

# The Common Property Resource Digest

NO. 53 QUARTERLY PUBLICATION OF THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF COMMON PROPERTY JUNE 2000

The finishing touches on this CPR Digest are being made in the email room at the heart of *Constituting the Commons*, the 8<sup>th</sup> Biennial Conference of the International Association for the Study of Common Property. People from all around the world are crowded into this (amazingly well staffed and organized) room stuffed with computers; standing in line, tapping out email, or dashing about trying to print out their transparencies for a session that starts in five minutes. Around this pulsing hub at least 600 (the official count can't keep up) excited people are creating workshops, field trips, paper sessions, and regional strategy meetings. I guess they're not too tired from last night's contra dancing lesson! Many more - and OK, more substantial - reflections on this amazing meeting will be coming to you in your next Digest.

But this issue is no slouch either. *Nathalie Steins*, *Victoria Edwards*, and *Niels Röling* start out by arguing that over reliance on design principles in CPR research have led us to miss important contextual factors, mistake principles for blueprints, and introduce inappropriately normative criteria into our analyses. They suggest that actor network theory can address these problems. *Sara Singleton* says that they exaggerate the degree to which we are missing contextual factors and themselves miss the descriptive power of design principles. *Mathew Kurian* and *Helle Munk Ravnborg*, in separate articles, ground the debate in their field work in India and Columbia. *Ruth Meinzen-Dick* rounds things out by grounding the debate in another reality: blueprints are what policy makers and practitioners are looking for. **Enjoy!**

CONTENTS	
<b>CPR Forum: Design Principles and Social Construction in CPR Theory</b>	
<b>Forum .....</b>	<b>1</b>
Re-designed Principles for CPR Theory <i>Nathalie A. Steins, Victoria M. Edwards and Niels Röling</i> .....	1
A Response to Steins, Edwards and Röling <i>Sara Singleton</i> .....	4
Principles for CPR Theory <i>Mathew Kurian</i> .....	5
CPR Research in Practical Application <i>Helle Munk Ravnborg</i> .....	8
Tensions in CPR Theory and Practice <i>Ruth Meinzen-Dick</i> .....	9
<b>Letters .....</b>	<b>10</b>
<b>Recent Publications .....</b>	<b>12</b>
<b>Announcements .....</b>	<b>15</b>

## CPR FORUM COMMENTARY

### Re-designed Principles for CPR Theory

**Nathalie A. Steins**

Dutch Fisheries Board, Netherlands

**Victoria M. Edwards**

Dept. of Land & Construction Management,  
University of Portsmouth, UK

**Niels Röling**

Communication & Innovation Studies  
Wageningen University, Netherlands

After 30 years of political debate, our global natural resource base is still in crisis. Privatisation and external control have not prevented degradation of local and global common-pool resources (CPRs). The complexities and interconnectedness of management problems has triggered awareness that a collective action approach, which considers management issues from a broader perspective and where stakeholders work collectively towards problem solving, is a strong alternative. In this context, 'CPR theory' is gaining popularity. We use the term 'CPR theory' as a general banner to refer to the work of a collection of scholars from various disciplines that deals with the analysis of collective action in 'real life' CPR management scenarios. Its conceptual frameworks are, for example, being adopted by organizations such as the World Bank and the FAO as tools for crafting sustainable CPR use through collective action. In our view, CPR theory in its present form provides a

# The Common Property Resource Digest

*Published with support from*

*the Ford Foundation*

*and*

*the Rockefeller Brothers Fund*

*Editor-in-Chief*

Douglas C. Wilson

---

too limited scope for the analysis of complex CPR management (or lack thereof) and the facilitation of collective action initiatives aimed at sustainable management. Its concepts are problematic, since they are based on (i) a simplistic assumption of single use, (ii) a static rationality model, (iii) the exclusive analysis of the internal dynamics of the collective management system, and (iv) the assumption that collective management outcomes are determined by predefined principles. The latter two issues are the focus of our discussion.

The well known ‘design principles’ entered CPR theory in 1986 when Elinor Ostrom introduced a list of variables “associated with the establishment of coordinated or organized strategies for managing common-pool resources” and the original list has since been further developed by other scholars. Increasingly, the principles are considered to be *requirements* for successful governing institutions. Although Ostrom (1995: 43) stresses that “there is no blueprint that can be used to create effective local institutions”, she recommends that “[design] principles can be taught as part of extension programs ... to learn more from one another about how successes have been achieved or how to avoid some kinds of failures”, thereby granting them prescriptive status.

From our own extensive field experiences, we have been able to identify three problems related to these

principles. First, by describing cases of ‘success’ and pinning it down to the internal characteristics of the management regime, CPR theory has largely neglected the role of contextual factors in shaping collective action at various institutional levels. Variables linking collective action and the external world are remarkably absent from the design principles. This is peculiar considering the interdependence between the CPR system and its external environment: the former supplies the stakeholders involved in CPR use and management with resources and must also absorb the products or benefits from the CPR. Furthermore, stakeholders will base their actions not only on the expected social and economic costs and benefits generated by the CPR itself, but will also outweigh alternative options embedded in the external world. For example, as part of their share in their common property oyster beds, members of a cooperative had to contribute a number of labor days to the management of the beds. The conditions for successful management were all present, yet two thirds of the shareholders became free-riders within a year of setting up the management regime. Analysis revealed, *inter alia*, that the period of the required work coincided with the tourist season, which resulted in direct rewards. The presence of tourism and its part in contributing to an opportunity cost is an example of how contextual factors influence collective action.

Indeed, contextual factors tend to be more readily apparent in situations of controversy surrounding ‘failure’, than in situations where cooperation is the dominant strategy. Yet, in both cases, the interactions between internal and contextual factors as well as the stakeholders’ perceptions of these dynamic forces, have contributed to the management outcome, and therefore must be included in CPR analysis. Explaining ‘success’ (e.g. robust self-governance) on the basis of internal factors only, does not do justice to the dynamics and uniqueness of CPR management scenarios. Nevertheless, the bulk of CPR literature regards the external world as a given source of uncertainty. Writings that do address external factors tend to use them as an *excuse* for resource degradation.

Part of the explanation for the lack of contextual analysis in CPR theory lies in its eagerness to rebut Hardin’s tragedy thesis, that is, bringing forward as much empirical evidence as possible to show that resource users *are* able to organize CPR management through institutional design. The consequent development of design principles, with the inherent distinction

between categories of 'successful' (e.g. cooperation) and 'unsuccessful' (e.g. free-riding) has added to a vicious circle of describing 'institutional success' rather than examining the contingencies involved in the process whereby this is achieved. As a result, the further development of CPR theory is in stasis.

This stasis persists in spite of repeated criticism that CPR theory does not adequately explain why regimes change over time and needs to draw up a program that goes beyond description to include analysis of interventions to facilitate collective action. Instead of critically evaluating these critiques and responding to them (at the very minimum, putting forward counterarguments), CPR scholars keep doing what they have been doing all along: trying to bring forward more evidence to prove Hardin wrong; and developing more design principles or conditions for collective action.

A second problem with the focus on design principles is the risk of using them as generalized blue prints for 'successful CPR management'. What may be a design principle in one situation is not necessarily one in another. Furthermore, categories that one analyst constructs may be interpreted and constructed differently by other analysts as well as the stakeholders in the CPR (who may not even know the analyst's categories). Finally, by using *a priori* categories, analysts may attribute the same weight to each principle on the list and, as was outlined above, may overlook factors that are not on the list but may be crucial in the collective action process.

Third, the study of collective action in terms of 'successes' and 'failures' raises questions related to normativity: what is 'success', what is a 'failure'? And, more importantly, is the analyst's definition of 'success' the same as those of the other stakeholders in the CPR? Although we acknowledge that any form of evaluation is necessarily value-laden, the development of prescriptive principles inevitably results in the establishment of normative criteria for measuring outcomes, diverting attention from the stakeholders' constructions of CPR management and the process through which collective action evolves.

The problem can be illustrated by the aforementioned cooperative. After spending several months in the community and building up a relationship of trust, we discovered that the cooperative was established under the *guise* of improving income opportunities for local fishermen. Its hidden objective was to create property

rights to parts of the local bay to prevent a salmon farm from expanding in the fishing grounds. Once the cooperative was initiated and the shareholders had to contribute to resource management, two thirds became free-riders. Many would be tempted to say that collective action in this case has failed and that the logic of rationality had driven the free-riders to opt for a collectively irrational outcome. However, if we look at the hidden objective, namely securing access to fishing grounds, the cooperative is very successful.

Judgements about 'success' and 'rational behavior' are thus socially constructed, not only by the stakeholders involved, but also by CPR analysts. By focusing on predefined categories, analysts will never be able to fully appreciate how the distinction between 'success' and 'failure', and indeed these notions themselves, are constructed and used. Furthermore, 'categorization' does not do justice to the uniqueness of the management setting, but imposes categories upon local and cultural contexts that may be completely alien to the stakeholders concerned and may lead to erroneous judgements. Finally, by focusing the analysis on narrow categorizations, the different discourses of and perceptions on CPR management are likely to remain hidden.

We conclude that by following the conventional scientific belief that reality can be divided into categories, and that its shaping mainly operates through cause-effect relations, the process of collective action

## **International Association for the Study of Common Property**

### **Current Officers**

President: Susan Hanna

President Elect: Erling Berge

### **Council**

Arun Agrawal   Antonio Diegues

Anil Gupta   Owen Lynch   Bonnie McCay

Ruth Meinzen-Dick   James Murombedzi

<b>CPR Digest Editor</b>	Doug Wilson
<b>Information Officer</b>	Charlotte Hess
<b>Secretary Treasurer</b>	Michelle Curtain

© 2000 IASCP

cannot be fully appreciated and is limited to the development of even more categories. Instead a focus on the *context* that shapes the collective action trajectory is needed to understand the complexities involved in collective action efforts. Our proposal is to adopt a social constructivist perspective to the study and facilitation of CPR management, using the insights developed in actor-network theory (ANT). interactions between actor and environment. This process is called translation and is the focus of ANT.

We believe that the basic principles from ANT have much to offer to CPR theory. First, collective action is not merely a human process; it also involves a common good or problem, a certain technology, paperwork, institutions, and so on. Decisions for a certain course of action, such as the size of the contribution to a common property regime, will be influenced by: (i) networks of social and technical relations, (ii) the meaning that is attributed to the management system, (iii) perceptions of the external environment, and (iv) social experience. Over time, these networks, meanings, perceptions and social experience will be reshaped through the process of collective action itself, but can never be thoroughly understood without considering the nonhuman entities that are part of the collective action process.

Second, the ANT perspective adds an important dimension to the study of CPRs in that it examines how the various stakeholders construct CPR management and how it evolves over time. It helps analysts to be sensitive to both internal and contextual factors influencing the actors' motivations to adopt a certain strategy, by *analyzing* the process rather than merely describing outcomes. ANT makes no *a priori* assumptions about the nature of collective action, the so-called principle of generalized agnosticism. In this context, a third merit for CPR theory is the principle of symmetry: the fact that collective action is 'successful' does not make it exempt from in-depth analysis; in other words, 'success' cannot itself be offered as an explanation (for example, by 'defining' design principles on the basis of successful cases), but is *that* which needs to be analyzed. Thus, each individual case, whether or not it is perceived 'suc-

cessful', must be analyzed in order to assess the factors contributing to the process that leads to the specific outcome.

The adoption of the principles of generalized agnosticism and symmetry is a basic requirement for the further development of CPR theory from a descriptive (and consequently prescriptive) approach to an explanatory, multidimensional perspective. From an epistemological point of view, this means that the position of the analyst in relation to the CPR and its stakeholders drastically changes: at the outset of the investigation, only broad phenomena can qualify for analysis - the 'inquired-into' set the research agenda. For example, if a researcher wants to carry out research into 'cooperation as a mechanism to achieve

sustainable fisheries management' and the actors involved have never heard of the concept of sustainability, it does not make much sense to carry this research through. The idea for this research may have arisen because the particular researcher misinterpreted the existing collective organization of fisheries exploitation as an institution aimed at

sustainable management, whereas for those involved, it is nothing more but a distributional arrangement. In this example 'cooperation' itself is that which needs an examination.

While the recognition of the above principles are of crucial importance to CPR theory as a whole, they are of particular interest for the study of complex, multiple-use CPRs. In such scenarios, there are divergent claims on, stakes in and constructions of the resource system. What is more, the different stakeholders are interdependent in that each particular type of use will have some effect on other uses. In addition, the range and effects of local and remote contextual factors that affect the evolution of adaptive management (or lack thereof) increases. Finally, collective action processes are not limited to one particular type of use, but *might* also take place amongst different uses.



# CPR FORUM RESPONSE

## A Response to Steins, Edwards and Röling

Sara Singleton

Tulane University

Critiques can act as a catalyst for the development of new ideas and the refinement or redefinition of familiar ones. IASCP members should consider the article by Nathalie A. Steins, Victoria M. Edwards and Niels Röling as an opportunity for this sort of valuable exercise. In my own reading I found some points I agreed with, some

points I disagreed with and some points I thought were opaque.

First, on the status of the so-called design principles. Few people would disagree that focusing exclusively on particular design principles as recipes for sustainable CPR management or using them as a blueprint for success is at the very least problematic in practice. It is not clear how much of that problem reflects flaws or lacunae in the theory itself and how much is due to the ten-

dency of large organizations such as the World Bank to transform any set of ideas into a simplistic, one-size-fits-all formula that can be grafted onto to projects whenever there is a need. Nonetheless, and this is a point that has been made before, institutional design principles are only one part of the story (although an important part). By and large, design principles *describe* what successful institutions for some sorts of CPRs look like, although in some cases they have an independent effect by contributing to the maintenance of a successful process in which users can formulate rules also facilitates the gathering of information about the resource or about other users and encourages the formation of social trust and social capital, which in turn helps to ensure that the regime continues to function effectively. But generally the design principles themselves do not show *how* a group of people came to solve (or fail to solve) a particular set of problems related to a CPR, or explain why a group has the capacity to solve such problems.

The adoption of ANT's principles will facilitate our understanding of the contingencies involved in the shaping and reshaping of collective action processes by focusing on the sociotechnical construction of CPR management and the internal and contextual factors that influence emerging action strategies. Does this imply that the design principles identified in CPR theory are not useful? The answer has to be "yes" if they are tacitly used as recipes for establishing cooperation in CPR management situations. The answer is "no" if analysts use them as a starting point for the formulation of questions to help identify how stakeholders define 'success', 'free-riding', 'cheating', 'sanctioning' and, in other words, construct CPR management. This strategy will assist the examination of the process of collective action (or free-riding).

By accepting the offer of ANT, instead of regarding collective action and free-riding as predominantly static phenomena, the practice of taking 'snap shots' and describing CPR management (or lack thereof) can no longer be defended. Changes in CPR management regimes and the processes involved in those changes will become the enterprise of CPR scholars. In this way, it becomes possible to truly develop theory instead of (i)

accumulating evidence rebutting Hardin's tragedy, (ii) categorizing CPR management and, ultimately, (iii) (consciously or unconsciously) dogmatizing these categories.

### Further information

Ostrom, E. (1995). Design complexity to govern complexity. In: S. Hanna & M. Munasinghe (Eds.), *Property rights and the environment: Social and ecological issues*, pp. 33-46. Washington D.C.: The World Bank.

John Law (1994). *Organizing modernity*. Oxford: Blackwell Publishers.



In a second set of points, Stein et al. argue that CPR theory ignores “contextual factors,” that is, ‘variables linking collective action and the external world.’ Presumably they are referring to factors that shape a group’s use of a CPR such as their shared and divergent goals for its management, the state of their technology, their ecological beliefs, social relations within the group, their histories, their relations with external authorities or competing claimants, the histories of those relations, and so on. I was a little confused by this part of their critique. If, as their initial definition of CPR theory seems to indicate, they intended this to be a criticism directed to all of the work done on CPRs, the criticism seems to be greatly overstated, given the broad and eclectic nature of the CPR literature. The work of the current president and several past presidents of the organization alone offer good examples of in-depth, contextual, historical or interdisciplinary work relating to how people think about and use CPRs. If they mean instead to criticize the more economic or rational choice part of the literature, then this is not a particularly novel criticism, but one that has some merit. Rational choice, or economic approaches more generally can result in a rather narrow, one-dimensional view of CPR situations based on a radically simplified model of human nature. As such, they are incomplete. My own view is that they are nonetheless extremely useful in explaining certain sorts of phenomena very well and in providing part of the explanation in many other settings. Others may disagree. In any case, there are certainly plenty of situations that could have been used by Steins et al. to illustrate the shortcomings of rational choice theory in providing complete explanations or the need to consider contextual factors in looking at the relationships between human beings and nature. Yet oddly enough, the example they have chosen is entirely explicable using narrow rational choice theory. To explain the situation of an oyster cooperative in which many users became free riders because (1) working in the tourism industry gives them a better return on their time, and (2) they are able to accomplish at least one important goal---keeping out a rival group of salmon fishers---without actually making a contribution of time, effort, etc.--- does not require the analyst to look very far afield. But perhaps I have misunderstood their point.

The last set of points deal with what Steins et al. see as the need to adopt a social constructivist approach to the study of CPRs. In defense of this perspective, they explain that “social constructivism conceives human reality as a socially constructed reality, *rather than* naturally given.” This, along with Steins’ et al dismissal of categories such as success or failure, suggests to me to be a rather extreme view. Certainly, aspects of reality are subject to all sorts of human interpretation, but surely there are natural processes that are independent of social construction. As Steins et al. are obviously aware, fisheries are, in fact, collapsing, species are going extinct, climates do change, etc. Whether people consider

these to be important facts, or situations worth doing something about is one thing, but whether they are or are not facts is something else. If social scientists interested in the environment are going to do collaborative work with biologists, ecologists and other natural scientists, they need to think carefully about this point.

Like most readers of this newsletter, I have my own favorite list of how work on CPRs could be shaped, redirected, etc. I will mention one critique/suggestion that I think covers some of the same territory/concerns as those raised by Steins et al., but comes at them from a somewhat different stance. There is at least one area where unexamined assumptions or poorly worked out causal relationships between variables creates unfounded expectations concerning the role of community in the conservation of natural resources or in the service of other goals such as equitable distribution. It is a failure to distinguish between a group’s *collective capacities* and its *goals*, that is, the assumption that if a group has certain capacities, then it will necessarily adopt certain goals such as conservation or the protection of public goods. There may be any number of reasons why a community does not manage a resource system sustainably, even if it has the capacity to do so. While this would not be a failure of community capacity, it may well have negative environmental consequences. If this is the case, then it doesn’t seem to me that there is anything wrong with treating environmental consequences (or equitable distribution or any other normative ‘category’) as a measure of success, as long as the analyst makes an explicit distinction between his/her measures of success and what the community itself intended.

ssingle@mailhost.tcs.tulane.edu

## CPR FORUM RESPONSE

### Principles for CPR Theory

**Mathew Kurian**

Institute of Social Studies  
The Hague, The Netherlands

Elinor Ostrom’s design principles were perhaps the first attempt to identify criteria of successful collection action in common pool resource management. The principles are particularly appealing to grass root field workers and policy makers as they offer the hope of relating *de-jure* management practices with a tangible set of collective action outcomes. Ostrom outlines these outcomes in the form of graduated sanctions, presence of nested enterprises amongst others.

In recent years though, an emerging body of work has pointed to inadequacies in Ostrom's design principles. One of the criticisms have been that the principles do not consider contextual factors like the role of power relations and meanings that social actors attach to local systems of natural resource use and management. A related criticism has been that Ostrom's selection of "successful cases" of resource management are based on a study of communities that are removed from the influence of State and market. This criticism is especially valid in the context of analysis of common pool resource management in the developing world.

A closer examination of Ostrom's principles, nevertheless, reveals that contextual factors are not completely outside the boundary of her analysis. For instance, the summary and situational variables affecting the benefit and cost of collective action as outlined in "Governing the Commons" does consider factors like distance from markets, size of CPR, group size etc. Moreover, research under the International Forestry Resources and Institutions (IFRI) program at the Workshop in Political Theory and Policy Analysis has attempted to account for the role of a range of local level institutions that impinge on forest management. What is significant from the point of view of an examination of the design principles, therefore, is the approach that is adopted in studying collective action.

In terms of approach the emphasis appears to be on the incentives that motivate individuals to act collectively in a collective action system. Inspired by neo-liberal currents in development theory, Ostrom's Institutional Analysis and Development (IAD) framework pays limited attention to the dynamics of group action. But the acquirement problem cannot be studied satisfactorily without a corporate focus. A corporate analysis is necessary to escape from the conventional Western juristic categories, which though useful for some purposes, are more often than not narrowly addressed to a particular kind of property, a particular category of transaction or a particular category of relationship. For example, in the North Indian state of Haryana, water from earthen dams constructed under a program of Joint Forest Management (JFM) is pumped free of cost by a contractor into a village pond to meet the need for water of livestock. Although every hour of water supplied free imposes a cost on the contractor, the practice is undertaken because of the value attached to the service by the community. As a matter of fact, studies of forest management and tank irrigation from elsewhere in India and even Japan point to notions of a "good patron" that encourage individuals to provide collective goods.

The tendency to categorize collective action as robust or weak based on the design principles can also potentially

overlook issues of customary resource use. For example, as part of the JFM programmed in Haryana, Hill Resource Management Societies (HRMS) have been established at the village level. In establishing these organizations, a principle that is followed is that of delineating "clearly defined boundaries". These boundaries are usually identified based on forest ridge and settlement boundaries. However, neighboring settlements with customary rights to forest areas continue to use forests although they do not have rights under the new dispensation. Seen at another level, watershed management programs that approach resource management by using categories of "village" or "watershed" may miss out on complex intra-village and inter-hamlet credit, power and ethnic relations.

Another principle that guides JFM in Haryana is the primacy that is accorded to ensuring that local community groups have "access to low-cost arenas for resource management." An important assumption that underlies this principle is that low-cost arenas would ensure the participation of the community in decisions regarding resource use. The result has been the establishment of HRMS in the region with uniform procedures for forest management. But an ongoing review of such organizations reveals an enormous diversity in leadership styles, risk taking abilities and resilience in the face of scarcity of financial resources. Another revelation has been that the establishment of a HRMS through the involvement of external agencies has offered beneficiary households the possibility of renegotiating the rules that guided access to forest resources in the first place. Within this frame of expanded possibilities, different social actors: both the rich and resource poor households have through their "agency" been able to derive benefits with implications for their livelihood trajectories.

Research on CPR theory in the future would do well to address the question: collective action for what? As long as the emphasis remains primarily on refuting Hardin's thesis, there may be little to be learned of the processes that shape collective action in field level situations. Ostrom's design principles should encourage CPR researchers to arrive at a praxis through a combination of theoretical rigor and empirical engagement. Adoption of a social constructivist approach offers researchers the added advantage of viewing the acquirement dilemma as a problem that pervades the spectrum of collective goods and the diversity of socio-ecological arrangements that bind them.

Email: kurianm@iss.nl

# CPR FORUM RESPONSE

## CPR Research in Practical Application

### Helle Munk Ravnborg

Center for Development Research  
Copenhagen, Denmark

In their article, Steins, Edwards and Röling point to some very pertinent and fundamental problems with CPR theory, which have emerged during the latter part of the 1990s as CPR theory was applied to understand and facilitate collective action in increasingly complex settings.

CPR theory, they argue, has been developed at the basis of descriptive research in relatively simple settings such as the management of irrigation water in irrigation schemes where boundaries and users can easily be identified, and with a prescriptive focus, namely to identify variables associated with sustained collective action. Thus, in CPR theory, collective action tend to be understood as the likely *outcome* when certain conditions are in place, rather than as a *process* evolving from the interplay between such conditions, characterizing the resource and its users, and – something which CPR theory tends to neglect – the contextual or external factors, and how these are interpreted by resource users.

From my experience, as I will return to in a moment, there is no doubt that this seriously limits the domain of CPR theory to fairly simple and often ‘artificial’ situations, such as irrigation and settlement schemes, and thus it is problematic when CPR theory is applied to frame research or orient interventions aimed at facilitating collective action. Hence, my first reservation towards the comment provided by Steins and her colleagues, which in fact only further strengthens their argument, is that they direct their criticism towards the design principles. In my view they assign them unwarranted importance. Rather the criticism should be directed at CPR theory itself pointing to its insufficiency as the basis for understanding and facilitating collective action in the management of natural resources.



*Stakeholders in the Columbian Andes  
Photo Courtesy María del Pilar Guerrero*

In 1996, I became part of a team of CIAT researchers who set out to facilitate collective management of natural resources within three micro-watersheds in the Colombian Andes. The background for this work was the observation that farmers managing the resources, i.e. the soil, water, vegetation and the fauna, in the watersheds did so on an individual or fragmented basis rather than in a coordinated fashion. This means that they were not taking into account the interdependencies between the resources they were managing and the properties such as availability of clean and sufficient water in local water springs, the risk of landslides, the severity of crop pests and diseases, which emerged as the combined result of their management. Thus, we wished to initiate a process of action research to encourage watershed users to take these interdependencies into account in their management and

along with this process study the constraints, conflicts and opportunities to be overcome or captured to achieve coordinated management.

Had we listened to the lessons resulting from CPR research at that time, we would probably never have started this research endeavour, simply because ‘our’ watersheds violated so many of the characteristics found by CPR research to be

associated with collective action being a possible outcome. Not only do many of the benefits arising from coordinated management of watershed resources accrue to downstream populations, watershed resources also tend to be subjected to multiple and potentially conflicting uses (e.g. water for crops, crop processing or for domestic use; forests for firewood or as habitats for the birds that are important in checking crop pests). Finally, in our case, the populations, although small, were highly differentiated not only socio-economically but also in ethnic and religious terms.

Fortunately, we did not listen to the CPR research and the result was the emergence of collective action, for example in ant control as reported in Ravnborg and Westermann (2000). Moreover, a number of lessons learned with respect to collective action as a process involving the appreciation of interdependencies and the negotiation of multiple and often conflicting interests, some of which do not necessarily relate to the resources at issue but to other fields or spheres in which the actors are involved.

My second reservation, which is slightly more critical,

relates to the authors' proposition of the actor-network theory (ANT) as the theoretical framework for analysing collective action. I agree with the basic social constructivist position and the invitation to analyse CPR management arrangements as processes shaped by and reshaping social actors and the idea of taking into our analysis non-human factors, such as the resources themselves, not only as static conditions but as dynamic systems. However, I have great difficulties with the attribution of 'agency', i.e. strategic decisions about courses of action, to the *networks* of interacting human and non-human entities, as described elsewhere by Steins (1999) is a characteristic of ANT. This, in my anthropocentric view, remains an attribute of social actors.

For further information

Ravnborg, H.M. and O. Westermann. 2000. "Understanding interdependencies: Stakeholder identification and negotiation as a precondition to collective natural resource management". Paper to be presented at the 8th conference of the International Association for the Study of Common Property (IASCP) *Constituting the Commons: Crafting Sustainable Commons in the New Millennium*, to be held at Indiana University, Bloomington, Indiana, USA, May 31 - June 4, 2000.

N.A. Steins (1999). All hands on deck: An interactive perspective on complex common pool resource management based on case studies in the coastal waters of the Isle of Wight (UK), Connemara (Ireland) and the Dutch Wadden Sea. Published doctoral dissertation. Wageningen University, The Netherlands.

## CPR FORUM RESPONSE

### Tensions in CPR Theory and Practice

**Ruth Meinzen-Dick**

International Food Policy Research Institute

Common property research has always walked a fine line between theory and application. As Steins, Edwards, and Röling point out, refuting Hardin's theories and the policies of either privatization or state takeover of resources provided much of the motivation for early case studies and theoretical work. This led to emphasis on studies of "success." The resulting body of research has been quite influential in getting multilateral lending organizations, national governments, and a wide range of NGOs to embrace common property, and look for ways to

strengthen local management. But this often leads to another dilemma: the policy makers and implementers are often looking for blueprints, cookbooks, or at least "best practice" guides that can be applied broadly, not finely nuanced analyses. Where does this leave us, as CPR researchers?

First, it raises the stakes for doing sound research. I agree that we need to move beyond analyzing only case studies of apparent success. Our failure to study failure as well as success provides an incomplete or even misleading picture. Active organizations are easier to find and study, but we need to carefully sample to be sure that we are also including the "paper tigers"--registered societies that only exist on paper; the various forests, irrigation systems, or other resource units that may not have effective management institutions; as well as the cases of outright conflict. It is useful to do both comparative study of places with varying degrees of CPR management, as well as examining the changes in one site over time.

Sound research should also include attention to contextual factors. With globalization affecting almost every part of the world, these contextual factors are not only local, but include migration opportunities, market pressures, etc. To be fair, much of the early CPR theory (including Ostrom, Wade, and others) did identify critical environmental factors, including both the characteristics of the resource base and the group of users, which facilitate or constrain CPR management. The problem is that many of these conditions are not readily amenable to manipulation by outside policy makers, donors, or even local activists. The "design principles" that were internal to the organizations were seen as something that could be put in place by a variety of projects. This missed a fundamental point of self-governance: that people should set their own rules.

At the same time, Steins, Edwards, and Röling are correct to point out that CPRs are used by multiple stakeholders, and defining a "local group" that should be devising rules is complex at best, and often conflict-ridden. Understanding the implications of this heterogeneity--not only of assets, but of also of values, priorities, and backgrounds--for CPR management, is one of the great challenges for CPR research today. Seeking local users' definitions of "success" and "failure" of CPR institutions can play a role in this, but even these definitions are likely to vary between different types of users. In this, it is important to ask not only those who are in the management organization, or the dominant users, but also those who may be excluded (e.g. asking pastoralists about the "success" of watershed management programs that restrict grazing

access in order to restore vegetation or water supplies for farmers).

The increasing diversity of approaches to studying CPR is appropriate and welcome. Actor-network theory may make a considerable contribution to our understanding through linking human agency and the environment, and its emphasis on process. But good, sound research is not enough. Part of the broader challenge is to translate that research into language, concepts, and findings on how to facilitate effective and equitable CPR management, in such a way that they can be understood and taken up by a range of policy makers and practitioners.

## LETTERS TO THE EDITOR

### To the Editor:

The April 1999 issue of the Common Property Resource Digest contains an article by Gisli Pálsson “Individual transferable quotas: unconstitutional regimes?” where the author contends that ITQs are unconstitutional. In his article Pálsson gives an account of the Supreme Court decision in December 1998, where the Court had finds a certain aspect of the Fisheries Management Act, Article 5 on fishing licensing, unconstitutional. The Court in its decision declared that the licensing requirement was too restrictive and therefore unconstitutional according to articles 65 (equality before the law) and 75 (freedom to work) of the Icelandic constitution. Article 5 of the law had limited licensing to those fishing vessels (and their replacements) that were in operation in 1988. The Court declared that although this restrictive licensing may have been temporarily acceptable, the government in its arguments before the Court had not established reasons why this arrangement should be permanent.

The Courts decision did surprise many, although it should not have. Aside from the constitutional issues, which were the basis for the Courts decision, there were other arguments for abolishing the restrictive licensing scheme. The Icelandic fisheries management system is not and was not at that point of time based on limited licensing but on ITQs. The Ministry of Fisheries, on the advice of the Marine Research Institute, decides whether particular fisheries need to be managed. If management is needed the Ministry sets a TAC and allocates harvesting quotas to individual vessels. Most but not all species have TACs and therefore ITQs. Other fisheries are therefore “open access”, except that the licensing requirement limited fishing to a particular group of vessels. The Supreme Courts decision in 1998

therefore only opened the way for all Icelandic fishing vessels to participate in fishing nonquota species.

The Supreme Court decision in 1998 was clear and precise, it declared Article 5 of the Fisheries Management Act unconstitutional but did not mention Article 7 which deals with ITQs. Accompanying the decision was a lengthy discussion by the Supreme Court on the recent history of fisheries management in Iceland and legal issues related to it. Some people, like Pálsson, interpreted these comments as an indication that the Supreme Court felt that the whole system of fisheries management, both the licensing and ITQs, were unconstitutional. A particular vessel owner, with his crew, decided to violate the law (Article 7) and fish without a quota (in



*An Icelandic Fishing Vessel. Photo courtesy Gisli Pálsson*

fact he leased his own quota to others and then went fishing). The vessel owner and skipper were both prosecuted for this violation but the regional court decided there were no grounds for punishment as the law that they had violated was unconstitutional. The government appealed the case to the Supreme Court and on April 6, 2000, the Court overturned the lower court decision. Five of the seven judges confirmed the validity of the Fisheries Management Act but two judges agreed with the lower court.

Pálsson in his article had claimed the ITQs were unconstitutional. The Supreme Court has now removed all doubt about the constitutionality of the current ITQ regime in Iceland. It should also be pointed out that although two of the judges may disagree on the constitutionality of the current ITQ regime, they do not seem to think that ITQs, as such, are unconstitutional. The Court has on several occasions decided on issues where quotas are involved, such as issues of income taxation and divorce settlement. In all those decisions the Court has treated quotas as individual property (assets). Some

judges however may feel that the current ITQ system is too restrictive in that the holding of quota is currently tied to vessel ownership.

Pálsson's article is on the whole misleading and incorrect on several points. The ITQ system has come into existence and evolved by a process of "trial and error" rather than design. There is, contrary to his claims, overwhelming evidence on the benefits of the ITQ system in Iceland (See my "ITQs in Iceland: Their Nature and Performance" in Arnason and Gissurarson, Eds.: *Individual Transferable Quotas in Theory and Practice*, University of Iceland Press, 1999). There has been no social upheaval or "uprising" in protest of the ITQ system, nor is such an event likely to occur. The general election for parliament, on May 8, 1999, did not focus on the issue of ITQs. On the other hand, it may be argued that the government had responded to critics of the system by appointing two committees. The Resource Committee was appointed in 1998 to look at the broad issue of resource use and make suggestions on management rules for such resources. The Fisheries Management Revision Committee is to look at the current fisheries regime and make suggestion on revisions, if necessary. One issue that this latter committee will look into is whether there should be a single comprehensive management system, instead of the three separate systems now.

Article 1 of the Fisheries Management Act states that the fish stocks constitute national commons and that the quota allocations do not establish private rights of property in the quota allocations. Contrary to Pálsson's claim, this Article in the law does not establish government ownership. The Article essentially emphasizes the right and the duty of the sovereign to manage the common resource. It is also debatable whether common rights in fish are deeply embedded in Icelandic history, as fishing was really a privilege of property in land until the late 19<sup>th</sup> century. In fact, Gragas (the old Icelandic laws) state that land with ocean access own the fishing rights by its shore. In addition, fishing rights in lakes and rivers have always been and still are private property. Moreover, the ownership of salmon rights extends into the ocean and salmon fishing at sea is illegal within the Icelandic waters.

Regards,

**Birgir Runolfsson**

Associate Professor of Economics  
University of Iceland

**Gísli Pálsson Responds:**

I welcome the opportunity to add a few words to my earlier discussion of the legal status of ITQs in Iceland. Runolfsson's letter is a misconstruction of both my article and the Icelandic context. For one thing, he maintains that I contented that ITQs are unconstitutional. This is not true. I argued that the constitutionality of the system might be in doubt, and there were good grounds to question its constitutionality. Within months, the issue was taken up again at the Supreme Court and the minority of the Court, in fact, declared the system unconstitutional. Runolfsson's distinction between "trial and error" and design is also difficult to maintain. While ITQs were developed in stages they were clearly driven by a Thatcherite political design. Moreover, Runolfsson's claims about the "overwhelming evidence on the benefits of the ITQ system" is a gross simplification. For one thing, the prognosis for cod, the main species, is, once again, very disappointing. Finally, Runolfsson's claim that there has been "no social upheaval or 'uprising' in protest of the ITQ system" is bizarre; there have been several national strikes in the fishing industry, a new political party was established before the last national elections with the sole agenda of abolishing the system and it won two seats (out of 63) in Parliament, opinion polls show that the majority of the public thinks the system is unfair, and, indeed, the governing parties promised "reconciliation" before the last elections. It takes a lot of theoretical faith to deny that there has been a social upheaval.

Recent developments in the Western Fjords represent one aspect of this social upheaval. On 5 January 2000, a Regional Court concluded in the case against a skipper and a boat owner who had violated existing fisheries laws by fishing without having a quota. Before their vessel Vatneyri left port on a fishing trip a year earlier, they announced their decision to go fishing despite the fact that they neither owned a quota nor had rented one. The Regional Court found them not guilty, emphasizing the Supreme Court's decision that existing fisheries laws on individual transferable quotas violate both the constitutional rule against discrimination and the rule about the right to work. The State, however, challenged the ruling of the regional court by appealing to the Supreme Court and on 6 April the Court concluded by reversing the decision of the regional court, finding the skipper and the boat-owner guilty of the charges brought against them. The Court argued that existing fisheries laws - given the legal changes of January 1999 (following the earlier decision of the Court) according to which anyone in charge of a registered, seaworthy vessel can apply for a fishing license - did not violate constitutional clauses on equity and discrimination. The Court rejected the defendants'

claim that in the light of the earlier ruling of the Supreme Court they were entitled to fish in the absence of quota. The earlier ruling, it was pointed out, specified that the Fisheries Ministry's dismissal of a particular request was unconstitutional, not that the person involved was necessarily entitled to quota allocation.

Two of the seven judges issued a separate statement with very different conclusions. They argued that that the privileges given to quota-holders on the basis of fishing history and boat ownership during the 1980s represented "unmistakable discrimination" that was not in line with the reference in the same laws to the interests of the public. More importantly, the law violated constitutional clauses about equity and the right to work. The judges, therefore, reasoned that the Court ought to ratify the conclusion of the Regional Court. The skipper and boat owner in the case were, in their view, not guilty. If the majority of the Supreme Court had backed the decision of the Regional Court, the whole quota system would have been on trial. Perhaps, the majority of the judges, under heavy pressure from the governing parties, found that scenario too scary. The Prime Minister had told the media that if the Supreme Court backed the decision of the regional court there would be total chaos in the fisheries and Icelandic society more generally; Icelanders, he insisted, would have to "pack up and move to the Canary Islands" (a popular summer resort for many Icelanders). While the ITQ system, given the conclusion of the majority of the Supreme Court, does not violate the constitution, and in that sense the case is closed, a couple of qualifications should be added. Firstly, the Court underlined the clauses in the fisheries laws that specify that quotas do not constitute private property. Although this claim may be naïve, keeping in mind the dynamics of property rights and economic systems alluded to in the statement of the minority of the Court, it may have a political momentum of its own, encouraging lawmakers to develop measures that resist the emergence of full-blown property rights. More importantly, perhaps, Parliament may find it both reasonable and necessary to reallocate quotas along new and more equitable lines, or even to manage the fisheries by some other regime, and, significantly, without compensating current quota holders for their potential losses.

## RECENT PUBLICATIONS

### Charlotte Hess

#### Books

- Akhtar**, Shahid, and Archana Singh Karki, eds. 1999 *Management of Mountain Commons in the Hindu Kush-Himalayas*. Kathmandu: International Centre for Integrated Mountain Development.
- Anderson**, David M., and Vigdis Broch-Due, eds. 1999 *The Poor Are Not Us: Poverty and Pastoralism in Eastern Africa*. Athens, OH: Ohio University Press.
- Bagadian**, B.C. 1999 *Empowering People for Natural Resources Management with Reference to Irrigation Management*. Kathmandu: Farmers Managed Irrigation Systems Promotion.
- Bandaragoda**, D. J. 1999 *Irrigation Management in Asia: Farmer Agency Interface From a Property Rights Perspective*. Kathmandu: Farmers Managed Irrigation Systems Promotion.
- Battiste**, Marie, ed. 2000 *Reclaiming Indigenous Voice and Vision*. Vancouver: University of British Columbia Press.
- Brunckhorst**, David J. 2000 *Bioregional Planning: Resource Management Beyond the New Millennium*. Amsterdam: Harwood Academic.
- Burnham**, Philip. 2000 *Indian Country, God's Country: Native Americans in National Parks*. Washington, DC: Island.
- Cook**, Curtis, and Lindau. Juan D., eds. 2000 *Aboriginal Rights and Self-Government: The Canadian and Mexican Experience*. Montreal: McGill-Queen's University Press.
- Everton**, Ann Rosemarie, and Donald Leslie Sabey. 2000 *The Restrictive Covenant in the Control of Land Use*. Brookfield, VT: Ashgate.
- Foley-Gannon**, Ella. 1999 *Institutional Arrangements for Conjunctive Water Management in California and Analysis of Legal Reform Alternatives*. Davis, CA: University of California Water Resources Center.
- Ford**, Andrew, ed. 1999 *Modeling the Environment: An Introduction to System Dynamics Modeling of Environmental Systems*. Washington, DC: Island.
- The H. John Heinz III Center for Science, Economics, and the Environment**. 2000 *Fishing Grounds: Defining a New Era for American Fisheries Management*. Washington, DC: Island Press.
- Hall**, Thomas D., ed. 2000 *A World-Systems Reader: New Perspectives on Gender, Urbanism, Cultures, Indigenous Peoples, and Ecology*. Lanham, MD: Rowman and Littlefield.
- Hodgson**, Geoffrey M. 1999 *Evolution and Institutions: On Evolutionary Economics and the Evolution of Economics*. Northampton, MA: Elgar.
- Iudicello**, Suzanne, Michael Weber, and Robert Wieland. 1999 *Fish, Markets, and Fishermen: The Economics of Overfishing*. Washington, DC: Island Press.
- Kaza**, Stephanie, and Kenneth Kraft, eds. 2000 *Dharma Rain: Sources of Buddhist Environmentalism*. Boston: Shambhala.
- Lan**, Maivan. 2000 *At the Edge of the State: Indigenous Peoples and Self-Determination*. Ardsley, NY: Transnational.
- Levin**, Simon A., ed. 2000 *Encyclopedia of Biodiversity, Vols. 1-4*. Orlando, FL: Academic Press.
- McCarthy**, Nancy, Brent Swallow, Michael Kirk, and Peter Hazell, eds. 1999 *Property Rights, Risk, and Livestock Development in Africa*. Washington, DC: International Food Policy Research Institute.
- McGinnis**, Michael, ed. 1999 *Polycentric Games and Institutions: Readings from the Workshop in Political Theory and Policy Analysis*. Ann Arbor, MI: University of Michigan Press.
- Meiners**, Roger E., and Andrew P. Morriss, eds. 2000 *The Common Law and the Environment: Rethinking the Statutory Basis for Modern Environmental Law*. New York: Rowman and Littlefield.
- Niamir-Fuller**, Maryam, ed. 1999 *Managing Mobility in African Rangelands: The Legitimization of Transhumance*. London: Food and Agriculture Organization of the United Nations.
- Nishioka**, S. and J. Jager, eds. 2000 *1999 Open meeting of the Human Dimensions of Global Environmental Change Research Community*. Kanagawa, Japan: Institute for Global Environmental Strategies.
- Okoth-Ogendo**, H. W. O., and Godber W. Tumushabe, eds. 1999 *Governing the Environment: sPolitical Change and Natural Resources Management in Eastern and Southern Africa*. Nairobi, Kenya: African Centre for Technology Studies.
- Olson**, Mancur, and Satu Kahkonen, eds. 2000 *A Not-So-Dismal Science: A Broader View of Economics and Societies*. New York: Oxford University Press.

- Peterson**, Richard Brent. 2000 *Conversations in the Rainforest: Culture, Values, and the Environment in Central Africa*. Boulder, CO: Westview.
- Pradhan**, Rajendra, Franz von Benda-Beckmann, and Keebet von Benda-Beckmann, eds. 2000 *Water, Land and Law: Changing Rights to Land and Water in Nepal*. Kathmandu/Wageningen/ Rotterdam: Legal Research and Development Forum, Wageningen Agricultural University and Erasmus University.
- Schweitzer**, Peter P., Megan Biesele, and Robert K. Hitchcock, eds. 1999 *Hunters and Gatherers in the Modern World: Conflict, Resistance, and Self-Determination*. New York: Berghahn Books.
- Smith**, Charles David. 1999 *Ecology, Civil Society and the Informal Economy in North West Tanzania*. Brookfield, VT: Ashgate.
- Wondolleck**, Julila M., and Steven L. Yaffee. 2000 *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, DC: Island Press.
- Ziegenhorn**, Randy. 1999 *Networking the Farm: The Social Structure of cooperation and Competition in Iowa Agriculture*. Brookfield, VT: Ashgate.
- ### Articles
- Adger**, W. Neil. 1999 "Evolution of Economy and Environment: An Application to Land Use in Lowland Vietnam" *Ecological Economics* 31:365-379.
- Alexander**, Jason, and Brian Skyrms. 1999 "Bargaining with Neighbors: Is Justice Contagious?" *Journal of Philosophy* XCVI:588-598.
- Alston**, Lee J., Gary D. Libecap, and Bernardo Mueller. 2000 "Land Reform Policies, the Sources of Violent Conflict, and Implications for Deforestation in the Brazilian Amazon" *Journal of Environmental Economics and Management* 39:162-188.
- Amacher**, G. S., W. F. Hyde, and K. R. Kanel. 1999 "Nepali Fuelwood Production and Consumption: Regional and Household Distinctions, Substitution and Successful Intervention" *Journal of Development Studies* 35:349-374.
- Andersson**, J. A. 1999 "The Politics of Land Scarcity: Land Disputes in Save Communal Area, Zimbabwe" *Journal of Southern African Studies* 25:553-578.
- Apsey**, Mike, Don Laishley, Vidar Nordin, and Gilbert Paille 2000 "The Perpetual Forest: Using Lessons from the Past to Sustain Canada's Forests in the Future" *The Forestry Chronicle* 76:29-53.
- Arrow**, Kenneth J. 1999 "Amartya K. Sen's Contributions to the Study of Social Welfare" *Scandinavian Journal of Economics* 101: 173-190.
- Artz**, Kendall W., and Thomas H. Brush 2000 "Asset Specificity, Uncertainty and Relational Norms: An Examination of Coordination Costs in Collaborative Strategic Alliances" *Journal of Economic and Behavioral Organization* 41:337-362.
- Ascher**, William. 2000 "Understanding Why Governments in Developing Countries Waste Natural Resources" *Environment* 42:8-18.
- Awk**, Yuen-Tsang. 1999 "Chinese Communal Support Networks" *International Social Work* 42:359-378.
- Ayantunde**, Augustine A., and Timothy O. Williams. 2000 "Herders' Perceptions, Practice, and Problems of Night Grazing in the Sahel: Case Studies from Niger" *Human Ecology* 28:109-130.
- Babu**, Suresh Chandra, and William Reidhead. 2000 "Monitoring Natural Resources for Policy Interventions: A Conceptual Framework, Issues, and Challenges" *Land Use Policy* 17:1-12.
- Backhaus**, J. G. 1999 "Land Rents and Ecological Crisis: The Case of the Oder River Valley" *American Journal of Economics and Sociology* 58:193-96.
- Ballabh**, Vishwa, and Sushil Pandey. 1999 "Transitions in Rice Production Systems in Eastern India; Evidence from Two Villages in Uttar Pradesh" *Economic and Political Weekly* A11-A16.
- Banks**, Jeffrey S., and John Duggan. 2000 "A Bargaining Model of Collective Choice" *American Political Science Review* 94:73-88.
- Baranzini**, Andrea, José Goldemberg, and Stefan Speck. 2000 "A Future for Carbon Taxes" *Ecological Economics* 32:395-412.
- Baron**, Jill S., David M. Theobald, and Daniel B. Fagre. 2000 "Management of Land Use Conflicts in the United States Rocky Mountains" *Mountain Research and Development* 20:24-27.
- Bell**, Ruth Greenspan. 2000 "Building Trust: Laying a Foundation for Environmental Regulation in the Former Soviet Bloc" *Environment* 42:20-32.
- Bernauer**, Thomas, Ingrid Kissling-Näf, and Peter Knoepfel. 2000 "Institutionalized Management of Scarce Resources: Introduction and Overview" *Swiss Political Science Review* 6:3-8.
- Blackman**, Allen, and Winston Harrington. 2000 "The Use of Economic Incentives in Developing Countries: Lessons From International Experience with Industrial Air Pollution" *The Journal of Environment and Development* 9:5-44.
- Boisot**, Max, and John Child. 1999 "Organizations as Adaptive Systems in Complex Environments: The Case of China" *Organization Science* 10:237-252.
- Borkey**, Peter, and Francois Leveque. 2000 "Voluntary Approaches for Environmental Protection in the European Union: A Survey" *European Environment* 10:35-54.
- Brennan**, D., and M. Scoccimarro. 1999 "Issues in Defining Property Rights to Improve Australian Water Markets" *Australian Journal of Agricultural and Resource Economics* 43:69-89.
- Brooks**, R. et al. 1999 "When is the Standard Analysis of Common Property Extraction Under Free Access Correct? A Game-Theoretic Justification for Non-Game-Theoretic Analyses" *Journal of Political Economy* 107:843-858.
- Brouwer**, Roland. 1999 "Changing Name-Tags: A Legal Anthropological Approach to Communal Lands in Portugal" *Journal of Legal Pluralism* 43:1-30.
- Brown**, Christopher P., and Stephen P. Mumme. 1999 "Consejos de Cuencas: An Institutional Option for Transboundary Water Management on the U.S.-Mexico Border" *International Review of Comparative Public Policy* 11:115-.
- Bulte**, E. H., and G. C. Van Kooten 1999 "Economics of Antipoaching Enforcement and the Ivory Trade Ban" *Journal of American Agricultural Economics* 81:453-466.
- Bulte**, Erwin, and G. C. Van Kooten 2000 "Economic Science, Endangered Species, and Biodiversity Loss" *Conservation Biology* 14:113-119.
- Byers**, Alton C. 2000 "Contemporary Landscape Change in the Huascaram National Park and Buffer Zone, Cordillera Blanca, Peru" *Mountain Research and Development* 20:52-63.
- Byron**, N., and Arnold M. 1999 "What Futures for the People of the Tropical Forests" *World Development* 27:789-805.
- Cauley J.**, Richard Cornes, and Todd Sandler. 1999 "Stakeholder Incentives and Reforms in China's State-owned Enterprises: A Common-Property Theory" *China Economic Review* 10:191-206.
- Chatterji**, Jaya. 2000 "Common Land Development for the Poor" *Wastelands News* 15:67-73.
- Cleaver**, Frances. 2000 "Moral Ecological Rationality, Institutions and the Management of Common Property Resources" *Development and Change* 31:361-383.
- Colfer**, C. J. P., R. L. Wadley, and P. Venkateswarlu. 1999 "Understanding Local People's Use of Time: A Pre-Condition for Good Co-Management" *Environmental Conservation* 26:41-52.
- Conelly**, W. Thomas, and Miriam S. Chaiken 2000 "Intensive Farming, Agro-Diversity, and Food Security under Conditions of Extreme Population Pressure in Western Kenya" *Human Ecology* 28:19-52.
- Cornes**, Richard C. 2000 "Local Public Goods, Risk Sharing, and Private Information in Federal Systems" *Journal of Urban Economics* 47:39-60.
- Cortner**, Hanna J. 2000 "Making Science Relevant to Environmental Policy" *Environmental Sciences and Policy* 3:21-30.
- Costanza**, Robert. 2000 "The Dynamics of the Ecological Footprint Concept" *Ecological Economics* 32:341-345.
- Cropper**, M., C. Griffiths, and M. Mani. 1999 "Roads, Population Pressures, and Deforestation in Thailand, 1976-1989" *Land Economics* 75:58-73.
- Croson**, Rachel T. A., and Melanie Beth Marks. 1999 "The Effect of Heterogeneous Valuations for Threshold Public Goods: An Experimental Study" *Risk Decision and Policy* 4:99-115.
- Czech**, Brian. 2000 "The Importance of Ecological Economics in Wildlife Conservation: An Introduction" *Wildlife Society Bulletin* 28:2-25.
- Deininger**, K. 1999 "Making Negotiated Land Reform Work: Initial Experience From Colombia, Brazil, and South Africa" *World Development* 27:651-672.
- Desaigues**, B., and D. Ami 1999 "An Estimate of the Social Benefits of Preserving Biodiversity" *International Journal of Environment and Pollution* 12:400-413.
- Dutschke**, Michael, and Axel Michaelowa. 2000 "Climate Cooperation as Development Policy: The Case of Costa Rica" *International Journal of Sustainable Development* 3:63-94.
- Edun**, Adebisi. 2000 "The Role of Evaluation in Accountability in Donor-Funded Projects" *IDS Bulletin* 31:48-52.
- Fairhead**, James, and Melissa Leach. 2000 "Webs of Power: Forest Loss in Guinea" *Seminar* 486:44-53.
- Falk**, Ian, and Sue Kilpatrick. 2000 "What is Social Capital? A Study of Interaction in a Rural Community" *Sociologia Ruralis* 40: 87-110.
- Fearnside**, Philip M. 1999 "Biodiversity as an Environmental Service in

- Brazil's Amazonian Forest: Risks, Value and Conservation" *Environmental Conservation* 26:305-.
- Fenster**, Mark. 1999 "Community by Covenant, Process, and Design: Cohousing and the Contemporary Common Interest Community" *Journal of Land Use and Environmental Law* 15:3.
- Fernandez-Gimenez**, Maria E. 1999 "Sustaining the Steppes: A Geographical History of Pastoral Land Use in Mongolia" *Geographical Review* 89:315-342.
- Fisher**, Monica G., Rebecca L. Warner, and William A. Masters. 2000 "Gender and Agricultural Change: Crop-Livestock Integration in Senegal" *Society and Natural Resources* 13:203-222.
- Fowler**, C. W. 1999 "Management of Multi-Species Fisheries: From Overfishing to Sustainability" *ICES Journal of Marine Science* 56:927-.
- Fregidou-Malama**, M. 2000 "The Relationship between Agricultural Cooperatives and the State in Sweden: The Legislative Process" *Annals of Public and Cooperative Economics* 71:79-.
- Gat**, Azar. 2000 "The Human Motivational Complex: Evolutionary Theory and the Causes of Hunter-Gatherer Fighting. Part I: Primary Somatic and Reproductive Causes" *Anthropological Quarterly* 73:20-34.
- Geldrop**, Jan Van, and Cees Withagen. 2000 "Natural Capital and Sustainability" *Ecological Economics* 32:445-455.
- Gibson**, Clark C. 2000 "Political Institutions and Conservation Outcomes: Wildlife Policy in Zambia" *Swiss Political Science Review* 6:87-121.
- Gibson**, Clark C., Elinor Ostrom, and T. K. Ahn. 2000 "The Concept of Scale and the Human Dimensions of Global Change: A Survey" *Ecological Economics* 32:217-239.
- Godden**, D. 1999 "Attenuating Indigenous Property Rights: Land Policy after the Wik Decision" *Australian Journal of Agricultural and Resource Economics* 43:1-33.
- Gong**, J., and H. Lin. 2000 "Sustainable Development for Agricultural Region in China: Case Studies" *Forest Ecology and Management* 128:27-38.
- Gray**, John. 2000 "The Common Agricultural Policy and the Re-Invention of the Rural in the European Community" *Sociologia Ruralis* 40:30-52.
- Green**, Maia. 2000 "Participatory Development and the Appropriation of Agency in Southern Tanzania" *Critique of Anthropology* 20:67-89.
- Gupta**, Anil K., and Martin O'Connor. 2000 "Creativity Counts" *International Journal of Sustainable Development* 3:95-107.
- Heinen**, Joel T., and Jai N. Mehta. 2000 "Emerging Issues in Legal and Procedural Aspects of Buffer Zone Management With Case Studies from Nepal" *The Journal of Environment and Development* 9:45-67.
- Hellin**, J., L. A. Welchez, and I. Cherrett. 1999 "Quezungal System: An Indigenous Agroforestry System from Western Honduras" *Agroforestry Systems* 46:229-237.
- Ho**, Peter. 2000 "China's Rangelands under Stress: A Comparative Study of Pasture Commons in the Ningxia Hui Autonomous Region" *Development and Change* 31:385-412.
- Homer-Dixon**, Thomas F. 2000 "Scarcity and Conflict" *Forum for Applied Research and Public Policy* 15:28-35.
- Johnson-Dayton**, Jeff. 2000 "Choosing Rules to Govern the Commons: A Model with Evidence from Mexico" *Journal of Economic Behavior and Organization* 42:19-41.
- Kant**, Shashi. 2000 "A Dynamic Approach to Forest Regimes in Developing Economies" *Ecological Economics* 32:287-300.
- Kasemir**, Bernd, Daniela Schibbli, and Carlo C. Jaeger. 2000 "Involving The Public In Climate and Energy Decisions" *Environment* 42:32-42.
- Katz**, Elizabeth G. 2000 "Social Capital and Natural Capital: A Comparative Analysis of Land Tenure and Natural Resource Management in Guatemala" *Land Economics* 76:114-132.
- Khan**, Niaz Ahmed, and Sudibya Kanti Khisa. 2000 "Sustainable Land Management with Rubber-Based Agroforestry: A Bangladeshi Example of Uplands Community Development" *Sustainable Development* 8:1-10.
- Klemeier**, E. 2000 "The Impact of Participation on Sustainability: An Analysis of the Malawi Rural Piped Scheme Program" *World Development* 28:929-944.
- Kozak**, Robert, and Chris Hartridge. 2000 "Shared Facilities: A Model for Forest-Dependent Communities in British Columbia" *The Forestry Chronicle* 76:151-158.
- Kung**, J. K. S. 2000 "Common Property Rights and Land Reallocations in Rural China: Evidence from a Village Survey" *World Development* 28:701-.
- Leach**, Melissa, and James Fairhead. 2000 "Challenging Neo-Malthusian Deforestation Analyses in West Africa's Dynamic Forest Landscapes" *Population and Development Review* 26:17-44.
- Lele**, Sharachandra. 2000 "Degradation, Sustainability or Transformation?" *Seminar* 486:31-37.
- Loomis**, T. M. 2000 "Indigenous Populations and Sustainable Development: Building on Indigenous Approaches to Holistic, Self-Determined Development" *World Development* 28:893-910.
- Lyon**, F. 2000 "Trust, Networks and Norms: The Creation of Social Capital in Agricultural Economics in Ghana" *World Development* 28:663-682.
- Martin**, W. E., and H. Wise Bender. 1999 "Modelling Public Land-Use Decisions as a Cooperative Game" *International Journal of Environment and Pollution* 12:217-231.
- McPherson**, M. A., and M. L. Nieswiadomy. 2000 "African Elephants: The Effect of Property Rights and Political Stability" *Contemporary Economic Policy* 18:14-26.
- Millat-E-Mustafa**, M., John B. Hall, and Zewge Teklehaimanot. 1999 "Indigenous Management Techniques in Bangladesh Homegardens" *The International Tree Crops Journal* 10:215-.
- Miller**, R. J. 1999 "Courage and the Management of Developing Fisheries" *Canadian Journal of Fisheries and Aquatic Sciences* 56: 859-905.
- Morel**, Benoit, and Rangaraj Ramanujam. 1999 "Through the Looking Glass of Complexity: The Dynamics of Organizations as Adaptive Systems" *Organization Science* 10:278-293.
- Mougenot**, C., and M. Mormont. 1999 "Governing Biodiversity" *International Journal of Environment and Pollution* 12:414-435.
- Muller**, Frank G. 2000 "Does the Convention of Biodiversity Safeguard Biological Diversity?" *Environmental Values* 9:55-80.
- Nahrath**, Stéphane. 2000 "'Governing Wildlife Resources'? L'organisation de la Chasse en Suisse comme Exemple de Régimes Institutionnels de Gestion d'une Ressource Naturelle" *Swiss Political Science Review* 6:123-158.
- Nielsen**, J. R., and T. Vedsmund. 1999 "User Participation and Institutional Change in Fisheries Management: A Viable Alternative to the Failures of 'Top-Down' Driven Control?" *Ocean and Coastal Management* 42:19-37.
- O'Leary**, Tomas N., Art G. McCormack, and Peter J. Clinch. 2000 "Afforestation in Ireland: Regional Differences in Attitude" *Land Use Policy* 17:39-48.
- Ostrom**, Elinor. 2000 "The Danger of Self-Evident Truths" *PS: Political Science and Politics* 33:33-44.
- Ostrom**, Elinor. 2000 "Reformulating the Commons" *Swiss Political Science Review* 6:29-52.
- Ovuka**, M. 2000 "More People, More Erosion? Land Use, Soil Erosion and Soil Productivity in Murang'a District, Kenya" *Land Degradation and Development* 11:111-124.
- Percy**, Rachel. 1999 "Gender Analysis and Participatory Rural Appraisal: Assessing the Current Debate Through an Ethiopian Case Study Involving Agricultural Extension Work" *International Journal of Educational Development* 19:395-408.
- Pestalozzi**, Hansueli. 2000 "Sectoral Fallow Systems and the Management of Soil Fertility: The Rationality of Indigenous Knowledge in the High Andes of Bolivia" *Mountain Research and Development* 20:64-71.
- Putsche**, Laura. 2000 "A Reassessment of Resource Depletion, Market Dependency, and Cultural Changes on a Shipibo Reserve in the Peruvian Amazon" *Human Ecology* 28:131-140.
- Reynard**, Emmanuel. 2000 "Cadre Institutionnel et Gestion des Ressources en Eau dans les Alpes: Deux Études de Cas dans des Stations Touristiques Valaisannes" *Swiss Political Science Review* 6:53-85.
- Rubin**, Barry M., Richard S. Rubin, and R. Anthony Rolle. 1999 "Successful Collaborative Management and Collective Bargaining in the Public Sector" *Public Productivity and Management Review* 22:517-536.
- Saxena**, N. C. 2000 "Participatory Issues in Joint Forest Management in India" *Wastelands News* 15:42-56.
- Schenkel**, Walter. 2000 "From Clean Air to Climate Policy in the Netherlands and Switzerland: How Two Small States Deal with a Global Problem" *Swiss Political Science Review* 6:159-184.
- Stavig**, Ward. 2000 "Ambiguous Visions: Nature, Law, and Culture in Indigenous-Spanish Land Relations in Colonial Peru" *Hahr: The Hispanic American Historical Review* 80:77-111.
- Svensden**, Gunnar L. H., and Gert T. Svendsen. 2000 "Measuring Social Capital: The Danish Co-operative Dairy Movement" *Sociologia Ruralis* 40:72-86.
- Theobald**, D. M., N. T. Hobbs, and W. E. Rielsame. 2000 "Incorporating Biological Information in Local Land-Use Decision Making"

Designing a System for Conservation Planning” *Landscape Ecology* 15:35-46.

**Thrupp**, Lori Ann. 2000 “Linking Agricultural Biodiversity and Food Security: The Valuable Role of Agrobiodiversity for Sustainable Agriculture” *International Affairs* 76:265-282.

**Toman**, M., R. Lile, and D. King. 1999 “Assessing Sustainability in a Spatial and Social Context: Some Conceptual and Empirical Challenges” *International Journal of Environment and Pollution* 12:369-382.

**Varma**, V. K., I. Ferguson, and I. Wild. 2000 “Decision Support System for the Sustainable Forest Management” *Forest Ecology and Management* 128:49-56.

**Vaughan**, David. 2000 “Tourism and Biodiversity: A Convergence of Interests?” *International Affairs* 76:283-298.

**Vestergaard**, N. 1999 “Measures of Welfare Effects in Multiproduct Industries: The Case of Multispecies Individual Quota Fisheries” *Canadian Journal of Economics* 32:729-743.

**Walker**, R., E. Moran, and L. Anselin. 2000 “Deforestation and Cattle Ranching in the Brazilian Amazon: External Capital and Household Processes” *World Development* 28:683-720.

**Weber**, Edward P. 2000 “A New Vanguard for the Environment: Grass-Roots Ecosystem Management as a New Environmental Movement” *Society and Natural Resources* 13:237-260.

**Weinstein**, Martin S. 2000 “Pieces of the Puzzle: Solutions for Community-Based Fisheries Management from Native Canadians, Japanese Cooperatives, and Common Property” *Georgetown International Environmental Law Review* 12:375-412.

**Wesley**, E., and F. Peterson. 1999 “The Ethics of Burden-Sharing in the Global Greenhouse” *Journal of Agricultural and Environmental Ethics* 11:167-196.

**Wiesmann**, Urs, Francis N. Gichuki, and Hanspeter Liniger 2000 “Mitigating Conflicts over Scarce Water Resources in the Highland—Lowland System of Mount Kenya” *Mountain Research and Development* 20:10-15.

**Wiggins**, S. 2000 “Interpreting Changes from the 1970s to the 1990s in African Agriculture through Village Studies” *World Development* 28:631-662.

**Wingard**, John D. 2000 “Community Transferable Quotas: Internalizing Externalities and Minimizing Social Impacts of Fisheries Management” *Human Organization* 59:48-57.

**Woerdman**, Edwin. 2000 “Rationality and Stability in the Theory of Moves: The Case of the Prisoner’s Dilemma” *Rationality and Society* 12:67-86.

**Zimmerman**, F. J., and M. R. Carter. 1999 “A Dynamic Option Value for Institutional Change: Marketable Property Rights in the Sahel” *American Journal of Agricultural Economics* 81:467-478.

# ANNOUNCEMENTS

**Send Letters and Announcements** to Doug Wilson, Editor, CPR Digest. Institute for Fisheries Management, North Sea Center, PO Box 104, DK-9850, Hirtshals, Denmark. dw@ifm.dk tel: 45 98 94 28 55 fax: 45 98 94 42 68

**For membership, dues, back issues, and missing copies** contact Michelle Curtain, P.O. Box 2355 Gary, IN 46409 USA iascp@indiana.edu tel 01-219-980-1433 fax 01-219-980-2801

**For questions** about IASCP papers and research contact Charlotte Hess, Information Officer, IASCP, IU., 513 N. Park, Bloomington, IN 47408 USA hess@indiana.edu tel 01-812- 855-9636 Fax: 01-812-855-3150

## Sustaining Common Property and Rural Communities

an IASCP panel to be presented at the **X World Congress of Rural Sociology – XXXVIII Brazilian Congress of Rural Economics and Sociology**, to be held at Hotel Glória - Rio de Janeiro from July 31st to August 5th, 2000.

The IASCP is pleased to announce that we have organized a panel and outreach table at the World Congress of Rural Sociology in Brazil. As part of our regionalization program we aim to provide information about the IASCP to scholars from Brazil, Latin America, and around the world. For further information contact Charla Britt charlabritt@hotmail.com or Doug Wilson dw@ifm.dk

### JULY 1, 2000- JUNE 30, 2001 IASCP MEMBERSHIP CARD

Begin or renew your membership now and you will not miss any of your membership benefits; including: subscriptions to The CPR Digest; discount registration at our nearly annual meetings; conference abstracts, and the opportunity to contribute to the IASCP. Contact the IASCP office for additional information or visit our web site.

**MEMBERSHIP INFORMATION:** Renewal\_\_\_\_ New\_\_\_\_ (Please check one)  
Last Name First Name Middle

Address:

City State/Province: Postal Code/Zip: Country:

Email Address:

**INDIVIDUAL MEMBERSHIP\*** **CHECK MEMBERSHIP YEAR(s):**  
\$15,000 or more.....US \$30.00 \_\_\_\_\_ July 1, 2000 - June 30, 2001  
**OR** \$14,999 or less.....US \$8.00 \_\_\_\_\_ July 1, 2001- June 30, 2002  
\_\_\_\_\_ July 1, 2002- June 30, 2003

Total dues payment @US \$30.00.....\$ \_\_\_\_\_

Total dues payment @ US \$ 8.00.....\$ \_\_\_\_\_

\*Institutional membership fees are a flat rate of US \$60.00.

**PAYMENT INFORMATION:**

You can return this card to IASCP with: \_\_\_\_\_ A check payable to IASCP  
\_\_\_\_\_ MasterCard \_\_\_\_\_ Visa \_\_\_\_\_ Discover | Card Number \_\_\_\_\_

If your situation prevents you from remitting payment using the above methods, please indicate that and write a brief explanation on the form.

Signature \_\_\_\_\_ | Exp. Date: \_\_\_\_\_ OR Email, phone or fax the information to:

**THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF COMMON PROPERTY**

P.O. Box 2355 Gary IN 46409 Phone: 219-980-1433 Fax: 219-980-2801 e-mail: iascp@indiana.edu http://www.indiana.edu/~iascp

**Common Property Resource Digest**  
**International Association for the**  
**Study of Common Property**  
**P.O. Box 2355**  
**Gary IN 46409 USA**