

COMMON POOL RESOURCE POLICY PAPER 1



DFID Natural Resources Systems Programme

Analytical Framework for Dialogue on Common Pool Resource Management

Bill Adams, Dan Brockington, Jane Dyson and Bhaskar Vira

March, 2002

1. AIMS

Research on common pool resources has advanced considerably in recent years (Bromley, 1992). Many research studies have focused on specific situations at specific times and have generated a wealth of case-study material (collections of such case studies include Mc Cay and Acheson, 1987; Berkes, 1989; Bromley, 1992; Agrawal, 2001, has recently reviewed some of this material). Some research has also adopted a more analytical perspective, trying to develop general principles that help explain and understand common pool resource outcomes (e.g. Ostrom 1990).

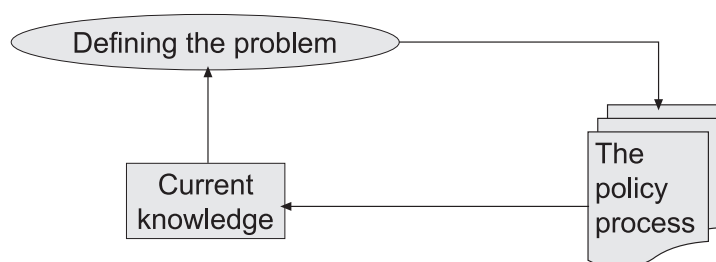
This paper does not seek to review this knowledge but develops a framework that relates it to the processes of everyday decision-making that concern the policy community. There have been a number of attempts to build analytical frameworks for the study of common pool resources (Oakerson 1986, 1992; Ostrom, 1990; Thomson *et al* 1992; Edwards and Stein, 1998). This paper draws on the insights of these earlier works, but adopts a more directly *policy-focused* perspective¹. Its aim is to provide a basis for dialogue about common pool resource management among stakeholders, in contexts where such resources are subject to contestation among multiple users and conflict between multiple uses.

2. PROMOTING DIALOGUE

It is commonly assumed that management problems of common pool resources are self-evident, whether they be of resource depletion or environmental degradation, lack of appropriate institutions for management, or conflicting claims over resources. However the definition of the policy 'problem' for key stakeholders may be contested. What may be seen as a 'problem' by one group of resource users (such as official perceptions about the 'illegal' use of state forests for fuelwood by local villagers) may be interpreted by others (such as non-governmental organisations and advocacy groups working with such villagers) as a basic need or an inalienable right. This is a critical problem in policy-making. The research literature makes clear the importance of divergent views about the nature, status and tenure of resources at local level, and between local and state actors (particularly work on political ecology, e.g. Peet and Watts 1996, Rocheleau 1996, Adams 2001).

The framework presented here (*figure 1*) assumes that stakeholders approach any given common pool resource problem with different understandings of the issue in hand. Each stakeholder's definition of 'the problem' suggests possible responses and policies that could be implemented.

Figure 1: Analytical framework for dialogue on common pool resource management



The framework therefore considers first how problems are defined and then how action and policy are formulated to deal with these problems. Each stage of consideration of the responses entails repeated reframing of the problem and checking its assumptions and consequences.

The framework is intended to be used by stakeholders at every level of the policy process. Local users, national bureaucracies and international donors need to consider responses to the same underlying processes of change. The framework offers a common conceptual thought process through which to examine a common problem. It thereby makes explicit the differences in knowledge, understanding, preconceptions and priorities which are at work at every level of decision-making, but are often obscured in policy dialogue (figure 2). The framework will be most powerful precisely when different users (of different sizes and operating at different levels) reveal their different interpretations of key issues.

The framework does not provide any 'magic bullet' that can resolve the often-intractable conflicts between diverse stakeholders over resource use. It treats decision and policy-making as a political process, not a technical planning procedure carried out by impartial 'experts'. It is not an 'optimisation' mechanism for identifying

economically or politically efficient policy choices for implementation. Techniques for conflict resolution, negotiation and management would be required at a later stage in the policy process, but these are beyond the scope of the present analysis².

Different stakeholders in a common pool resource bring to their decision-making different assumptions, knowledges and goals for that resource which are not always explicit. Dialogue between stakeholders will be promoted by making these differences clear.

3. WHO MAKES POLICY FOR COMMON POOL RESOURCES?

All stakeholders are capable of employing the analytical thought process that has been proposed here³. However, stakeholders and their analytical processes, are likely to be very different. We do not wish to privilege the views or analytical abilities of any particular set of policy actors. Indeed the very 'groups' involved may not be as discrete or identifiable as is suggested by terms like 'stakeholder'.

This paper does not dwell on what the 'policy community' is. This is not because this is unproblematic. The power to

Figure 2: Stakeholder interaction for policy towards common pool resources

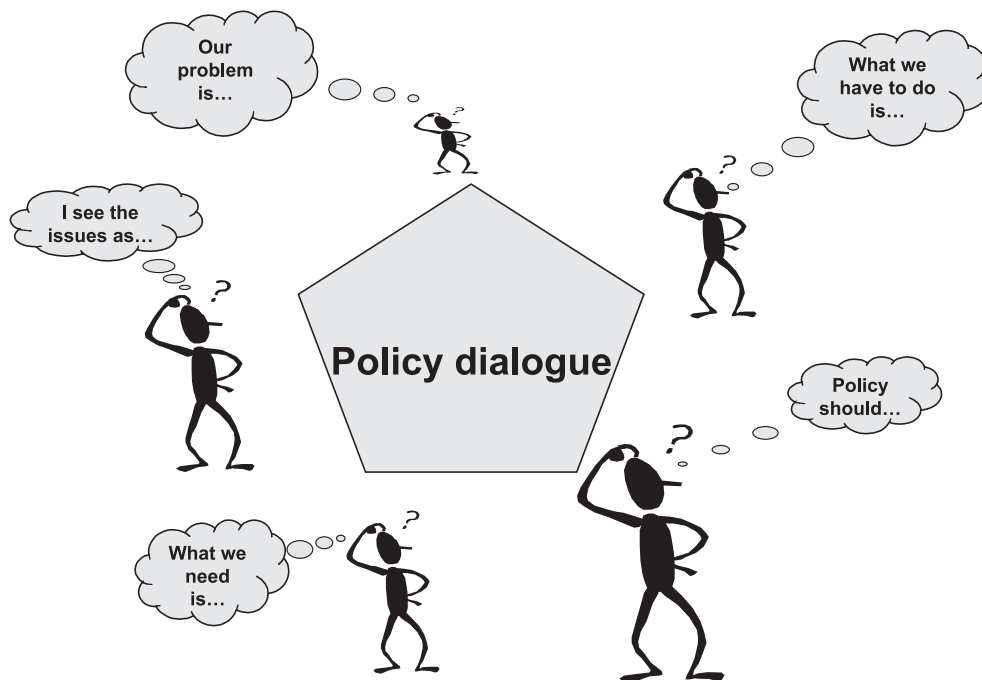
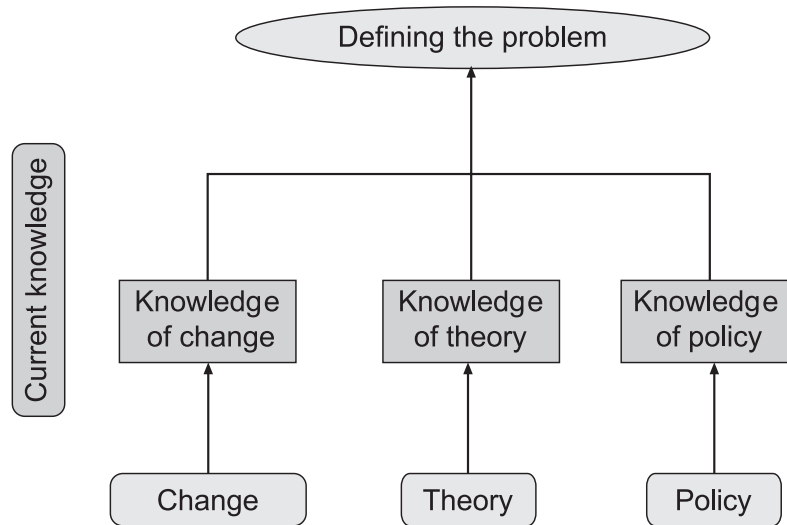


Figure 3: Analytical framework for dialogue on common pool resource management



endorse particular interpretations of common pool resource problems is highly contested. But our purpose here is not to ask who should decide policy. Rather, our concern is with how knowledge affects the framing of a policy issue, and to show the importance of this in influencing potential policy choices. Since the framework is designed to be used by a multiplicity of stakeholders, it does not seek to determine the legitimacy or authority of decision-makers.

Resource managers with the power to make relevant decisions may be part of formal or informal institutions, within or outside of the state. Such policy-makers may include:

- Informal local level user groups e.g. grazing associations and irrigation committees;
- Elected or appointed village leaders or village level natural resource officers determining who can live in an area and access local resources, and how much of each resource different households are allowed to use;
- District level appointed officers enforcing government rules of natural resource use and property ownership;
- State organisations involved in conflict resolution or suppression;
- Pressure groups lobbying for particular resource interests e.g. wildlife;
- Employees of state organisations concerned with controlling state-owned resources e.g. national parks or forest reserves;

Numerous groups may exert effective power or legal authority over a common pool resource. The legitimacy of a group's right to make decisions is important, but is not explored here.

4. DEFINING THE PROBLEM: CURRENT KNOWLEDGE AND UNDERSTANDING

Stakeholders can be thought of as drawing on their current knowledge and understanding to define a cognitive frame within which they understand specific common pool resource problems. Actors filter their knowledge of resource dynamics (change), theory and policy to produce particular interpretations of the situation as well as specific ways of dealing with it (*figure 3*).

Change and resource dynamics

We refer to social, economic, political and environmental changes collectively as 'drivers of change'. These are numerous, and range from the local to the global in scale. These drivers include diverse transformations in the resource management regime (e.g. privatisation), in economic activity (e.g. commoditisation) or in ecological productivity (e.g. changes in forest, fish or fodder stocks). All drivers of change in common pool resources can be reduced to four basic processes (Adams, et al, 2001)⁴. These are:

- 1 An increase or decrease in exclusion from common pool resources;
- 2 An increase or decrease in the volume or rate of use of common pool resources;
- 3 The creation of new demands for common pool resources;
- 4 An increase or decrease in the supply of common pool resources given the level of demand.

Stakeholders' knowledge of change derives from a variety of sources. At the very local level, change may be known largely through direct experience, use of the resources or detailed research. Knowledge about change may also derive from data at a regional or national level that is systematically generated for these purposes by official agencies and research organisations. Decision-makers or stakeholders are likely to differ in terms of their access to these diverse sources of knowledge about change, and their understanding of them. What is relevant for the present framework is to recognise that it is an actor's knowledge about change that frames their understanding of a particular resource use problem, and that this knowledge is often partial and hence likely to be contested by other actors.

Theoretical Knowledge and Understanding

There are a number of theoretical traditions that are relevant to an understanding of common pool resources. Theory that has been developed to understand such resources has almost always derived from (or in reaction to) the 'Tragedy of the Commons' literature (Hardin 1968). However, it is not just academic theory about the commons and their use that informs decision-makers. Ideas about the bio-physical dynamics of resources are often strongly driven by theoretical expectations. For example, perceptions of pastoral ecosystem degradation are heavily influenced by theories about carrying capacity (Behnke and Scoones, 1991), and ideas about poaching are informed by models of harvesting and maximum sustainable yield (Milner-Gulland and Mace, 1998). Similarly, there are theoretical debates, for instance, about the merits of open and closed trading systems for local economies (import-substitution versus export-led growth), the most appropriate form of ownership and control of resources (property rights, privatisation), and about the appropriate balance between growth-oriented and redistributive public policy, and so on. Much of this theoretical knowledge is built up through research and observation. Sometimes it is data driven (grounded), but theory does not always refer to empirical processes, deriving instead from first principles and prior reasoning.

It is important to emphasise that the theoretical domain is not solely bureaucratic or 'expert' dominated. There are diverse streams of knowledge and theory (local and state, formal and informal, academic and popular), that often do not engage well with each other, and that are debated,

formed and built up in different arenas. In the framework, different actors draw on their differentiated understanding of theory while framing a common pool resource management problem.

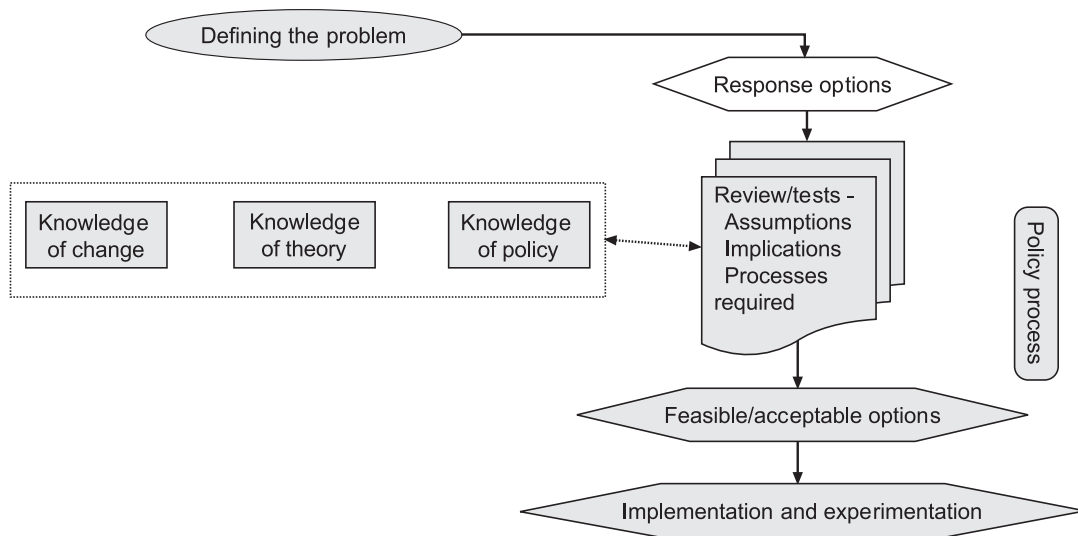
Policy Context

Common pool resource management rarely operates in isolation from a wider context of public policy. Thus, for instance, policies towards mining, irrigation, power, tourism, wildlife use and hunting, export of wild products or animals, and disease control all have a bearing on the extent and availability of common pool resources. Stakeholders differ in their knowledge of these policies - a local herder may be unaware of a country's policy commitments under the Convention on Biological Diversity, while a state resource manager may be forced to act in particular ways because of commitments under such multilateral agreements. In this sense, knowledge about policy may be seen as providing both constraints and opportunities for common pool resource management, since this forces stakeholders to restrict resource uses to those that are compatible with wider policy processes. Knowledge about policy is likely to contribute to the way in which a stakeholder perceives particular forms of common pool resource management, and the alternative policy responses that she is willing to consider.

An important element of this wider policy context is commitment to the overarching objectives of economic, social and ecological sustainability, and the recognition of possible trade-offs between these objectives. The policy context may also help some decision-makers define who the other key stakeholders are in any resource, what their interests are, and the extent to which these may conflict. For instance, a policy commitment to poverty alleviation may suggest that a decision-maker chooses to privilege the interests of the poor. Further, policies towards resources (such as a ban on the exploitation of particular species) may also restrict possible options for some stakeholders.

Perceptions about policy are likely to derive from the knowledge of decision-makers about their understanding of change and dynamics, and their theoretical knowledge. However there is also an independent role for policy perception in the way in which common pool resource management problems are defined. Leach and Mearns (1996) point out how narratives help frame the dominant understanding of environment and development problems and the best policy responses. For example, in the context of common pool resources there has been a shift from a belief in the 'Tragedy of the Commons' towards an uncritical acceptance of the potential for community-based natural resource management. Similarly, ecological narratives about 'desertification' and deforestation tend to dominate policy thinking in drylands and forestry. The power of such narratives is that they force decision-makers to perceive

Figure 4: Analytical framework for dialogue on common pool resource management



problems and frame responses according to the narratives terms of what constitutes ‘good’ and ‘bad’ policy.

Stakeholders draw on their knowledge of change, theory and policy to understand and frame specific common pool resource problems.

5. MAKING POLICY

The right hand side of the framework involves a normative notion of how policy ought to be made (figure 4). Policy process can be understood as a series of responses to specific problem definitions. The framework suggests that for any stakeholder empowered with defining resource use options, a systematic consideration of the alternatives should comprise two distinct stages, first reviewing and testing options and second implementing action. Every element of this requires decision-makers to recognise how their initial problem definitions affect their policy options.

Reviewing and testing

The process of reviewing and testing policy options can be divided into three parts: first, evaluation of possible response options; second, testing these options in terms of their assumptions, their implications if implemented, and the

processes necessary for their achievement; and third decision-making about preferred policy responses. The process of review and testing relies on the decision-maker’s understanding of change, theory and policy. In the course of subjecting options to careful scrutiny, the decision-maker may update their state of knowledge (depicted as a feed back in the framework).

The reviewing and testing process is not necessarily the domain of ‘expert’ or ‘government’ activity. Any interest group could engage in this process, formally or informally. The framework has been developed to inform the thought process of any planning group. It is important for any particular group of decision-makers conducting these tests to remember that there are likely to be other groups simultaneously conducting alternative evaluations of the resources and places in question.

Evaluation of responses: Given the way in which a particular problem is understood and framed, the decision-maker can choose one of four possible responses:

- ignore the problem;
- restrict change;
- control or manipulate change;
- support or enhance change.

Option testing 1: Assumptions. What assumptions are necessary for each response to be successful? All options will inevitably have underlying assumptions concerning (amongst others):

- User characteristics;
- Resource characteristics ;
- Management alternatives;
- Form and structure of institutions, formal and informal;
- Structure of markets.

The decision-maker needs to examine whether these assumptions are reasonable given their current state of knowledge. If they are not, is the proposed response workable? If not, the decision-maker needs to think again.

Option testing 2: Implications if implemented. What further action will be required by each response? All options will inevitably have important implications and the decision-maker needs to consider for instance:

- Who loses from the response? Can they be compensated?
- Will the response meet the aspirations of resource users in the future? Will it raise expectations and change perceived needs?
- Will the proposed response create political opposition (e.g. from disenfranchised former users, from aspirant future users)? If so, can the political support necessary for success be built up?

The decision-maker needs to consider whether these implications are acceptable to the groups they affect. If it is not, is the proposed response workable? If not, the decision-maker needs to think again.

Option testing 3: Processes Required. What processes are required to achieve the proposed response? For each option, certain processes will be needed to achieve the proposed change. A number of questions need to be asked:

- How is the response to be implemented? What activities will be needed?
- Are there organisations in existence with the competence to undertake these actions. If not, can they be created?
- Do these organisations have the capacity to undertake the work needed? If not, can they be resourced and empowered?

The decision-maker needs to consider whether the processes required to achieve change are feasible (especially are they affordable and politically acceptable to all parties?). If they are not, is the proposed response workable? If it is not, the decision-maker needs to think again.

Decision-making: In the light of these tests, the decision-maker can consider which responses are feasible and acceptable, and, crucially, to whom. Given that different groups will be simultaneously reaching decisions or lobbying to enforce particular views, the issues of acceptability and feasibility are likely to be best approached with broad consultation. Ideally, of course, the review of assumptions and options will have involved this sort of consultative process. The point is that the issues of acceptability and feasibility are impossible to address without such a consultation between affected stakeholders. If an acceptable option can be identified, implementation can be considered. If not, either the option should be ruled out altogether, or decision-makers should rethink the strategy by revising understanding of the problem.

Implementation and experimentation

The implementation of policy should be seen as a process of experimentation; part of a constant and dynamic cycle of learning (*figure 5*). Once implemented, policies feed back into the system as a new driver of change. Equally, the process of adopting policy and learning from it contributes to theoretical knowledge through the experience of resource users, government policy makers and enforcers and research. Implementation may also, quite powerfully, affect dominant narratives that feed back into the system in a self-affirming manner. These are often adopted relatively uncritically. Conceiving of policy intervention as a process of experimentation encourages a more reflexive approach to implementation.

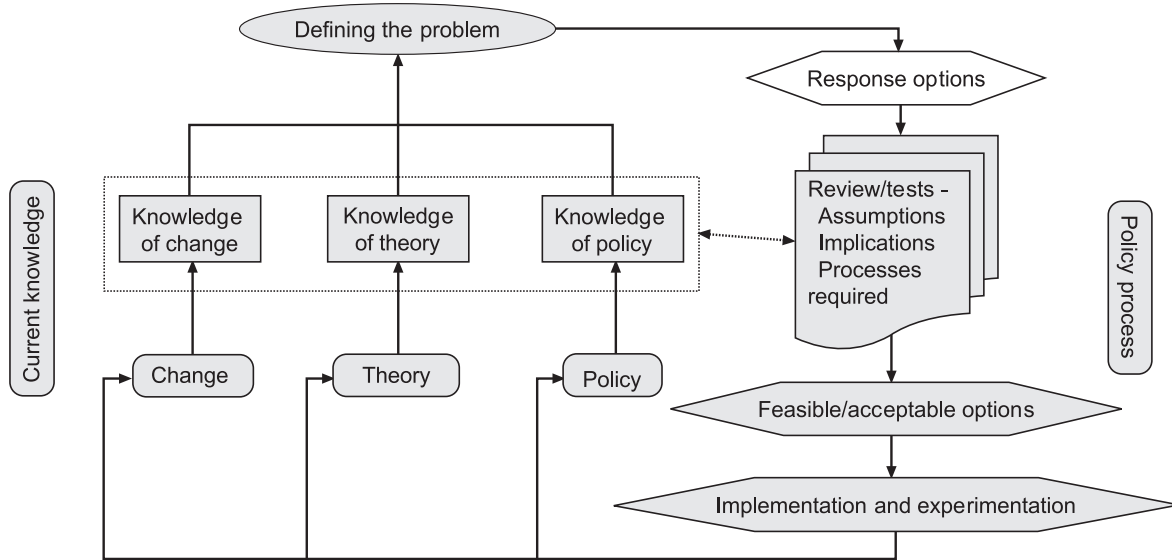
Making policy requires an iterative process of exploring options by testing their assumptions and imagining their possible impacts. Implementing fair decisions will require consultation and comparison of different groups' explorations. Consultation and review may result in new framings of the problem at hand.

CONCLUSION

This paper suggests that differentiated stakeholders frame common pool resource management problems on the basis of their particular knowledge about resource dynamics, theory and policy processes. Different definitions will suggest different policy responses. The framework presented outlines an iterative procedure for reviewing and testing these options. The analytical thought process that the framework develops is one that can be employed by diverse agents at any level of the decision process. It may therefore be a means of addressing an often-implicit elite bias in policy-making, which sometimes fails to recognise these plural analytical capabilities.

The present framework does not claim to be a panacea for decision-making for common pool resources. Even in

Figure 5: Analytical framework for dialogue on common pool resource management



inclusive policy environments, incompatibility of alternative uses and users suggests that conflict is inevitable, and that some interests will not be satisfied. Further, the framework assumes (and contributes to) a policy process in which there is effective and reasoned dialogue between all stakeholders. If the policy process precludes dialogue, or if remains geared to undeclared aims such as rent-seeking, or boosting political power platforms in particular constituencies, this framework will be of limited use.

Dialogue cannot reconcile irreconcilable interests, though it can make the costs of compromise explicit. It will be of limited use if decision-making is dysfunctional or not primarily concerned with solving the problem in hand.

NOTES

1. The paper derives from work funded by the UK Department for International Development under its Natural Resources Systems Programme Semi-Arid Production System (Project R7973). This project is joint between Bill Adams, Dan Brockington, Jane Dyson and Bhaskar Vira (Department of Geography, University of Cambridge), Kanchan Chopra (the Institute of Economic Growth, Delhi), Marshall Murphree (Centre for Applied

Social Science, University of Zimbabwe) and Issa Shivji (Faculty of Law, University of Dar es Salaam). The views expressed are not necessarily those of DFID.

2. One example of a constructive way to handle policy dialogue, and to deal with these seemingly difficult choices (proposed in recent work on marine protected areas, Brown, et al, 2001) is the use of multi-criteria trade-off analysis to enhance the decision-making process. However it is worth pointing out that schemes which offer technical means of resolving stakeholder conflict often simply subsume the power struggles into the decision-making processes. For instance, Multi-Criteria Analysis ultimately hinges on how different options and choices are weighted, which are likely to be contested decisions.

3. We recognise, however, that this type of document is likely to be most accessible to elite decision-makers or policy analysts. This is primarily a question about dissemination, since the thought process that is implied by the framework is one that all sorts of decision-makers could engage with.

4. Edwards and Stein (1998) draw similar conclusions about the effect of their contextual factors on common pool resources, but have a more restrictive interpretation, suggesting that the impact is restricted to the supply of and demand for goods and services from such resources. Although the four processes identified here could be reduced

to demand and supply, the understanding of processes proposed here is richer, since it distinguishes between quite distinct types of processes that potentially impact on demand and supply.

REFERENCES

- Adams, W. M. (2001) *Green Development: environment and sustainability in the Third World*, Routledge, London.
- Adams, W. M., Brockington, D., Dyson, J. and Vira, B. (2001) *Common Choices: policy options for common pool resources*, unpublished project discussion paper (www-cpr.geog.cam.ac.uk).
- Agrawal, A. (2001) "Common property institutions and sustainable governance of resources," *World Development*, 29(10), 1649-72.
- Behnke, R.H. and Scoones, I. (1991) *Rethinking range ecology: implications for range management in Africa*, ODI/IIED, London.
- Berkes, F. (ed.) (1989) *Common Property Resources: ecology and community-based sustainable development*, Belhaven Press, London.
- Bromley, D. W. (ed.) (1992) *Making the Commons Work: theory, practice and policy*, ICS Press, San Francisco.
- Brown, K., Adger, W.N., Tompkins, E., Bacon, P., Shim, D and Young, K (2001) "Trade-off analysis for marine protected area management," *Ecological Economics*, 37(3), 417-34.
- Chopra, K. and Dasgupta, P. (2002) *Common Pool Resources in India: evidence, significance and new management initiatives*, unpublished project discussion paper (www-cpr.geog.cam.ac.uk).
- Dryzek, J. (1997) *The Politics of the Earth: environmental discourses*, Oxford University Press, London.
- Edwards, V. M. and Stein, N. A. (1998) "Developing an analytical framework for multiple-use commons," *Journal of Theoretical Politics*, 10(3), 347-83.
- Hardin, G. (1968) "The Tragedy of the Commons," *Science*, 162, 1243-8.
- Leach, M. and Mearns, R. (1996) *The Lie of the Land: challenging received wisdom on the African environment*, James Currey/International African Institute, London.
- Mc Cay, B. J. and Acheson, J. M. (eds.) (1987) *The Question of the Commons: the culture and ecology of communal resources*, University of Arizona Press, Tucson.
- Milner-Gulland, E. J. and Mace, R. (1998) *Conservation of biological resources*, Blackwell Science, Oxford.
- Murphree, M. and Mazambani, D. (2002) *Policy Implications of Common Pool Resource Knowledge: a background paper on Zimbabwe*, unpublished project discussion paper (www-cpr.geog.cam.ac.uk).
- Oakerson, R. J. (1986) "A model for the analysis of common property problems," in National Research Council, *Proceedings of the Conference on Common Property Resource Management*, National Academy Press, Washington, DC, pp. 13-30.
- Oakerson, R. J. (1992) "Analyzing the commons: a framework," in D. W. Bromley (ed.) *Making the Commons Work: theory, practice and policy*, ICS Press, San Francisco, pp. 41-59.
- Ostrom, E. (1990) *Governing the Commons: the evolution of institutions for collective action*, Cambridge University Press, Cambridge.
- Peet, R. and Watts, M. (eds.) (1996) *Liberation Ecologies: environment, development, social movements*. Routledge, London.
- Rocheleau, D., Thomas-Slayter, B. and Wangari, E. (Eds.) (1996) *Feminist Political Ecology: global issues and local experiences*, Routledge, London.
- Shivji, I. (2002) *Village Governance and Common Pool Resources in Tanzania*, unpublished project discussion paper (www-cpr.geog.cam.ac.uk).
- Thomson, J. T., Feeny, D. and Oakerson, R. J. (1992) "Institutional Dynamics: the evolution and dissolution of common-property resource management," in D. W. Bromley (ed.) *Making the Commons Work: theory, practice and policy*, ICS Press, San Francisco, pp. 129-60.