of participatory forestry programs, and long delays in the harvesting of trees after completion of the contractual agreement period

Schlager, Edella and Elinor Ostrom (1992). "Property rights regimes and natural resources: A conceptual analysis." Land Economics **68**(3): 249-262.

The term common-property resource is an example of a term repeatedly used to refer to property owned by a government or by no one. It is also used for property owned by a community of resource users. Such usage leads to confusion in scientific study and policy analysis. A conceptual schema for arraying property-rights regimes that distinguishes among diverse bundles of rights ranging from authorized user, to claimant, to proprietor, and to the owner is developed. This conceptual schema is applied in order to analyze findings from a variety of empirical settings, including the Maine lobster industry. Instead of blind faith in private ownership, common-property institutions, or government intervention, scholars need a better understanding of : 1. the conditions that enhance or detract from the emergence of more efficient property-rights regimes related to diverse resources, 2. the stability of instability of these systems when challenged by various types of exogenous or endogenous changes, and 3. the costs of enforcing regulations that are not agreed upon by those involved.

Schreckenber, K. and C. Luttrell (2009). "Participatory Forest Management: A Route to Poverty Reduction?" International Forestry Review **11**(2): 221-238.

This paper presents the results of a three-year action research project, which investigated the impacts of participatory forest management (PFM) on poverty. Beginning with an analysis of over 30 cases reported in the literature, the project went on to undertake field research in Kenya, Tanzania and Nepal, three countries representing very different stages in and approaches to the implementation of PFM. PFM typically provides a new decision-making forum and may reroute previously direct household benefits to the user group or community level. Regardless of PFM model, the research shows that the key to providing rural people with a sustainable and equitably distributed stream of net benefits is to adopt poverty reduction as a stated objective, allow for both subsistence and commercial use of forest products, design appropriate PFM institutions, introduce transparent and equitable means of benefit-sharing, and provide sufficient support during establishment of PFM initiatives.

Schusler, Tania M., Daniel J. Decker and Max J. Pfeffer (2003). "Social Learning for Collaborative Natural Resource Management." Society & Natural Resources **16**(4): 309-326.

This article contributes to understanding about the potential and limitations of social learning for collaborative natural resource management. Participants in a deliberative planning process involving a state agency and local communities developed common purpose and collaborative relationships, two requisites of comanagement. Eight process characteristics fostered social

learning: open communication, diverse participation, unrestrained thinking, constructive conflict, democratic structure, multiple sources of knowledge, extended engagement, and facilitation. Social learning is necessary but not sufficient for collaborative management. Other requisites for comanagement, including capacity, appropriate processes, appropriate structures, and supportive policies, are necessary to sustain joint action.

Sekhar, Nagothu Udaya (2000). "Decentralized Natural Resource Management: From State to Co-management in India." Journal of Environmental Planning & Management **43**(1): 124-139.

ABSTRACT In India, as in many parts of the developing world, the dominant view has been that local people are causing natural resource degradation. New thinking in the natural resource management domain is gradually replacing the older views blaming local people for decline of natural resources. The new approach advocates decentralization of natural resource management. This is discussed in this paper in relation to the ongoing decentralization reforms in India. The centralized approach dominated natural resource management in India during the colonial period. The government after independence conveniently adopted the same approach, excluding local people from forests. Recent research and resistance from grassroot movements led to a paradigm shift towards decentralization at the policy level in natural resource management. It is not clear whether the new Joint Forest Management (JFM) policy in India is an attempt to institutionalize state dominance, or if it will lead to real decentralization. The data from several villages adjacent to the Sariska Tiger Reserve (STR), Rajasthan, India show that state dominance is still prevalent, despite constraints. The real challenge lies in providing flexibility within the JFM policy to adapt to local conditions in natural resource management.

Sikor, Thomas and Christian Lund (2009). "Access and Property: A Question of Power and Authority." Development & Change **40**(1): 1-22.

In this introduction we argue that access and property regarding natural resources are intimately bound up with the exercise of power and authority. The process of seeking authorizations for property claims also has the effect of granting authority to the authorizing politico-legal institution. In consequence, struggles over natural resources in an institutionally pluralist context are processes of everyday state formation. Through the discussion of this theoretical proposition we point to legitimizing practices, territoriality and violence as offering particular insights into the recursively constituted relations between struggles over access and property regarding natural resources, contestations about power and authority, and state formation.

Sikor, Thomas and Daniel Muller (2009). "The Limits of State-Led Land Reform: An Introduction." World Development **37**(8): 1307-1316.

Summary: This essay introduces a collection of papers that examine the effects of contemporary land reforms in practice. This essay focuses on the roles of state and community in land reform. It argues that state-led strategies encounter significant problems on the ground due to their reliance on "top-down" initiatives and bureaucratic implementation. Empirical and conceptual insights suggest the benefits of a shift in emphasis from state to community in land reform. Emphasis on community calls for a state that is more reactive to political demands originating "from below" and more responsive to variation in local institutions and practices.

Sikor, Thomas and Tan Quang Nguyen (2007). "Why May Forest Devolution Not Benefit the Rural Poor? Forest Entitlements in Vietnam's Central Highlands." World Development **35**(11): 2010-2025.

Summary This paper examines the effects of forest devolution on the livelihoods of the rural poor. The paper analyzes changes in forest endowments and entitlements among households brought about by "forestland allocation" in two villages of Vietnam's Central Highlands. Its results indicate that not only the nature of devolved rights but also broader political and economic processes influence the extent and distribution of benefits. Even where devolution generates benefits to local people in poor areas, local power relations and the institutions regulating access to productive resources may constrain the ability of the "poorest of the poor" to take advantage of devolution.

Singleton, S. (2000). "Co-operation or capture? The paradox of co-management and community participation in natural resource management and environmental policy-making." Environmental Politics 9(2): 1-21.

The article examines the conditions under which community-based management or comanagement is likely to result in either (i) successful collaboration between a state agency and a local community or (ii) "capture" of a public agency by private or special interests. The article focuses on the role of state agencies in the creation and maintenance of successful comanagement regimes and discusses how state agencies can facilitate the creation of social trust while retaining independence and a concern for broader public interests. The author argues that a combination of bureaucratic autonomy and an effective, independent judiciary is an important institutional component of success. The argument is illustrated with the case of a comanagement regime for salmon fisheries in the U.S. Pacific Northwest.

Sivaramakrishnan, K. (2000). "Crafting the Public Sphere in the Forests of West Bengal: Democracy, Development, and Political Action." American Ethnologist 27(2): 431-461.

Participatory conservation and development initiatives have proliferated all over the world as the 1990s became the decade for restructuring states and celebrating civil society. Examining one such major effort, called joint forest management, I propose several new directions for the anthropology of modernity, development, and environment. I scrutinize processes of local state-making in the forests of southern West Bengal, India, to reveal key tensions between development and democratization through an ethnography of political action. [bureaucracy, democracy, development, ethnicity, forest conservation, identity politics, science and technology, the state, India]

Sivaramakrishnan, K. (2000). "State sciences and development histories: Encoding local forestry knowledge in Bengal." Development and Change 31(1): 61-89.

Informed by debates on development discourse, local knowledge, and the history of colonial conservation, this article argues for a careful historical investigation of the manner in which scientific managerial knowledge emerges in the field of forestry. It makes its case by focusing on the specific period in the history of Bengal (1893-1937) when scientific forestry was formalized and institutionalized. The processes and conflicts through which local knowledge gets encoded as scientific canon have to be understood to generate effective managerial devolution in participatory projects. This requires an engagement with public understandings of science as practice that arises from a dynamic critique of static, and undifferentiated, notions of development discourse or local knowledge.

St. Martin, Kevin (2001). "Making Space for Community Resource Management in Fisheries." Annals of the Association of American Geographers 91(1): 122-142.

The dominant discourse of fisheries science and management, bioeconomics, places the behavior of individual fishermen operation on an open-access commons at the center of its understanding of fisheries resources and the fishing industry. Within this discourse, fishermen are the sole actors and the fishery is the fixed stage for an inevitable "tragedy of the commons." Starting from these particular assumptions of both subject and space, bioeconomics proposes solutions to fisheries crisis that differ sharply from fishers' perceptions of the resource and their desires for management. These divergent understandings of both the natural and social environments are reflected in the maps produced by fisheries scientists/managers and those produced by fishers themselves. Remapping fisheries in terms of fishers' perceptions and scales of operation reveals diverse natural landscapes and communities in which the dominant discourse charted only quantities of fish and individual fishermen. The landscape of fishing communities, once made visible, suggests an opportunity for forms of area-based management that might facilitate community development rather than just individual prosperity.

St. Martin, Kevin (2006). "The impact of "community" on fisheries management in the US Northeast." Geoforum **37**(2): 169-184.

The discourse of fisheries science and management displaces community and culture from the essential economic dynamic of fisheries. The goal of this dominant discourse is to enclose fisheries, to constitute them as within the singular and hegemonic economy of capitalism. Alternative economies, such as those based on the presence of community, are always seen as either existing before or beyond the dominant economic formation. The category of community is, nevertheless, being incorporated into contemporary fisheries science and management where it has the potential to disrupt the ontological foundations of the current management regime. To avoid disruption, community is situated such that it is the domain of anthropology while the essential economic dynamic of fisheries remains the purview of fisheries bioeconomics. Community can be identified, documented, and analyzed but always only as a site of economic impact and never as a constituent of the economic itself. Curiously, this disciplining of community has a literal geographic dimension: the discursive domain of bioeconomics corresponds to the spatial domain of fisheries resources themselves while that of fisheries social science/anthropology corresponds to the terrestrial locations where fishers reside. Fishing ports become the place of community while the actual common property resource remains the site where the essential economic dynamic reigns uncompromised.

Sundar, Nandini (2000). "Unpacking the 'Joint' in Joint Forest Management." Development and Change **31**(1): 255-279.

This article examines the concept of 'jointness' in India's Joint Forest Management (JFM) programme, understood as an engagement between the state (in this case the Forest Department) and people organized into 'communities', with NGOs, where available, acting as the interface. By examining the commonalities between older examples of joint or co-management of resources and current practices of joint forest management, the article challenges the notion that 'jointness' is a new feature of forest policy, or that it represents a resurgence of civil society against the state. Further, insofar as the basic agenda of the programme is pre-determined, it cannot be considered very participatory in nature. None the less, within the limited degree of choice that JFM allows, there is a new and joint construction of needs.

Sundar, Nandini (2001). "Is Devolution Democratization?" World Development **29**(12): 2007-2023.

Recent attempts at introducing new forms of governance in forest management in India have focused on devolution to user-groups or village level "participatory committees." Success or failure is attributed to the presence or absence of "social capital" among these groups. These groups have never existed outside the state, however, and social relations, including social capital, are continually being transformed by administrative and market forces. This paper argues that what matters is not the degree of government intervention, i.e., more or less devolution, or the degree of social capital among local communities, but state accountability. This can only be ensured through addressing questions of political reform.

Sunderlin, William D., Arild Angelsen, Brian Belcher, Paul Burgers, Robert Nasi, Levanina Santoso and Sven Wunder (2005). "Livelihoods, forests, and conservation in developing countries: An Overview." World Development **33**(9): 1383-1402.

Summary In the growing literature at the interface of rural livelihood improvement and conservation of natural forests, two overarching issues stand out: (1) How and to what extent use of forest resources do and can contribute to poverty alleviation and (2) How and to what extent poverty alleviation and forest conservation are and can be made convergent rather than divergent goals. This article summarizes and evaluates the state-of-the-art knowledge in these domains of thought and identifies priorities for future research.

Suryanata, Krisnawati and Karen Umemoto (2005). "Beyond environmental impact: articulating the "intangibles" in a resource conflict." Geoforum **36**(6): 750-760.

Environmental planning is an arena of policy making in which formal public deliberation is among the most extensive. At the same time, environmental disputes can also be among the most resistant to resolution, often becoming entangled in issues that some describe as "intangible". The discourse is largely structured by regulatory frameworks, such as environmental impact assessment laws and procedures, which focus primarily on operational rights (what one can or cannot do where and when) and tangible impacts on the physical or natural environment. A comparative case study of mariculture in Hawai'i reveals that a large measure of public concerns focused on collective choice rights (who has a right to make which decisions on behalf of whom) and the more intangible impacts to the social or cultural environment. These concerns are often nested in a historic context that has implications for the social processes that they create. The findings from this study imply a need for more structured or systematic ways to deliberate issues of collective choice rights alongside operational rights within the larger process of environmental planning.

Thorburn, Craig (2002). "Regime Change:Prospects for Community-Based Resource Management in Post-New Order Indonesia." Society & Natural Resources **15**(7): 617-628.

In January 2001, Indonesia embarked on a historic effort to devolve many functions and responsibilities of government from the center to the district level. These changes are being attempted in the midst of the political and economic uncertainty that continue to bedevil Indonesia's government and population years after the "East Asian crisis" swept through the region in 1997-1998. After decades of centralized control of economic and political development, the country's more than 360 district and municipal governments are suddenly placed in charge of managing nearly all affairs of state, excluding foreign policy, monetary policy, religion, and security. This essay examines emergent natural resource and environmental management consequences of this momentous transformation. Long promoted by social scientists and development agencies, it now appears that decentralization brings with it a host of new worries

and problems. Indonesia's decentralization effort is still in the initial stages, and many of the problems have roots in previous regimes.

Thorburn, Craig C. (2000). "Changing Customary Marine Resource Management Practice and Institutions: The Case of Sasi Lola in the Kei Islands, Indonesia." *World Development* 28(8): 1461.

Sasi, the spatial and temporal closure of fields, forests, reefs and fishing grounds, is a conspicuous feature of many Moluccan societies. Despite increasing domestic and international awareness and praise of what is considered by many analysts to be an exemplary indigenous resource conservation tradition, the practice is in decline in many parts of the Thousand Island province, and in many villages has disappeared altogether. This study examines the practice of managing *Trochus niloticus* (Topshell) harvests in Ohoiren, a village on the eastern coast of Kei Besar in the District of Southeast Maluku. *Trochus* is one of the most important sources of cash income for Kei villagers, and until recently, for the district government as well. Since 1987, trochus has been classified as a protected species in Indonesia, and regulations have been issued to regulate the cultivation, harvest and transport of this and other protected species. This article briefly introduces Kei customary law and property relations, followed by a description of sasi and its application to reef habitats and trochus harvests. Examining a territorial conflict between Ohoiren and a neighboring village, and more recent contention arising from government efforts to protect the species, the article explores issues of society–nature and state–society relations as pertain to natural resource management in Indonesia. Sasi continues to function as an exemplary common property resource (CPR) management institution in Ohoiren, assuring equitable distribution of the benefits deriving from controlled extraction of a local resource. But, erratic and uneven enforcement of “one-size-fits-all” centralized conservation policy and law, combined with collusion and self-interest on the part of various parties, combine to threaten both the resource and the institutions that have successfully and sustainably managed it in this region. Within the context of a centralized, state-led natural resource management system, the national species protection precludes the establishment of sensible, mutually beneficial co-management regimes that could serve the interests and employ the inherent knowledge and capabilities of local communities, traders, and government agents.

Tole, Lise (2010). "Reforms from the Ground Up: A Review of Community-Based Forest Management in Tropical Developing Countries." *Environmental Management* 45(6): 1312-1331.

After an initial burst of enthusiasm in the 1990s, community-based forest management (CBFM) is increasingly being viewed with a critical eye. Evidence suggests that many programs have failed to promote their stated objectives of sustainability, efficiency, equity, democratic participation and poverty reduction. A large volume of academic literature now exists on CBFM, examining both the success and failure of such initiatives in a wide variety of countries. Through analysis of key themes, concepts and issues in CBFM, this article provides a review of CBFM initiatives in tropical developing countries for policymakers, practitioners and planners wishing to gain an understanding of this wide-ranging, interdisciplinary academic literature. The article identifies key institutions and incentives that appear to significantly affect the success or failure of CBFM initiatives. In particular, it reports that consideration of institutional and socioeconomic factors along with personal characteristics of key stakeholders such as beliefs, attitudes, financial resources and skills are important determinants of CBFM outcomes. However, local incentive structures also appear to be important. There is increasing recognition in the literature of the need to consider the conditions under which local politicians entrusted with carrying out CBFM

initiatives will deem it worthwhile to invest their scarce time and resources on environmental governance.

Umemoto, Karen and Krisnawati Suryanata (2006). "Technology, culture, and environmental uncertainty: Considering social contracts in adaptive management." Journal of Planning Education and Research 25(3): 264-274.

Natural resource planning is often riddled with uncertainty, especially when new technologies are introduced. While an "adaptive management" approach is attractive in such situations, it is difficult to implement where there is a real or perceived decline of the state. Based on a case study of mariculture development in Hawaii, the authors suggest that planners and policy makers consider informal social contracts as complements to formal regulatory frameworks to increase the viability of adaptive management regimes. Discussion includes the benefits as well as potential pitfalls of social contracts where formal regulations may be necessary.

Vandergeest, Peter (1997). "Rethinking Property." The Common Property Digest 41: 4-6.

suggests that we think about property not only as rules and laws, but also as ordinary, everyday practices. This approach implies that research on resource tenure might usefully begin with observations of what people do, rather than questions about rules and laws. A focus on practice also gives us a window into the complexity of rural resource tenure and helps us avoid the tendency to reduce all property relations into one of three pre-given categories: state, private, and common property.

Vandergeest, Peter (2007). "Certification and Communities: Alternatives for Regulating the Environmental and Social Impacts of Shrimp Farming." World Development 35(7): 1152-1171.

Summary This paper examines two distinct environmental regulatory networks for shrimp farming, one based in certification, the other in community and local government regulation. Field research in Southern Thailand shows that local communities and local governments are currently the most effective regulators of shrimp farming. Emerging environmental certification networks do not provide for community input into setting, monitoring, or enforcing technical standards. Certification networks could be more effective at containing negative social and environmental impacts if they borrowed from Community Based Natural Resource Management approaches to make the definition of technical standards more flexible and open to participation by affected communities.

Walker, Peter A. and Patrick T. Hurley (2004). "Collaboration Derailed: The Politics of 'Community-Based' Resource Management in Nevada County." Society & Natural Resources 17: 735-751.

Collaborative natural resource management (CNRM) is often portrayed as a way to find "win-win" solutions that move "beyond" bitter adversarial politics. Research on failures of CNRM emphasizes institutional and procedural barriers. In contrast, using a study of a failed CNRM program in Nevada County, California, we emphasize the role of intracommunity politics. We build on work by Few (2001) that examines political "containment" and "capture" of collaborative processes. In Nevada County, we identify another political tactic: the strategic use of "derailment" of CNRM by powerful interests to achieve goals outside the collaborative process. Expanding upon Amy (1987), we suggest that this example illustrates that collaboration is not separate from, or "beyond," politics. CNRM can become an avenue of power that social groups use to achieve broader political ends. This calls into question the general optimism about CNRM and the current emphasis on making it "work" by refining institutions and procedures.

Walker, Pete A. and Pauline E. Peters (2001). "Maps, Metaphors, and Meanings: Boundary Struggles and Village Forest Use on Private and State Land in Malawi." Society & Natural Resources **14**(5): 411-424.

Recent studies have examined social and cultural perceptions of spatial relationships, with particular attention to contests over boundaries. Counter-mapping offers a technique to defend local rights in these contests. However, this approach may inadequately represent certain complex sociospatial ideas. Specifically, although recent studies emphasize contests over the legitimacy or location of boundaries, the case studies from Malawi in this article illustrate equally important nonterritorial struggles over the meanings - the de facto rules and practices - of boundaries. These struggles, embedded in local history and culture, involve efforts to "untie" resource rights from territorial claims. These strategies would be poorly represented or even obscured in mapping efforts focused on redrawing linear boundaries. This suggests a need to critically examine the use of mapping and map metaphors in social analysis and practice.

Xu, Jianchu and Jesse C. Ribot (2004). "Decentralisation and Accountability in Forest Management: A Case from Yunnan, Southwest China." European Journal of Development Research **16**(1): 153-173.

Over the last two decades, China has introduced forest resources management reforms aiming to protect forests and enhance rural livelihoods. As part of these reforms, some powers over forestry management have been decentralised to village-level institutions. However, this decentralisation has so far failed to give local communities adequate control over forest resources, especially in areas like Yunnan where the ethnic minority population is heavily dependent on these resources for its livelihood. Insufficient powers have been decentralised, the village-level institutions are not sufficiently accountable to the public and some of the reforms designed to protect forest resources have had a negative impact on rural livelihoods.

Zerner, C. (1994). "Through a green lens: The construction of customary environmental law and community in Indonesia's Maluku Islands." Law and Society Review **28**(5): 1079-1122.

In the Maluku Islands of Eastern Indonesia, a center of global diversity in coral reef systems and the historic center of trade in cloves and other spices, tenure practices known as *sasi* have flourished for at least a century. This article analyzes changes in the ways Dutch colonial officials, Indonesian government officials, and environmental NGOs have interpreted Moluccan customary law and local institutions. Dutch colonial accounts of *sasi*, a generic name for a historic family of institutions, laws, and ritual practices that regulated access to fields, reefs, and rivers, suggest that *sasi* was a synthetic, highly variable body of practices linked to religious beliefs and local cultural ideas of nature. During the past two decades, as international and national conservation discourses have proliferated and a movement has developed to support indigenous Indonesian cultural communities, Indonesian NGOs and the Ministry of the Environment have promoted, and largely created, images of *sasi* as an environmental institution and body of customary law promoting sustainable development, conservation, and social equity. This article focuses on how *sasi* has been continuously reinterpreted by a variety of actors, following the trajectory of changing institutional interests and images.

Books

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Ribot, Jesse C. (2002). Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation. Washington DC, World Resources Institute.

Salafsky, Nick, Richard Margoluis and Kent Radford (2001). Adaptive Management: A Tool for Conservation Practitioners. Washington, DC, Biodiversity Support Program.

Appendix IV

List of Participants

Short Training Course on Community-based Natural Resource Management

First Workshop (May 23-26, 2011)

No	Name	Designation	Station	Organization /Department
1	Mr. Md. Ariful Hoq Belal	DCF	Monitoring & Evaluation Unit Bana Bhaban Agargaon, Dhaka	FD
2	Mr. Imran Ahmed	DCF	Forest Management Wing Bana Bhaban Agargaon, Dhaka	FD
3	Mr. Bipul Krisno Das	DFO	Cox's Bazar South	FD
4	Mr. Abu Naser Md. Yasin Newaj	DFO	Wildlife & Nature Conservation Division Khulna	FD
5	Mr. Md. Mahbubur Rahman	DFO	Wildlife & Nature Conservation Division Sylhet	FD
6	Mr. Mahmudul Hasan	ACF	Development Planning Unit Bana Bhaban Agargaon, Dhaka	FD
7	Mr. Anowar Hossain	ACF	Wildlife & Nature Conservation Division Chittagong	FD
8	Ms. Begum Khaleda Tajrina Khan	AD	Paribesh Bhaban Agargaon, Dhaka	DoE
9	Ms. Begum Shahanaj Rahman	AD	Paribesh Bhaban Agargaon, Dhaka	DoE
10	Mr. Bazlur Rashid	DFO	Bagerhat	DoF
11	Mr. Md. Kafil Uddin Kaiya	DFO	Moulvibazar	FD
12	Dr. Md. Abu Sayeed	UFO	Matshya Bhaban Dhaka	DoF
13	Mr. Md. Sultan Ahmed	SUFO	Sunamgonj Sadar Sunamgonj	DoF
14	Mr. Mokhlesur Rahman*	Executive Director	Dhaka	CNRS
15	Mr. Md. Modinul Ahsan	ACF	Dhaka	FD

Second Workshop (May 29 – June 1, 2011)

	Name	Designation	Organization
1	Mr. Mirza Md. Rafiqul Islam	Deputy Project Coordinator	Centre for Mass Education in Science (CMES)
2	Ms. Peerzadi Rumana Hossain	Research Officer (Forestry)	Bangladesh Centre for Advanced Studies
3	Mr. Nazmul Karim	Project Coordinator, Environment and Climate Change Programme	Dhaka Ahsania Mission
4	Mr. Md. Nazrul Islam Sumon	Conservation Biologist	Nature Conservation Management (NACOM)
5	Ms. Marufa Sultana	Intern	IUCN
6	Ms. Rezvin Akhter	Assistant Coordinator	Wildlife Trust of Bangladesh
7	Mr. A. J. G. Morshed	Research Fellow	CARINAM
8	Mr. Shawkat Hossain	Program Officer (M&E)	Arannayk Foundation
9	Mr. Sujit Chandra Das	Site Facilitator	Community Development Centre (CODEC)
10	Mr. Tapas Nandy	Field Officer	YPSA
11	Mr. Mushfiq Ahmed	Programme Coordinator	Prokriti O Jibon Foundation
12	Mr. Panchanon Kumar Dhali	Senior Advisor-Forest Rehabilitation	GIZ
13	Mr. M. Assaduzzaman	Climate Consultant	GIZ
14	Mr. Farzan Ahmed	Senior Manager (Crop)	RDRS
15	Ms. Tangina Mehnaj	Communications Officer	Wetland Biodiversity Rehabilitation Project (CNRS-GIZ), CNRS
16	Mr Ashraful Haque	Assistant Programme Coordinator, Participatory Management and Community Outreach	Sundarbans Tiger Project Wildlife Trust of Bangladesh (WTB)
17	Khokon Suiten Murmu	Assistant Accountant	Society for Environment & Human Development (SEHD)

Appendix V

Scope of Work

Community-Based Natural Resource Management Seminar

Instructor

Consultant Name (Last, First): Suryanata, Krisnawati		Position Title: Professor of Geography, University of Hawaii	
Contract Name:	Integrated Protected Area Co-Management (IPAC) Project		
Billing Code:		Contract No:	EPP-I-00-06-00007-00
IPAC Implementing Partner	East-West Center, Hawaii, USA		
Period of Performance	May 7, 2011 – June 7, 2011		
LOE in Bangladesh	19 days		
LOE before/after trip	8 days		
Travel Days	4 days		
Total Level of Effort:	Up to 31 days		
Evaluator:	Reed Merrill, IPAC Chief of Party		

Background

The Integrated Protected Area Co-Management (IPAC) is a United States Agency for International Development (USAID)/Bangladesh that contributes to sustainable natural resource management and enhanced biodiversity conservation in targeted forest and wetland landscapes with the goal of preserving the natural capital of Bangladesh while promoting equitable economic growth and strengthening environmental governance. IPAC is implemented by the Ministry of Environment and Forests (MoEF), and Ministry of Fisheries and Livestock (MoFL), through a consortium of partners led by International Resources Group (IRG).

The IPAC contract provides for technical advisory services and other support to be provided over a five year period (June 2008- June 2013) to Government of Bangladesh (GOB) environment, forestry and fisheries agencies responsible for the conservation of wetland and forest protected areas across Bangladesh. This network of forest and wetland protected areas is now recognized as the Nishorgo Network. Over the remainder of the project, the IPAC team will continue to work directly with key stakeholders at the local level to support the further development and scaling-up of the conservation and co-management of protected forest and wetland ecosystems in the Nishorgo Network of Bangladesh.

Objectives (Scope)

The purpose of this short-term consultancy is to prepare and facilitate a short-term course on community-based natural resource management, targeting 12 to 15 mid-level, field-based GoB

officials from Forest Department (FD), Department of Fisheries (DoF) and Department of Environment (DoE).

The poor track record of top-down centralized management and regulation of natural resources by states and governments has led to an increased emphasis on the notion of “community-based management” and “co-management”. In this alternative approach, communities and community-based institutions are deemed to *potentially* be better positioned to: 1) respond and adapt to locally specific social and ecological conditions; 2) represent local interests and preferences; 3) mobilize local resources; and 4) create mechanisms for increasing accountability for their natural resource management decisions and actions. Despite these potential benefits, a community-based approach carries with it a number of risks and constraints.

IPAC has been active in capacity building initiatives to improve ‘people skills’ - how to work with people in a co-management setting; and ‘technical skills’ –to effectively conserve the biodiversity assets in protected areas. The proposed short course would address another facet of the capacity building program. It brings a macro perspective to pose questions that explore co-management conceptually. It aims to enhance the analytical skills of participants by drawing from diverse global experience in community-based natural resource management.

This short course will explore the dilemmas of community-based resource management (CBRM) approach by critically examining the key premises for successful community-based resource management. We will explore the benefits and pitfalls of various co-management tools, and how they are affected by broader economic (market) and political forces. To ground discussions, we will refer to applications in the management of forests, lands/water resources, and coastal/marine resources.

The course will look at the following:

1. Why CBRM?
 - a. Pros and cons (state-management, community-management, co-management)
 - b. Assumptions
 - c. Ostrom’s design principles
 - d. New challenges to natural resource management
2. Community and collective action
 - a. Boundary making: identity, territory
 - b. Participation
 - c. Community core relationships
3. Governing institutions
 - a. Property rights, tenure
 - b. Decentralization – pros and cons, implementation gaps
 - c. Monitoring/sanctions/rule enforcement
 - d. Learning network, adaptive management
4. Community-based initiatives
 - a. The use of local knowledge: pros and cons
 - b. Micro-enterprises: non-timber forest products (NTFP), eco-tourism
5. Closing thoughts
 - a. Identifying challenges to co-management of protected areas in Bangladesh

b. Prioritizing strategies for co-management

The format of the course will ensure that a majority of time will be devoted to discussing a limited number of assigned readings and participants' experience. Seminar leaders will facilitate discussions by posing critical questions that encourage participants to view their positions from more than one angle. When appropriate, seminar leaders may give short lectures on a few key concepts. If feasible, the short course may be augmented by a field trip.

Tasks (Performance Requirements)

This short course will be led by a Professor of Geography from the University of Hawaii, will be linked to a local university (probably North-South University) and include a Center for Communication Network (CCN) co-facilitator to bring Bangladesh context and Bangla language expertise to the program. The lead consultant will:

1. Work with IPAC staff to prepare this short-course, including development of curriculum and reading list as well as provision of ideas for participant and venue selection;
2. Lead in the facilitation of at least 1 and possibly 2 short courses on community-based natural resources management. The first session will prioritize 12-15 GoB mid-level, field-based officials from FD, DoF and DoE, while a second course might include 12-15 non-governmental organization (NGO) trainers and field workers;
3. Provide a brief final report documenting process and results of the short course;
4. Provide a brief presentation to USAID and other IPAC partners describing the results of the short-course; and
5. Provide IPAC additional ideas for strengthening co-management of Protected Areas in Bangladesh.

Deliverables

1. Community-based Natural Resources Management short-course curriculum and reading list.
2. Facilitation of at least one Community-based Natural Resources Management short-course in Dhaka, Bangladesh.
3. Final report documenting process and results of the Community-based Natural Resources Management short-course.
4. Final presentation describing the Community-based Natural Resources Management short-course.

TIME FRAME

5/8-5/14; 8 days	Prepare course curriculum and reading list in Hawaii
5/15-17; 2 days	Travel from Hawaii to Dhaka
5/18-21; 4 days	Finalize organization of short-course
5/22-6/2; 12 days	Facilitate at least 1 and possibly 2 short-courses
6/3-6/4; 2 days	Prepare final report and presentation
6/5; 1 day	Conduct final presentation
6/6-6/7; 2 days	Travel from Dhaka to Hawaii

Estimated Level of Effort: 27 days

Estimated Days of Travel: 4 days

* * *

consultant:suryanata:HC12777:exhibitI(2):3/17/11

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