

POLICY IMPLICATIONS OF COMMON POOL RESOURCE KNOWLEDGE IN INDIA, TANZANIA AND ZIMBABWE

Analytical Framework for Dialogue on Common Pool Resource Management

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1. Aims

Academic work on the commons has evolved considerably, especially during the decade and a half that has elapsed since the seminal Panel on Common Property Resource Management in the Developing World organised by the US National Academy of Sciences in 1985 (Bromley, 1992). Much of this burgeoning literature has reported from specific places, at specific times, thereby creating a wealth of case-study material for scholars to examine (collections of case studies include Mc Cay and Acheson, 1987; Berkes, 1989; Bromley, 1992; Agrawal, 2001, has recently reviewed some of this material). There has also been some work that has adopted a more analytical perspective, seeking to develop general principles that help to explain and understand common pool resource outcomes (most notably, of course, the work of Ostrom and her associates over this period).

This paper does not seek to *review* knowledge of the politics, economics or ecology of common pool resource management, but develops a framework that relates current knowledge to the processes of everyday decision making that concern the policy community. The paper follows the tradition of those who have contributed to building analytical frameworks for the study of the commons (Oakerson 1986, 1992; Ostrom, 1990; Thomson *et*

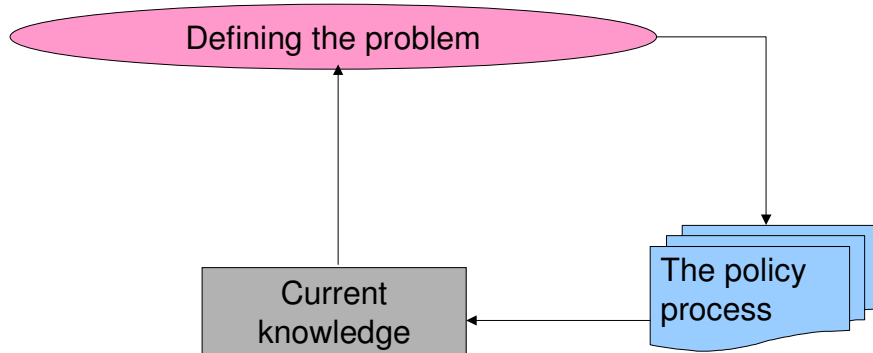
al 1992; Edwards and Stein, 1998). While drawing on the insights of these earlier works, this paper adopts a more directly *policy-focused* perspective.¹ The objective is to provide a *basis for dialogue* on common pool resource management among stakeholders, in contexts where such resources are subject to contestation among multiple users and conflict between multiple uses.

The framework consists of a series of linked analytical stages. Its focus is to consider how problems are defined and, following their definition, how action and policy are formulated to deal with these problems. The basic principle behind the framework is that decision-makers draw on the state of current knowledge and understanding to ‘frame’ a specific problem. Following the definition of ‘the problem,’ alternative responses may be considered, and action and policy formulated by those who have the authority to deal with these problems. Each stage of consideration of the responses entails repeated reframing of the problem and checking its assumptions and consequences. This iterative procedure draws on current knowledge and understanding to consider the implications of policy, but serves also to update current knowledge and understanding, as feedback into the system.

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Figure 1 - Analytical Framework

Analytical framework for dialogue on common pool resource management



The framework aims to promote dialogue, recognising that the *legitimacy* of decision making on the commons may itself be contested. To this extent, the use of the framework by different policy communities and decision makers is likely to reveal differences in their understanding of the key issues and problems, including (in many cases) the definition of the resource management issue itself, differences that are often hidden in policy discussions. By making explicit the different perspectives of stakeholders who are using this common analytical thought process, the framework hopes to facilitate better-informed communication and negotiation over policy alternatives.

2. Policy Making for Common Pool Resources – Power and Politics

Much common pool resource policy-making starts from an inadequate consideration of the specific problem that is being addressed. There is an assumption that problems themselves are usually self-evident, whether they be of resource depletion or environmental degradation, lack of appropriate institutions for management, or conflicting claims over resources.

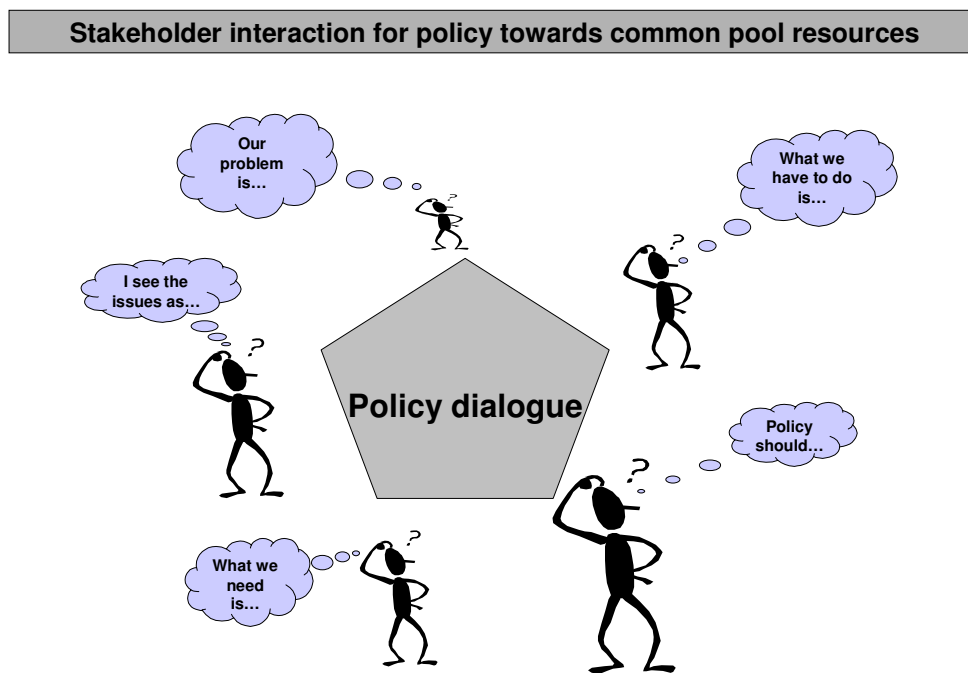
However, what may be seen to be a problem by one group of resource users (such as official perceptions about the ‘illegal’ use of state forests for fuelwood by local villagers) may be seen as inalienable basic needs and entitlements by others (such as non-governmental organisations and advocacy groups working with such villagers).

The difficulty here is that assumptions, knowledge and understanding that define the policy problem may themselves be contested. Furthermore, it is this aspect of the policy process that may be most opaque, since it is rarely explicitly scrutinised by decision makers. The problematic nature of policy discourse, narratives or storylines has been much emphasised in recent analyses of policy-making (Leach and Mearns 1996, Dryzek 1997). The existence of divergent views about the nature, status and tenure of resources at local level, and between local and state actors, is also clear from the literature, particularly on political ecology (e.g. Peet and Watts 1996, Rocheleau 1996, Adams 2001).

This paper argues that an explicit consideration of the assumptions and knowledge that contribute to the framing of a policy problem by a specific set of decision-makers helps make the decision making process more transparent. Our analytical framework seeks to do that. However, we also recognise that assumptions and knowledge often differ *between* different policy/decision-makers, and that these differences can lead in quite different policy

directions. To this extent, the framework is intended to be used by stakeholders at every level of the policy process, from local users to national bureaucracies to international donors, to analyse the same underlying dynamic processes of change.² By making stakeholders adopt a common conceptual thought process to examine a common problem, the framework hopes to reveal differences in knowledge, understanding, preconceptions and priorities which are often obscured in the policy dialogue. It is precisely when different users (of different sizes and operating at different levels) reveal different interpretations of key issues that the framework will be most powerful.

Figure 2 - Stakeholder interaction



This paper argues that *all* policy relevant stakeholders are *capable* of employing the analytical thought process that has been proposed here, but also suggests that stakeholders and their analytical processes are likely to be differentiated. The framework recognises such

² 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

pluralism, and does not seek to privilege the views or analytical abilities of any particular set of policy actors. What is important is to emphasise that the framework hopes to promote dialogue between stakeholders by making analytical differences transparent, but does not provide any magic bullet that resolves often-intractable conflicts between diverse stakeholders over resource use. Techniques for conflict resolution, negotiation and management form an important further dimension of the policy process, but this is beyond the scope of the present analysis. 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 trade-off analysis to enhance the decision making process.³

The paper does not dwell on what the definition of ‘policy community’ is. This is not because this is unproblematic. The power relations inherent in privileging particular interpretations of knowledge, theory or policy are intensely political and contest-riven. The purpose here, however, is not to ask *who should* decide. Rather, the concern is with *how* knowledge affects the framing of a policy issue, and a consideration of potential response options. For decision makers who are actually using the framework in any particular context, issues relating to their own legitimacy and standing are absolutely central. Other stakeholders may contest their authority and representativeness, and there may be alternative decision makers who would wish to privilege their vision for the resource. 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 in any *a priori* fashion. This will clearly be determined by the local context, especially through a process of political negotiation and bargaining.

framework is one that all sorts of decision makers should be able to engage with.

To this extent, the framework suggests that decision and policy-making are a political process, and not technically deterministic. The framework is not an optimisation mechanism for identifying economically or politically efficient policy choices, which can then be implemented. A political process determines the identity, as well as the legitimacy, of policy 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;

It is easy to list such a selection of possible resource managers. However, this implies that such discrete and identifiable groups, individuals, organisations or fora exist, and that these can be supported, negotiated with or informed. Sometimes, identifying decision-makers may

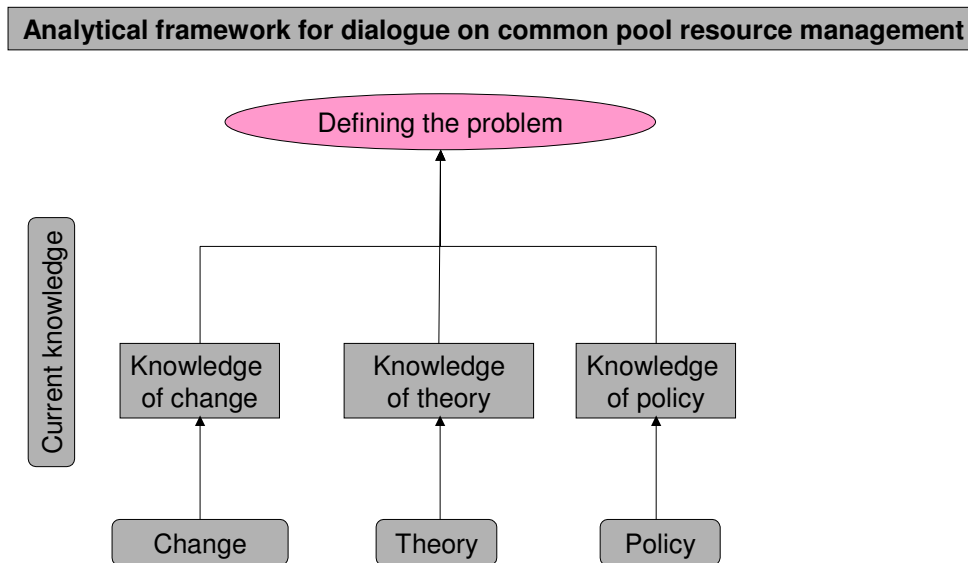
³ It is worth pointing out that schemes which offer technical means of resolving stakeholder conflict often simply subsume the power struggles into the decision-making processes. For instance, Multi-Criteria Analysis ultimately hinges on how different options and choices are weighted, which are likely to be contested decisions.

itself be contentious and the source of considerable conflict. By explicitly focusing on the way in which specific decision-makers define the decision problem, and consider possible responses to it, it is hoped that the present analytical framework will provide a basis for dialogue among these diverse and potentially conflicting policy communities, and help them to confront issues concerning their own legitimacy and authority.

3. Defining the Problem: Current Knowledge and Understanding

This paper suggests that one way of analysing conflict over common pool resource management policy is through a recognition that different stakeholders often have quite different interpretations of what it is that policy is seeking to address. The principle behind the framework that is presented here is that stakeholders draw on their current knowledge and understanding to cognitively frame a specific common pool resource management problem. Ideas about resource dynamics (change), theory and policy are all filtered by the various actors involved to produce particular interpretations of the situation as well as specific ways of dealing with it.

Figure 3 - Defining the problem



Change and resource dynamics

Social, economic, political and environmental changes are part of an on-going dynamic between people and their resources, and this paper refers to these forces collectively as *drivers of change*. These are numerous, and range from the local to the global in scale. In a similarly motivated analytical paper, Edwards and Stein (1998, p. 366) refer to such drivers as ‘contextual factors’ that “include dynamic forces based remote from the resource management regime.” The drivers that are most relevant to a particular resource-use situation are likely to be quite specific, and there is no suggestion here that our listing of drivers is universal or exhaustive. They are significant, however, in defining the particular situation within which policy towards common pool resources is to be considered.

Processes of Change describe the transformation in resource management regime (e.g. exclusion), in economic activity (e.g. demand for common pool resources) or in ecological productivity (supply of common pool resources) that take place as a result of these drivers.⁴

We suggest that all drivers of change can be understood to impact on common pool resources through four basic processes (Adams, *et al*, 2001). These are:

1. Exclusion from common pool resources, increasing or decreasing;
2. Volume or rate of use of common pool resources, increasing or decreasing;
3. The creation of new demands for common pool resources;
4. Supply of common pool resources given the level of demand, increasing or decreasing.

Although change is ubiquitous, stakeholders' knowledge of change derives from a variety of sources. At the very local level, knowledge of change may be largely through experience and direct contact with the drivers and processes that are affecting resources and their relations with people. This experience may be that of resource users themselves (often referred to as 'local' or indigenous knowledge), or may be generated through a process of micro-level empirical research (such as case studies, participatory and action 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 (remote sensing; satellite imagery; censuses; sample surveys). Decision makers and stakeholders are likely to differ in terms of their access to, and understanding of, these diverse sources of knowledge about change. What is relevant for the present framework is to recognise that it is an actor's

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.

knowledge about change that is used to frame 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 directly 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 theory about the commons and their use that informs decision makers when they consider a specific resource use situation. 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 the theory is data driven (or grounded), but it 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, which

often do not communicate well with each other, and are debated, formed and built up in different arenas. The framework recognises the catholicism of theoretical traditions, but emphasises that theoretical knowledge does contribute to the way in which actors perceive specific resources, and frames possible policy options in response to these perceptions. Furthermore, the framework recognises the contested nature of theoretical knowledge, especially when different actors are seeking to define a problem for policy towards common pool resource management.

Policy Context

Most common pool resource management situations do not operate in isolation from a wider context of public policy. Thus, for instance, policies towards mining, irrigation, power, tourism, wildlife use and hunting, exports of wild products and animals, disease control, among others, 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 knowledge forces stakeholders to consider resource uses that are compatible with these wider policy processes. Importantly for the present analytical framework, knowledge about policy is likely to contribute to the way in which a stakeholder perceives a particular common pool resource management situation, 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 define who the 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 poorest sections of society when considering potential resource management options. Further, policies towards resources (such as a ban on the exploitation of particular species) may also define the major resource uses that are to be considered, actual and potential, and the trade-offs between these.

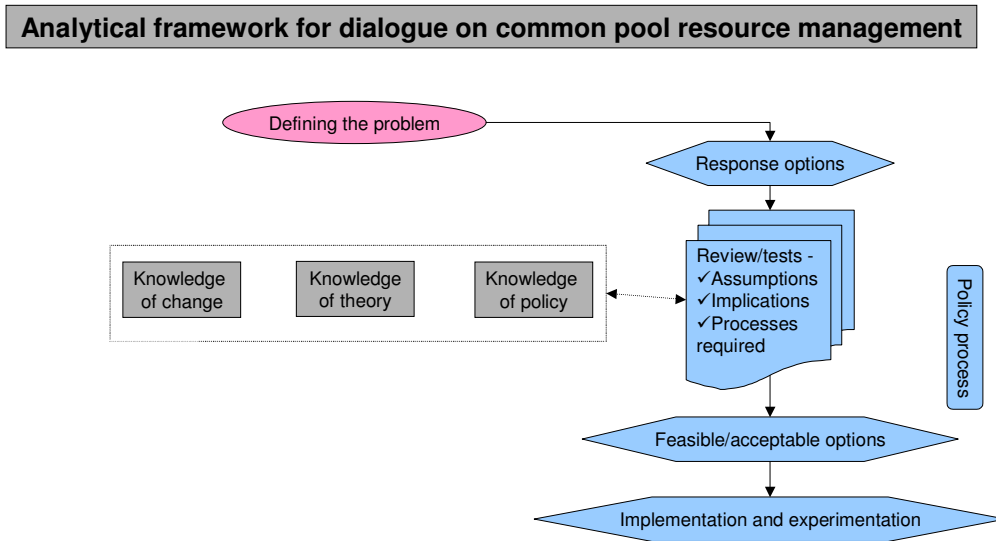
While many of the perceptions about policy are likely to derive from decision makers' knowledge and understanding of change and dynamics, as well as their theoretical knowledge, what the framework is seeking to highlight is that there is an independent role for policy perception in the way in which common pool resource management problems are defined. For instance, there are many narratives that help frame the cognitive understanding of problems and potential policy responses (Leach and Mearns, 1996). 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. Equally, there are ecological narratives that dominate decision processes, such as the 'desertification' and deforestation literatures. The power of such narratives is that they force decision-makers to perceive problems in a partial, or incomplete manner, and to frame responses on the basis of this imperfect cognitive understanding. Furthermore, as with the other inputs that help define common pool resource management problems, knowledge about policy and policy-narratives differs between stakeholders, and may help explain differences in perceptions about priorities for action.

4. The Policy Process

The framework suggests that the policy process can be understood as a response to a specific perception of a common pool resource management problem. The framework suggests that for any stakeholder or decision maker empowered with defining resource use options, a systematic consideration of the alternatives should comprise two distinct stages - *reviewing and testing options* and *implementing action*. Every element of the policy process - reviewing the options available, examining assumptions and implications of the policy and considering the processes involved in implementation - should be reflexive. This entails an iterative process of defining and framing the problem in the perceived light of knowledge and understanding of change, theory and the policy context. Every step in the process involves the need for decision makers to recognise the way in which this knowledge frames and affects their choice of policy options.

In effect, the right hand side of the framework involves a description of how policy *ought* to be made, given that policy makers' perceptions about resource use problems are defined in the ways that have been discussed in section 3 of this paper. The framework, thus, can be seen as a normative guide to decision making. Since much real world policy does not explicitly engage in the thought processes that are discussed here, this part of the paper should not be read as a description of how policy towards common pool resources *is* actually made.

Figure 4 - The Policy Process



Reviewing and testing

Reviewing and testing can be further broken down into three parts: **evaluation** of possible response options; **testing** these options in terms of their *assumptions*, *implications* if implemented, and *processes required* to achieve change; and **decision making** about feasible/acceptable policy responses. The process of review and testing relies on the decision makers' knowledge and understanding of change, theory and policy. Furthermore, in the course of subjecting these options to careful scrutiny, it is possible that the decision maker will update their state of knowledge, which would feed back into the framework.

The reviewing and testing process is not necessarily the domain of 'expert' or 'government' activity (although perhaps this sort of commentary on the policy process will be most

accessible, in this form, to such actors). The framework is designed to structure the thought process of any group. What is important is 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 response options: Given the way in which a particular problem is understood and framed, the decision-maker can choose one of four possible response options:

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

Test 1 - Assumptions demanded by the option: Examine the assumptions that are necessary for each policy option to be successful. All policy options will inevitably have underlying assumptions concerning:

- 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? If not, is the proposed policy workable? If not, think again.

Test 2 - Implications of the option: Examine the implications of each policy option in terms of the further action required (e.g. to compensate excluded users). All policy options will inevitably have important implications:

- Who loses from the policy, and how can they be compensated?
- How far will the policy meet the aspirations of resource users in the future, particularly raised expectations and changing perceived needs?
- Will the proposed policy create political opposition (from disenfranchised former users, from aspirant future users, e.g. local business leaders), and if so, can the political support necessary for success be built up?

The decision maker needs to consider whether any anticipated political opposition is acceptable. If not, is the proposed policy workable? If not, think again.

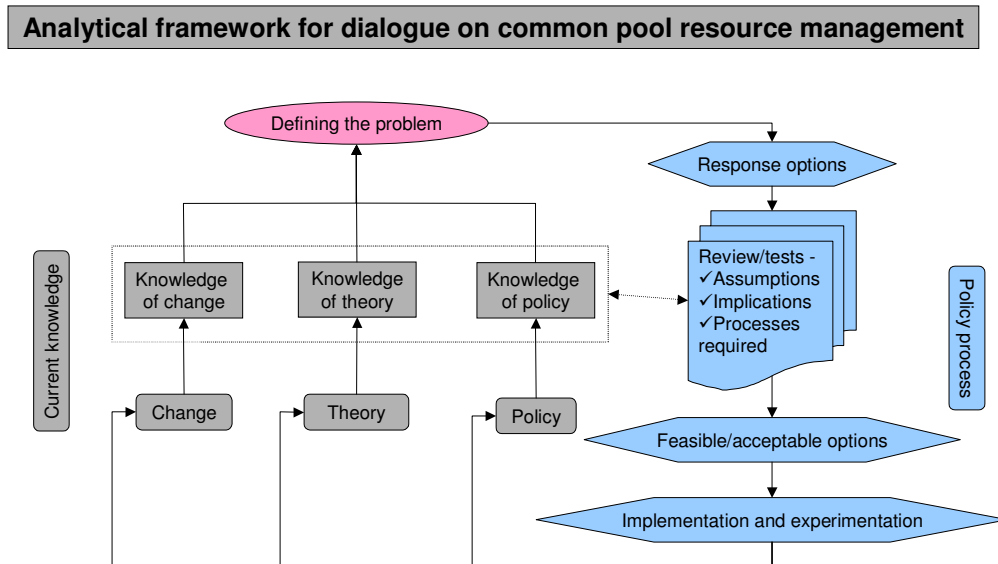
Test 3 - Processes required to implement the option: Examine the processes required to achieve the proposed policy change. For each policy option, certain processes will be needed to achieve the proposed change. A series of questions need to be asked:

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

The decision maker needs to consider whether the processes required to achieve change are feasible. If not, is the proposed policy workable? If not, think again.

Identification of feasible/acceptable options: In light of these tests, consider which policy options are acceptable and feasible to, and for, 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 in consultation with them. 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 a particular option is seen to be feasible and acceptable, decision makers should consider implementation. If it is not feasible and/or acceptable, either the option should be ruled out altogether, or decision makers should rethink the strategy by returning to the key decision node and developing a revised understanding of the problem.

Figure 5 - Implementation and feed-back



The implementation of specific policy measures should be seen as a process of experimentation, as part of a constant and dynamic cycle of learning. Once policy is implemented, it feeds back into the system as a new driver of change, as well as contributing to theoretical understanding and knowledge about policy. There is an obvious link to changing the empirical dynamics of the system, hence to the drivers of change. Equally, the adoption of policy and learning from its implementation enhances theoretical knowledge (as, for instance, reflected in the process by which Ostrom and others in this tradition have developed design principles for common pool resource management). Implementation may also, quite powerfully, impact on or create dominant storylines and narratives that feed back into the system in a self-affirming manner. These are often accepted or adopted relatively uncritically by decision-makers without being rigorously tested or empirically verified. This

paper argues that the conceptualisation of policy intervention as a process of experimentation encourages a more reflexive approach to implementation.

5. 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. The definition of a problem allows decision makers to consider alternative policy responses. The framework 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 differentially-empowered agents at any level of the decision process.

Conventional policy making often has an elite bias which fails to recognise these plural analytical capabilities. The present framework does not claim to be a panacea for decision making for common pool resources. If the policy process precludes dialogue, such a tool is likely to be of limited use. Even in a more inclusive policy environment, the incompatibility of alternative resource uses and users suggests that conflict is inevitable, and that some interests are likely to be dissatisfied. The paper provides a framework for a policy process which is premised on, and contributes to, effective and reasoned dialogue between all stakeholders.

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