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# Consensus building and natural resource management: a review

Roger Lewins

## Abstract

The recent interest in consensus building for improved natural resource management has its origins in several related fields of theory and practice. Concerns that centralised states seemed ineffective in dealing with local and global environmental problems lead to a new emphasis on decentralisation and subsidiarity. Since the mid-1980's this has resulted in the growing interest in citizen or "non-expert" groups and their potential role in new modes of environmental governance (e.g. Local Agenda 21 after Rio 1992). In the development context, the effort to build consensus within local institutions resonates with the demand for resilient co-management partnerships, collaboratively designed through wide participation and emphasising inclusion and equity. The belief is that new institutions are likely to be sustainable if the interests (rather than positions) of all stakeholders are accommodated. The sustainable livelihoods approach can provide a benchmark for the design of processes and management plans in this regard.

The local or traditional processes of conflict resolution that operate in the developing world tend to function to preserve the status quo, or maintain "*business as usual*". This review specifically highlights the processes that may be adopted by an external third party to build consensus between stakeholders (sometimes with apparently conflicting interests) in order to strengthen development initiatives within natural resources management (NRM).

Several influential approaches to consensus building are presented in detail – spanning the origins of alternative dispute resolution in the developed world, to their modification and use in NRM in the developing world. This latter group demonstrate how some forms of consensus building (from both corporate and traditional, indigenous contexts) can successfully be combined with tools commonly used within participatory rural appraisal (PRA) and participatory learning and action (PLA). The various approaches may meet their objectives to varying degrees, but those processes that can build social capital and promote collective action through mutual learning are more likely to provide sustained benefits - effects that may outlive the activities and external support of development projects and programmes.

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## Key words

consensus, conflict, dispute resolution, natural resource management, social capital



## **Introduction**

The purpose of this literature review is to provide a synthesis of the evolution, theory and practice of consensus building and its application to natural resource management (NRM). The review presents a wide range of academic approaches and case study accounts of consensus building and comprises five sections:

- Section 1 frames the review by providing an outline of the terms and definitions commonly applied to situations of “conflict” and “consensus”. This section presents a simple and widely used model of conflict to view consensus and explain the role played by individual and collective motivation.
- Section 2 examines the evolution of consensus building methods within the developed world, from ad hoc attempts to democratise the resolution of local disputes, to a series of recognised methods and approaches applied to corporate and civil cases. The use of game theory and mathematics in designing and understanding consensus building is briefly examined.
- Section 3 examines four specific approaches to consensus building in more detail: Alternative Dispute Resolution (ADR), Soft Systems Methodology (SSM) (Checkland, 1981; Checkland and Scholes, 1990), the relevance of SSM as Agricultural Knowledge Systems thinking (Röling, 1992; Salomon and Engel, 1997) and ADR as Managing Conflict and Building Consensus as applied to rural livelihood projects (Warner, 1999).
- Section 4 outlines the character of indigenous approaches to consensus building in the developing world and considers the potential for adapting Western approaches to the development context. Current and potential methods for the evaluation of consensus in NRM projects are considered and the relevance of consensus building within the sustainable livelihoods framework is examined.
- Section 5 presents three case studies of consensus building methods applied to NRM - including forests, wetlands and fisheries in South Asia and elsewhere.
- Glossary of terms
- References

## Section 1 Consensus and Conflict

The extensive literature offers a diverse interpretation and treatment of conflict and consensus but for the purposes of this review it is possible to identify a single and flexible working definition of consensus that accommodates several theoretical approaches and relates well to issues within NRM.

Although it need not be a corollary of the absence of conflict, it is useful to introduce the notion of consensus by first considering simple theoretical approaches to conflict. With particular reference to NRM, conflict can be regarded as a situation where strong and persistent divergence of positions (needs, values etc.) among users and other stakeholders presents an obstacle to managing a specific area and/or natural resource (Rijsberman, 1999). However, conflict as defined here need not be static, permanent, or necessarily negative in the longer-term. Many authors have stressed the positive nature of conflict as a catalyst to adapting failing institutions and see conflict as a necessary precursor to the evolution of appropriate social and political structures for improved management or governance. Powelson (1972), for instance, distinguishes between negative “conflict over consensus” where primary societal objectives are contested and positive “conflict within consensus”, where it is merely the best means to achieve commonly respected objectives that are contested (see “The Management of Conflict in Tropical Fisheries” DFID Project R7334 for a comprehensive treatment of conflict).

Conflicting parties tend to defend their own interests but the duration, intensity and end-points of conflicts are a reflection of other, more subtle motivations of the individual or group. Simplistic theories of conflict have assumed self-interest and individualistic behaviour but the “dual concern model” (Pruitt and Rubin, 1986) incorporates the interest each party has for the welfare of the other, and predicts five potential end-points to conflict (Figure 1.).

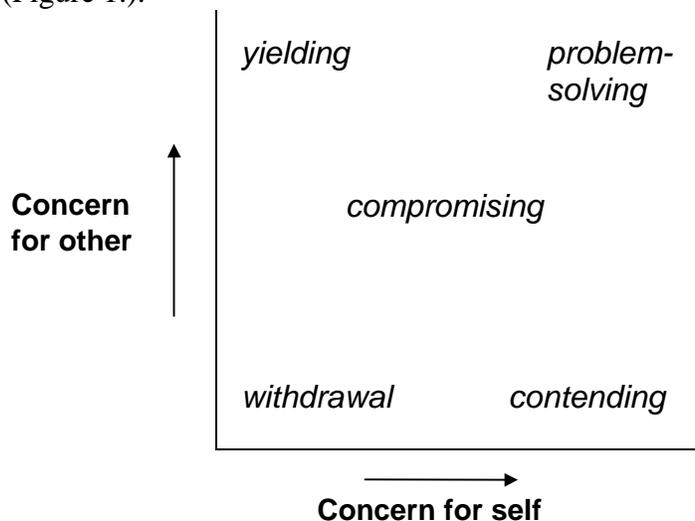
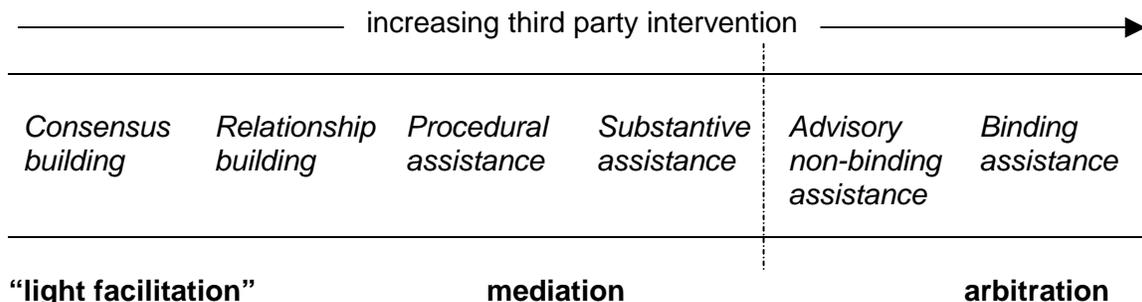


Figure 1. The dual concern model with the five basic responses to conflict (adapted from Pruitt and Rubin, 1986).

Of these five end-points, the position or outcome of “problem-solving” is the most desirable and the most likely to result in long-term solutions to conflict. The product of successful problem-solving is consensus i.e. agreement whereby *all* stakeholders perceive their position to be strengthened (Warner, 1999).

If this outcome does not evolve endogenously, the efforts of a third-party may be required. There are essentially two pro-active responses to conflict – attempts at resolution or attempts at management. Conflict resolution is only achievable where the fundamental interests of all groups are addressed and satisfied and the sources of conflict are permanently removed (Miall *et al*, 2000). Conflict management, however, depends on limiting or directing the course of conflict by actively enhancing the capacity to deal with economic, environmental, social or political change. Rijsberman (*ibid.*) describes a continuum of conflict management approaches that reflects the nature of intervention and the desired final impact (Figure 2.). The approaches range from consensus building, where the role of a third party as mediator may be negligible and outcomes or agreements may be flexible and informal, to “binding assistance”. Unlike consensus building, which may emphasise participation, binding assistance depends on a top-down process where a third party may act as an arbitrator as opposed to mediator<sup>1</sup>. Outcomes here are often termed “agreements” and tend to be legal or contractual in nature.



## Section 2.1 The Evolution of Consensus Building Approaches

The majority of debate and practice relating to consensus building has centred on public or corporate dispute resolution in the developed world. Because the common aim of these approaches is to avoid usual legal processes, they are collectively known as alternative dispute resolution (ADR, see Section 3.1). Whereas litigation may be described as a process of “*decide, announce, defend*” (Environment Council, 1995), ADR attempts to create value and build consensus.

Although court-avoidance is now a recognised function of ADR, it grew out of an American social movement in the 1970’s attempting to develop new and transparent ways to reach local agreement. Community groups in the U.S. challenged the traditional conventions of debate and voting and replaced them with an emphasis on informal, flexible relations between participants. The goal of the entire process shifted from one of reaching a single decision in time (a motion in favour of one party at the expense of another) to that of collective agreement and improved relations between participants.

Before ADR, local groups in the U.S. had modelled their decision-making on Robert’s Rules of Order. Colonel Robert published this method in 1870 in response to the escalation of disputes and conflict arising from the chaos of the Gold Rush in San Francisco, and the rules have since performed a useful function in setting a standard method for group decision-making (Estes, 1989). However, Robert’s Rules were based on the procedures of Congress and merely transferred majority voting and complex procedural rules to local groups and scenarios outside government. The assumption was that majority rule was necessary to “restrain the individual” in the best interests of the group (Susskind, 1999). In practice, the complexity of Robert’s Rules ensures that only the convenor (not the stakeholders) really understands proceedings, and the ignorance of the participants makes the debating process prone to manipulation. In the 1970’s, local groups and organisations started developing alternatives to Robert’s Rules that were more inclusive and better suited to the ideologies of the civil rights movements of the time (freedom of speech, awareness building, social integration etc.).

In 1976, the community-based experiments of the early 1970’s were transplanted to a regional context with the San Francisco Community Boards Programme where various forms of ADR were adopted for school-based mediation and for use within “neighbourhood justice centres”. ADR was then adopted by business during the 1980’s as firms, seeking to avoid litigation costs, began to internalise dispute resolution (see Soft Systems Methodology, Section 3). Since then, the use of ADR has grown and evolved into nationally recognised and institutionalised methods for dispute-resolution, particularly in the U.S.<sup>2</sup>.

Development thinking has mirrored these trends, first by stressing the importance of local empowerment and community-based solutions, and then by recognising a need to build consensus to achieve collective action. The majority of this review takes up these approaches to consensus building.

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<sup>2</sup> Federal district courts have voluntarily adopted ADR approaches in order to reduce costs and delays in civil litigation, for example.

## **Section 2.2 Theoretical Approaches to Consensus Building**

A large sub-section of the research on consensus and conflict adopts a mathematical approach in attempting an understanding of the cause, stability and likelihood of resolution by ascribing certain weights and scores to behaviours (and so to outcomes) in “games”. Pruitt and Carnevale (1993) explain how negotiation relates to games of moves in two ways: 1) games of moves can be solved by re-negotiating the rules and attempting dialogue to reach agreement and; 2) the strategies in games of moves (concession-making, position-taking and the withholding of information) are comparable to the tactics employed in negotiation.

Conflict resolution has too often been viewed as a zero-sum game where the outcome of negotiation is to shift benefits (sovereignty of territory, rights to practice traditional livelihoods etc.) from one party to another. By contrast, consensus building is better represented as a positive-sum game because the total size of the benefits to be gained is not fixed, but can grow according to the quality of the process.

The simplest and most extensively researched example of a non-zero game is the Prisoner’s Dilemma (Dawes, 1973) which neatly represents the persistence of conflict and the entrenchment of counter-intuitive positions. In the game, two prisoners each have two options - to co-operate (remain silent) or to defect (inform on the other). The reward structure of the game is such that the rational choice for each player is non-co-operation, even though the players realise co-operation would provide a greater total pay-off. The prisoner’s dilemma mirrors negotiation in that the players are selfishly attempting the easier option to exploit one another, but this is tempered by an understanding that co-operation (consensus) may be preferable. According to Lax and Sebenius (1986) the “negotiator’s dilemma” is choosing whether to contend an issue (“claiming value”) or to solve a problem (“creating value”) i.e. to accept immediate gains or risk expending time trying to increase total benefits through dialogue. However, the social trap of this dilemma depends on the game being played only once. Axelrod (1984) has demonstrated how players can learn through repetition and that a combination of “nice” and “nasty” responses will eventually evolve into a co-operative strategy.

More elaborate theoretical games attempt to score the likelihood of conflict resolution with respect to starting conditions, the behaviour of players and the context of dispute. For instance, Hackett et al. (1995) analysed conflict resolution in common property resources in relation to the heterogeneity of endowments (differences in access to benefits) and the flow of information (i.e. a “stark” institutional setting versus face-to-face communication). Although models such as these may provide insights into the relative importance of the factors surrounding conflict and successful negotiation, their usefulness is limited because it is difficult to ensure that the rules of the game and the scoring of outcomes reflect the underlying motivations and norms within real conflicts. In the above study, for example, heterogeneities in initial endowments were found to have less influence on the ability to craft joint surplus maximising agreements (consensus or win-win outcomes) than experience from field observation would suggest. Hackett et al.

go on to acknowledge that their laboratory construction of conflict assumes access to complete information and the reversibility of outcomes and decisions - conditions unlikely to be met in conflict within NRM.

Mathematical approaches to understanding conflict and reaching agreement need not be abstract or theoretical, though. Multi-criteria analysis (MCA) has been used in attempts to mathematically reconcile the diversity of stakeholder opinions and objectives regarding the management of natural resources (see Mardle and Pascoe (1997) for a comprehensive review of applications in fisheries). The various management objectives are weighted (i.e. ecological, social, economic) and best-fit management strategies are calculated by applying sets of pre-designed algorithms. However, the trade-offs calculated by MCA rely on “satisficing” (essentially identifying strategies by upsetting the least number of stakeholders) and as such represent “finding compromise” rather than “reaching consensus” through problem-solving (see Figure 1.). In addition, MCA is still largely experimental in the development context and has only been applied where policy and management options are tightly framed and where large and reliable sets of data are available.

Brown et al. (2000) have applied a multi-criteria approach to decision-making within the Buccoo Reef Marine Park, Tobago (DFID Project R7408). Four potential policy scenarios were tested with respect to the environmental, economic and social objectives of the various stakeholder groups. Stakeholder analysis was used to identify relevant actors for consultation and objectives were quantified and weighted with techniques derived from environmental economics, social analysis and ecological modelling. However, processes such as these are dependent on respondents having access to complete information and having a good and accurate understanding of the potential impact of alternative management scenarios on their livelihoods (employment, earnings, etc.). In addition, the development of best-fit management plans through balancing stakeholder objectives does not equate with consensus building – especially if the level of understanding between stakeholders and their underlying motives does not increase (see for instance the review of Managing Conflict and Building Consensus, Section 3.4).

A related mathematical tool is Q-methodology, developed by the physicist-psychologist William Stephenson in the 1930s. Q-methodology uses factor analysis to analyse and represent the diversity of views held by stakeholders in any given situation and can be used to produce typologies of subjective viewpoints. Steelman and Maguire (1999), for example, have undertaken an extensive review of the environmental preferences and beliefs of residents within the Chattooga watershed in the US. Initial interviews and written responses were used to develop 55 “Q-sample statements” and respondents were asked to rank the statements from “disagree” to “strongly agree”. QMETHOD software was used to analyse the range of responses and three distinct management philosophies were identified: 1) minimise human disturbance, 2) active management for timber and 3) maintain access and minimise impact. In addition, several consensus statements emerged (all respondents agreed that the water resource, mixed forest and hardwood forest are crucial for the residents of the watershed). Steelman and Maguire intend that their findings influence the US Forest Service in policy development by:

*“...1) defining different publics with which the agency can consult as it shapes its management direction, 2) identifying public viewpoints and perceptions, 3) providing sharper insight into the public’s preferred management directions, 4) identifying criteria that are important to the public, and 5) explicitly outlining areas of consensus and conflict.”*

In summary, the most useful contribution Q-methodology and MCA can make is in presenting the range of stakeholder perspectives to policy makers and to the stakeholder groups usually excluded from formal decision-making processes. Consensus may be fostered if these studies are carefully designed and incorporate further inter-stakeholder dialogue *after* analysis.

### Section 3.1 Alternative Dispute Resolution

Although the nature of ADR processes vary according to their setting (civic environmental or corporate dispute etc.) they share a common emphasis on informality and direct participation by all participants and as a result, compliance and satisfaction with ADR negotiated settlements tends to exceed those reached through formal legal means. ADR achieves this by reducing the emphasis on written rules and evidence to a minimum, and by encouraging face-to-face relations between the participants (exactly the characteristics of ADR that make it interesting in the context of consensus building and NRM in the developing world).

There are six basic ADR models, representing the full spectrum of third party intervention (Center for Democracy and Governance, 2000; Scialabba, 1998). Although it is convenient to present these models as distinct approaches, the nature of any one process of resolution may vary over time, with respect to certain stakeholders, or in relation to sub-sets of problems. Brown et al, (1995) use the analogy of a mountain to represent this spectrum and the desired end-point of self-negotiation as its summit (see Figure 3.):

*“At the summit of the mountain is co-operative teamwork, with the goal of achieving a synergy of solutions of mutual advantage to all interests. At the base of the mountain, from where any climb has to begin, are isolation, the decision not to engage in the debate at all, and confrontation, in which positions have been adopted in fixed opposition to one another.”*

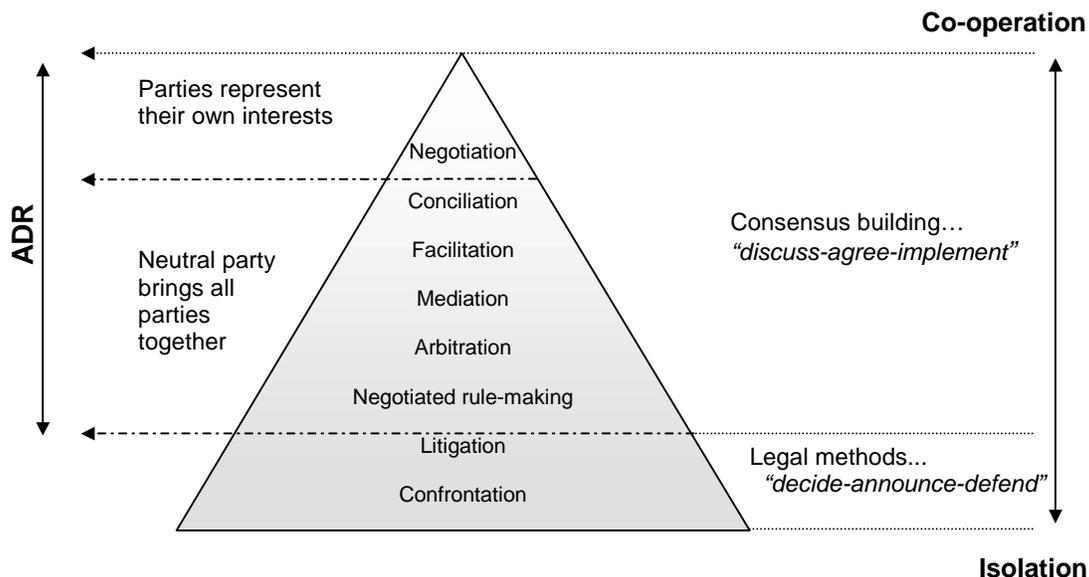


Figure 3. The models of alternative dispute resolution (from Scialabba, 1998).

*Negotiation* – negotiation is the most common form of dispute resolution. All parties in the dispute voluntarily seek a mutually acceptable solution and the disputants are free to control the process and eventual outcomes. Each party has full responsibility to present

and defend its own interests.

*Conciliation* – a process whereby a third party meets with disputants separately in an effort to promote mutual understanding and future dialogue. The outside party is involved at the beginning of the process, or later only in a supportive role (as record-keeper, administrator etc.).

*Facilitation* – the third party here is more actively involved but, as in conciliation, is not expected to influence outcomes by volunteering ideas or actively moving parties towards agreement. However, facilitators may play a supportive role in offering advice to groups or individuals involved in the process.

*Mediation* – a flexible process in which disputants meet together or in turn, with a neutral third party. The mediator has no power to broker agreement or directly influence outcomes but may have a role analysing the conflict and identifying underlying interests or best alternatives to negotiated settlements.

*Arbitration* – an adjudicatory process where disputants present their arguments, positions and interests as evidence and an independent party casts binding or non-binding judgement. This is the obvious alternative to court proceedings but crucially differs in that disputants can choose the identity of the arbitrator. A hybrid process known as “med-arb” combines an early emphasis on negotiation and the supportive approach of mediation with the power to issue a final decision if none is forthcoming.

*Negotiated rule-making* – this process is increasingly applied to large-scale public disputes. Representatives from each party are invited to present their case and negotiate changes in existing management rules. This principle is supported in Chapter 28 of Agenda 21 (Scialabba *ibid.*)<sup>3</sup>.

By introducing consensus building to a new audience and set of users, ADR has encouraged a proliferation of approaches and progressive thinking on dispute resolution. A recurrent theme in ADR (and a mantra for facilitators and mediators) has been the emphasis on understanding disputes from the perspective of the contesting parties. In order to gain a constructive outcome such as consensus, any third party must understand what motivates the groups in the dispute. The need to separate positions from interests is repeatedly stressed in the ADR literature. In their influential book “*Getting to Yes*”, Fisher and Ury (1981) state:

*“Interests motivate people; they are the silent movers behind the hubbub of positions. Your position is something you have decided upon. Your interests are what caused you to so decide.”*

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<sup>3</sup> “Through consultation and consensus-building, local authorities would learn from citizens and from local, civic, community, business and industrial organisations and acquire the information needed for formulating the best strategies.” (quoted in Scialabba, 1998.)

*Reconciling interests rather than positions works for two reasons. First, for every interest there usually exist several possible positions that could satisfy it. All too often people simply adopt the most obvious position....”*

Recently, these principles have been applied as “alternative conflict resolution” (ACR) in attempts to build consensus within NRM in the developing world<sup>4</sup>. ACR also emphasises dialogue and an improved understanding of underlying interests, but tends to be applied to smooth the implementation of NRM development projects (see Section 3.4). For example, Borrini-Feyerabend (1997) outlines the principles of negotiation and mediation for project personnel involved in wildlife conservation but initiatives such as these are obviously externally-driven. It is questionable to what extent mutual learning occurs between local stakeholders and the convenors of the process, and there is a danger that mediators define the “acceptable“ outcomes, themselves.

Some limitations of the ADR models are highlighted when considering their application in the developing world. The key theme of ADR is one of pro-active engagement and the concerted effort of all parties to seek an agreement. In some respect, the quality of the process will reflect the participants’ understanding of ADR (their rights, knowledge of procedure etc.) and the ability of the participants to maintain momentum and dialogue. Any imbalance in skills, knowledge or confidence is likely to weaken the likelihood of reaching lasting consensus. The ability of ADR to overcome the power imbalances that characterise much conflict in the developing world is debatable and if disenfranchised groups are proactively supported there is a danger of creating “coerced harmony” that ultimately works to maintain underlying problems (Scialabba *ibid.*). ADR requires a considerable investment in institutional and financial support and if realistic approaches are not adopted the poor are likely to incur high opportunity costs through investments of time in the process.

### **Section 3.2 Soft Systems Methodology**

Soft Systems Methodology (SSM) was developed in the 1970's in response to the apparent inability of existing systems approaches to deal with human and social issues<sup>5</sup>. Previously, “systems engineering” (SE) had been successfully applied to problems within so-called “hard systems”, where the components of the system are easily identifiable, neatly bounded, and where the desirable design or management goal is clearly defined. Attempts to transfer rigid SE to problem-solving in contexts such as business management have high-lighted the limitations of these approaches but have also helped to develop theory on the complexity of human-based problems and their resolution. A key point in the development of systems thinking was Checkland’s (1981) observation that

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<sup>4</sup> Traditional and indigenous approaches to reaching agreement may share marked similarities to Western ADR, however.

<sup>5</sup>A “system” can be considered any “...set of elements mutually related such that the set constitutes a whole having properties as an entity.....the whole may be able to survive in a changing environment by taking action in response to shocks from the environment”. (Checkland and Scholes, 1990).

these human problems (as products of numerous independent individuals with unique world views) are difficult to define or constrain and as such are better considered components or products of a “soft system”. In contrast, hard systems are easily quantified, “knowledge-rich” and predictable (Warner, 1997).

The emergence over the last two decades of the soft systems approach to problem-solving is a direct result of Peter Checkland’s pioneering work at the University of Lancaster in the UK. Checkland attempted to apply SE thinking to several case studies of corporate and government management, but in each case found the complexity of the issues to require a new and more flexible approach to problem-solving. According to Checkland and Scholes (1990), it is the unbounded character of soft systems and the diversity of perceptions and positions that characterise management problems and make them particularly difficult to resolve:

*“When Lancaster researchers tried to apply the methodology of systems engineering to ill-defined problem situations, they quickly found themselves in difficulties because the question: “What is the system?” and “What are its objectives?” were not answerable. What in fact made the situations ill-defined was that objectives were unclear and that both what to do and how to do it were problematical. With the intended methodology manifestly inappropriate, some fundamental rethinking was necessary”.*

Checkland approached human interaction and society as a soft system of individuals each interpreting the world differently and interacting in complex, changing and unpredictable ways<sup>6</sup>. In such systems, problems do not exist in isolation from people, but are shaped by them and may be influenced by strongly entrenched beliefs, values and positions. Soft system problems tend to be numerous and “messy” because they are difficult to disentangle and because the consequences of the problems are not well understood (Ackoff, 1969).

Checkland (1981) developed a step-wise and iterative methodology that in turn, describes the real world situation, devises explanatory models, debates their relevance and then implements changes to the system (Figure 4.). Stages 1 and 2 attempt to represent the management system as vividly as possible – to produce what Checkland calls “rich pictures” of the real world. It is important to describe both the design of management institutions (the “structure”) and the dynamics of management activity (the “process”). Stage 3 involves defining the key systems that appear to be central to the management situation. These definitions are intended to encapsulate the nature and character of these systems.

Stages 4 and 5 are key to the whole methodology. First, explanatory models of those systems seen as influential at Stage 3 are devised (Stage 4), and these are then “brought into the real world” and set against the situation as it seems to operate (Stage 5). These stages directly reflect Checkland’s emphasis on participation and negotiation, and are

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<sup>6</sup> What Checkland calls the Human Activity System (HAS).

deliberately designed to generate discussion and debate.

The debate will identify potential desirable and feasible changes<sup>7</sup> to the management system. Stage 7 then implements the suggested changes to the system, which, in turn, defines new problems that may be tackled by the methodology once again.

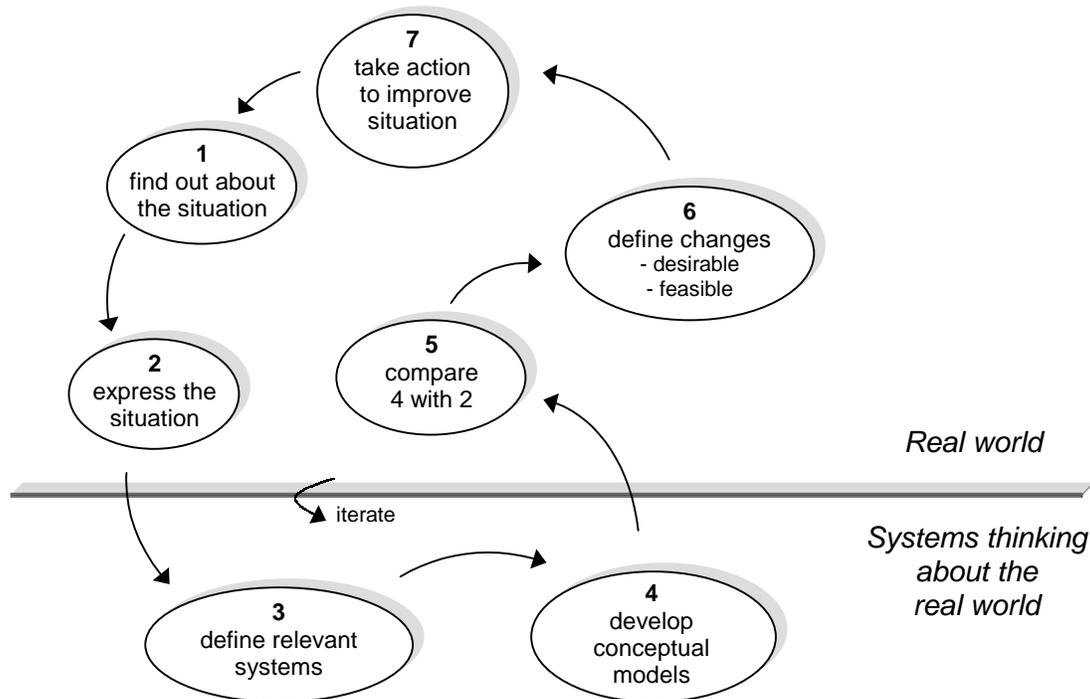


Figure 4. Checkland's Soft Systems Methodology in summary (adapted from: Checkland, 1981).

One of SSM's main contributions to thinking on consensus building is a philosophical one. In rejecting a reductionist and goal-oriented approach to problems-solving, and acknowledging the interconnectedness of problems, stakeholders and the effect of problem analysts themselves, Checkland justifies learning about the processes themselves, rather than searching for fixed solutions. SSM is more concerned with engendering discussion (through devising and debating the merits of alternative abstract models of the real world) than in finding solutions to pre-defined problems. This emphasis on learning and participation, and an acceptance of the diversity of values and positions, has influenced the design of consensus building approaches outside the sphere of business management in which SSM was originally developed and tested. SSM is applicable to any multi-stakeholder context (such as NRM systems) and its focus on dialogue and participation has led to its adoption in the development context as Agricultural Knowledge Systems thinking (Section 3.3).

<sup>7</sup> Desirable and feasible “..given prevailing attitudes and power structures, and having regard to the history of the situation under examination.” (Checkland, 1981).

### **Section 3.3 Agricultural Knowledge and Information Systems and Platforms for Negotiation**

Recent analysis of the process of innovation and networking within agricultural development and extension has emphasised the diversity of stakeholder perspectives and the speed of change in their relations and positions. The agricultural knowledge and information systems (AKIS) approach developed by Niels Röling and Monique Salomon (1992) and their colleagues at Wageningen Agricultural University in the Netherlands, recognises the need to understand and manage these dynamics for effective agricultural development. AKIS rejects the top-down and narrow target-group mentality to extension, places the onus on collective action and stakeholder input to NRM (Steins and Edwards, 2000) and, in moving from this technical approach to a knowledge-based approach, attempts an improved understanding of the role of social institutions in dissemination and learning.

AKIS focuses on the precursors to social innovation for successful agricultural development and stresses that successful development depends on “strategic consensus” - suitable institutions and patterns of interaction must be fostered (Salomon and Engel, 1997). A better understanding of the current synergistic system of linkages, the processes of convergence (the merging of positions and ways of thinking), and co-learning is required wherever the complexity and speed of change (social, economic, environmental change) creates conflict. This focus on the convergence of positions in agricultural extension reflects the diversity of objectives, perspectives and relationships within NRM generally, and suggests a wider contribution from AKIS to consensus building.

The AKIS work on agricultural extension has highlighted four determinants of success within management systems: 1) co-operation among the actors; 2) effective internal and external communications; 3) transparency and agreement among actors with respect to interests and objectives and; 4) the degree to which tasks are divided and co-ordinated within the system so that knowledge is shared (Salomon and Engel, *ibid.*). All four relate to managing institutions: the first three to relationships and the degree of consensus, the last to questions of structure and design.

The main emphasis here is of assuring good information flow and transparency and so enhancing the scope for consensus (a central tenet of Habermas’ Communicative Action (1987) - see also Section 2 on games). However, in order to achieve these four determinants, the various stakeholders must be assured access to suitable “*platforms for resource use negotiation*” - defined by Röling (1994) as statutory or voluntary decision-making bodies dealing with specific sets of NRM problems and representing interdependent stakeholders. Platforms here can be interpreted as formal or informal decision-making institutions.

The concept of “social learning” is central to AKIS and to much of the literature on platforms for resource use negotiation, in general (Steins and Edwards, 2000). Quoting Glasbergen (1996), Steins and Edwards accept social learning as:

*“a process that can be encouraged by lifting barriers to communication and by*

*encouraging interaction between the parties involved in policy issues. The core idea is that parties can learn from each other by more open and responsive communication”.*

Platforms for negotiation provide the opportunity for social learning by breaking down barriers and encouraging new relations. This, in turn, increases the likelihood of creative solutions to NRM problems through collective action.

In their review of empirical work on common property resource management, Steins and Edwards identify four key variables that influence the effectiveness of platforms to promote collective solutions to NRM problems – scale, process, representation and heterogeneity. The question of scale is central to the design of any institution and is complicated by the pattern of overlapping informal and formal institutional structures present in virtually all NRM systems. The incompatibility of some platforms with pre-existing traditional or government structures highlighted by Röling and Jiggins (1998) could be avoided by ensuring that new systems are nested within pre-existing frameworks (Ostrom, 1990). New platforms must be integrated within the system of formal management institutions and should ideally be recognised by government<sup>8</sup>. In addition, the sphere of influence of platforms should be politically and environmentally appropriate. In the case of migratory fish stocks, for instance, they should at some level represent users across the whole species range.

Processes within platforms are also a key factor to their effectiveness. Although social learning, conflict resolution and negotiation are central to the function of platforms, educational and awareness-building activities are likely to strengthen their decision-making capability and improve their longevity as institutions. The questions of representation and user heterogeneity are related. Platforms should represent the diversity of positions held by a range of stakeholders including those affected by, but not directly reliant on, the activity or resource in question. Cultural norms should obviously be considered in relation to the role of women or different ethnic groups in these institutions.

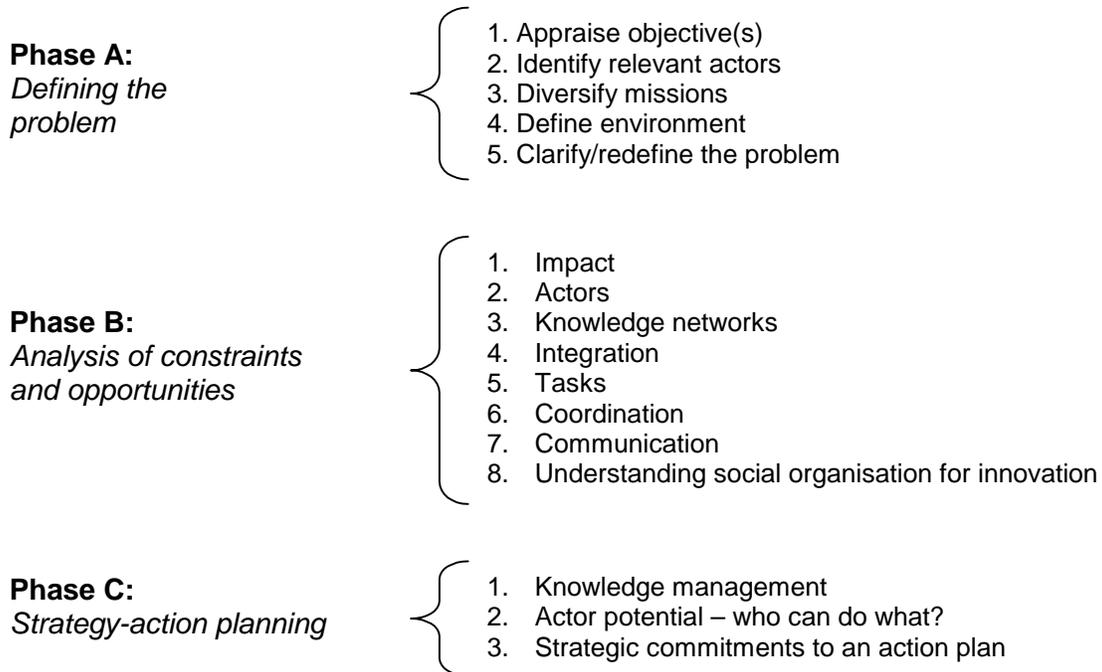
The influence of increasing user heterogeneity on prospects for collective action is usually seen as negative one as stakeholder positions and interests are less likely to be reconciled. However, Steins and Edwards (ibid.) quoting Keohane and Ostrom (1990) suggest that diversity within platforms can add value to processes through improved problem-solving and the accelerated exchange of ideas through synergy. In this way, it could be argued that the range of endowments and preferences presented by a diverse user group actually promotes the attainment of solutions in a process analogous to trading i.e. diversity (in skills, entitlements etc.) provides an incentive for co-operation through exchange and potential mutual gains.

Salomon and Engel (ibid.) have developed a participatory method that allows extension practitioners and local stakeholders to jointly identify the potential for development through platforms. Rapid Appraisal of Agricultural Knowledge Systems (RAAKS) is a

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<sup>8</sup> In Bangladesh, for instance, user Management Committees and Lake Management Groups within the CBFM and Oxbow Lakes Project are limited in their ability to implement change because they are not legally recognised institutions.

set of tools that seeks to evaluate and understand both the nature of co-operation and conflict (the extent to which stakeholder objectives and positions/interests are compatible) and the characteristics of existing institutions and linkages (how management tasks are sub-divided and co-ordinated, and how knowledge is shared). For each of the sixteen steps within RAAKS, a set of analytical methods or design options are offered to provide alternative perspectives or “windows” on management issues and the suitable participatory tools to gather and process relevant information. The process can be honed through stakeholder participation in the choice of appropriate tools at each of the steps:



(after Ramirez, 1998)

There is potential for RAAKS to be applied to scenarios other than those of agricultural extension or the developing world, however, and Salomon and Engel recognise that these tools can be applied to any system where the speed of environmental (or economic) change requires innovative responses.

The theoretical basis of AKIS is the social actor approach which places people and language central to an understanding of complex social constructs such as NRM systems (Röling, 1996). In acknowledging the complexity of interaction between societies and NR systems, the social actor and AKIS approach, in turn, relates to and draws from soft systems methodology (Checkland, 1981: see Section 3.2). In the case of NRM, the “hard system” is represented by the resource and the “soft system”, by human interaction and relations. In accepting that NRM objectives vary and are not set, and through the promotion of suitable platforms for negotiation, the AKIS approach mirrors that of Checkland and his application of systems methodology to consensus building in the corporate setting.

Salomon and Engel’s convergence as the narrowing of “schools of thought” is analogous to consensus and the AKIS approach obviously relates to consensus building and NRM in

a much wider context than agricultural extension. For instance, in confronting institutional issues such as the effects of scale, breadth of representation, the role of social learning and informal networks, it resonates with the sustainable livelihoods approach to development and particularly with respect to social capital and transforming structures (see Section 4). In summary, the AKIS approach contributes to the bank of theoretical work on consensus building by adopting a soft systems approach to NRM systems. It does this by stressing the mutual interdependence of actors within systems and the importance of suitably designed institutions (platforms) that promote co-learning and collective responses to management problems.

### **Section 3.4 Managing Conflict and Building Consensus in Rural Livelihoods Projects**

In acknowledging stakeholder interconnectedness and the central role of social capital in building consensus, Warner (ibid.) has developed a manual that incorporates the sustainable livelihoods approach for the improved management of participatory community-based and externally driven projects. “*Managing Conflict and Building Consensus in Rural Livelihoods Projects – strategies, principles, tools and training materials*” (MCBC for short) is a comprehensive introduction to consensus building for GO, NGO and community partners that outlines the motivation behind conflict and basic ground rules for attempting consensus. The manual is based on guidelines developed by the Overseas Development Institute for the management of community-based natural resource projects in Fiji and Papua New Guinea, funded by the Department for International Development and organised by the United Kingdom Foundation for the Peoples of the South Pacific<sup>9</sup>.

The aim of MCBC is to improve the management of stakeholder negotiation within NRM projects by highlighting and making accessible the key concepts of consensus building to project managers and personnel. The manual achieves this educational function by introducing the core issues diagrammatically and by providing exercises throughout the text for use in a workshop setting. In this sense, MCBC offers guidance on problem solving within existing projects and between project stakeholders, rather than a tool for participatory consensus building prior to project interventions.

Warner provides simple outlines of conflict theory and is careful to approach consensus building as a conflict management tool, recognising that the goal is not to attempt to remove or tackle the underlying causes of disputes, as conflict resolution does, but to attempt to reach “creative lateral solutions” through mutual learning.

In presenting consensus building in the context of the sustainable livelihoods framework and livelihoods assets, Warner suggests a potentially wider role for its application. Consensus building is introduced as a method to improve co-operation and co-ordination between (and within) civil society and formal institutions. Within the context of the

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<sup>9</sup> Michael Warner acknowledges contributions to the manual by the Centre for Rural Development Training University of Wolverhampton), the Foundation for the People of the South Pacific in Fiji, the Foundation for People and Community Development in Papua New Guinea and the PEACE Foundation.

sustainable livelihoods approach, this is achieved by consolidating human capital (through improving skills and awareness-building) and particularly social capital, by building trust, fostering open dialogue and creating communication networks. In turn, consensus can both enhance the performance of existing managing institutions and lead to the evolution of new institutions as transforming structures (see Section 4). In addition to consolidating social capital at the micro-level of community or household, the manual also presents consensus building as a tool to strengthen vertical linkages between civil society and formal institutions and as a method to strengthen the cross-sectoral, horizontal linkages between these institutions. In this way, consensus building may have a role to play in improving co-ordination and integration at the regional or national administrative level.

The manual develops its approach to consensus building by first defining the roots of conflict within NRM as either “developmental” and resulting from changing economic or environmental factors, or “structural” and resulting from endogenous and pre-existing grievances or imbalances of power<sup>10</sup>. Consensus building is attracting more interest, Warner argues, because conventional “adversarial” approaches to conflict have failed to recognise this complexity. The manual stresses the rigidity and limitations of more easily achieved “solutions”, particularly compromise which is so often confused with consensus (see Section 1. and Figure 1.).

The design of NRM projects in the developing world has tended to restrict the opportunities for finding creative solutions to conflict because stakeholder motivation is generally only considered in relation to successful project management and the attainment of project goals. If project design is rigid and stakeholder objectives are seen as fixed, the prospect of reaching productive solutions to underlying conflict is immediately reduced. Although projects may attempt an early understanding of existing conflict and power structures, stakeholder analysis tends only to be adopted to identify beneficiary groups and those groups that provide a potential threat to the performance of the project. A fundamental understanding of the pattern of interaction between stakeholders and the underlying motivation for this are normally not considered. Warner presents this as the “compromise” approach to projects, whereby stakeholder analysis uncovers initial positions and then works to find “best fit” solutions within the rigid frame of the project. The next requirement in this cycle is to invest time and energy convincing stakeholder groups of the merits of these “solutions”. In contrast, the “consensus” approach first attempts to understand the social and economic needs that shape these positions. In this respect, the Manual’s approach to consensus building is based on Fisher and Ury’s distinction between positions and interests (Section 3.1). Warner states:

*“The approach assumes that different stakeholders will find that they have more underlying needs in common than they did initial objectives. This widening of the area of the “common ground” provides greater scope for finding “win-win” solutions.”*

The MCBC approach to consensus building depends on: 1) directing conflicting parties

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<sup>10</sup> Developmental and structural conflict are not mutually exclusive – developmental pressures can re-awaken or aggravate historic disputes, for instance.

towards addressing their underlying needs and away from negotiating their immediate demands; 2) considering a wide and creative range of options instead of single solutions and; 3) eschewing personalised and exaggerated positions within the conflict and attempting an improved understanding of people's underlying needs.

One advantage of consensus building over a stakeholder analysis approach to projects is that participants are more likely to perceive outcomes as legitimate and useful, having been involved in a participatory process of co-learning. Warner presents the consensus building process with respect to ten overlapping stages that should be approached in sequence (Figure 5.):

*Accommodate cultural differences* – the manual acknowledges that different cultures may perceive conflict in very different ways. Violence, negotiation or reconciliation can have very specific meanings depending on social norms and values (see Section 4). Culture can also dictate the appropriateness of the decision-making process (voting, autocracy etc.) and of outcomes (written or verbal, for instance). Where cultural diversity is low it may be appropriate to incorporate traditional or existing systems of conflict management but if it is high, the manual argues, a new and independent mechanism for conflict management may need to be devised.

*Acknowledge perceptions* – a crucial early stage to understanding conflict is to acknowledge that although people's perceptions do differ, they are real. In other words, perceptions are manifested physically and have real effects. It is important that facilitators should comprehend (“understand rather than agree”) stakeholder perceptions of conflict and its causes. As Warner quotes from Fisher (1994); “...a party's power depends on its ability to put itself in another party's shoes”.

*Ensure good communications* – Open communication is a recurrent theme in the consensus literature (perhaps a reference to Habermas' Theory of Communicative Action) and here Warner stresses the skills and behaviour of the co-ordinator or participant in ensuring an efficient process of dialogue.

*Create a level playing field for negotiations* – All participants should have equal access to information and should have an equal capacity to influence proceedings. In order to achieve this, time may have to be allocated raising the negotiating power of the most disenfranchised groups.

*Build and maintain rapport* – A productive climate for dialogue exchange depends on some standard of rapport between facilitators and participants. Again, personal communication skills are key to developing trust, but also in avoiding bias through favouritism.

*Focus on satisfying underlying motivations* – This is central to most practical guidance to consensus building and builds on Fisher and Ury's emphasis on understanding interests rather than positions. Warner introduces “motivations” in terms of deeper interests, social and cultural values, ethnic identity, basic welfare, loss of power and social inclusion. It is most productive to focus first on those motivations that are common to all parties.

*Widen the options* – If a process is to move towards Fisher’s “mutual gains” or the win-win scenario of game theory, then dialogue must be freed from inflexible or non-negotiable positions or dogma. The facilitator will require lateral thinking and creativity to explore options through brainstorming with participants.

*Clarify motivations and options* – This stage is to re-define stakeholder motivation within the conflict and to then make this explicit to all groups. Brainstorming with all groups is then used to produce potential solutions that accommodate all motives.

*Achieve mutual gains* – This is what distinguishes consensus building from other responses to conflict such as compromise, withdrawal etc. and all steps in the MCBC process lead to this goal. As Warner states:

*“The approach is possible because in a conflict situation the basis for agreements is severely constrained by emotive and personalised demands. This limits options and stifles creativity. First building the trust of the conflicting parties, then drawing out their true motivations and interests, clarifying these factors to remove exaggerations and modify false perceptions, and then brainstorming to generate the widest and most creative possible range of solutions, provides a pathway to achieve mutual gains.”*

*Test agreement for feasibility* – Any agreements reached must be realistic before the process can be concluded or considered successful. In particular, the agreement must be socially, politically and environmentally viable and acceptable to the constituents of the stakeholder representatives consulted.

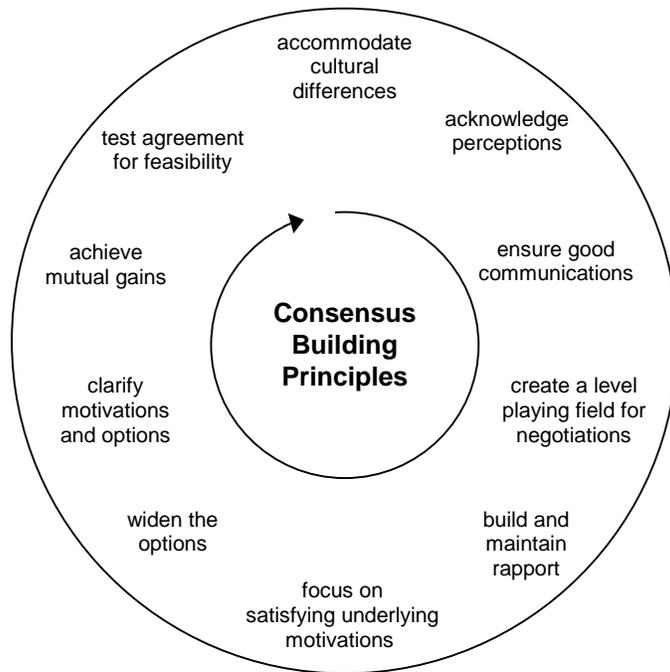


Figure 5. The MCBC principles of consensus building presented as step-wise process (Warner, 1999).

The manual is realistic in recognising the limitations of the approach presented here to overcoming all conflict (particularly structural or violent conflict) and to acknowledge the need to have a “best alternative to a negotiated agreement” (BATNA). In fact, even in less severe cases Warner suggests consensus building may not be the “most practicable strategy” for dealing with conflict and that an initial *Conflict Analysis* and *Consensus Building Plan* should be developed before entering into *Consensual Negotiation* with local stakeholders<sup>11</sup>.

Because the manual is aimed at problem solving within NRM projects, the emphasis tends to be on resolving disputes and on reaching agreement. Consensus building here is presented as a tool to finding solutions and supporting project management, rather than a precursor to promoting collective action. However, the sustainable livelihoods framework and the concept of social capital suggests a more subtle role for consensus building and one which is not merely a response to pre-existing conflict or for adoption within project interventions. Rather than a cyclical process of problem identification, brainstorming, problem solving, testing and so on, consensus building might be better represented as way to create and sustain value through the development of social and human capital.

### Section 3: Summary

<sup>11</sup> These stages are to ensure that the conflict is well understood and that the actions of facilitators and participants are not likely to aggravate the situation.

The methods outlined above represent an evolution over three decades in the application and approach to consensus building. The principles of successful consensus building, originally devised for the civil or corporate setting in the developed world, have remained largely unchanged, but new tools have been adopted to provide rounded approaches for use in the development context. In particular, the increasing emphasis on stakeholder participation in development has produced tools and methods well suited to creating dialogue and debate (e.g. participatory rural appraisal as used within RAAKS).

The common theme of these methods is the emphasis on promoting open channels of communication between stakeholders and mediators, and the attempt to understand people's underlying needs and interests rather than attempting to reconcile positions. The relationships and commonalities between the methods are demonstrated in Table 1.

<b>Approach</b>	<b>Context</b>	<b>Purpose</b>	<b>Influences</b>	<b>Author</b>
<b>Alternative Dispute Resolution</b>	Developed world, civic, environmental or planning disputes	Court avoidance, conflict resolution	Anthropological studies of North American and African tribal systems (Gibb, 1963; Danzig, 1973), U.S. peace movement	Numerous but crystallised by Fisher & Ury (1982)
<b>Soft Systems Methodology</b>	Corporate or any management system	Principally, corporate dispute management	Numerous but particularly Boulding (1956)	Checkland (1981), Checkland & Scholes (1990)
<b>Agricultural Knowledge Systems / Rapid Appraisal of Agricultural Knowledge Systems</b>	Principally, agricultural extension in the developing world	Promotion of adaptable and synergistic networks for agricultural development	SSM, Theory of Communicative Action (Habermas, 1984), Social Actor Approach (Long & Long, 1992)	Röling (1992), Salomon & Engel (1997)
<b>Alternative Conflict Management as “Managing Conflict and Building Consensus”</b>	Community-based NRM projects in the developing world	Successful management and implementation of projects (training of project staff).	Sustainable Livelihoods Approach (see Carney, 1999), ADR, Fisher and Ury (1981), Moore (1996)	Warner (1999)

*Table 1. The origins and purpose of the consensus building methodologies.*

## Section 4      Consensus Building and Development

### *Indigenous Approaches to Consensus Building in the Developing World*

Conflict resolution and consensus building in the developing world tends to draw on combinations of both informal indigenous processes, and formal legal structures of the state. Although these indigenous forms of consensus building may not relate directly to the conceptual approaches outlined in Section 3, Moore (1996) has remarked how they resemble mediation processes in the developed world and Castro (1996) has attempted a classification with respect to their resemblance to negotiation, mediation and arbitration (see Section 3.1). However, the complex ways in which traditional approaches and customary legal orders are subsumed within local and national legal structures make it difficult to identify “typical” developing world approaches. It is also inappropriate to present “modern” western approaches and “traditional” indigenous approaches as discrete entities, and Castro (ibid.) suggests indigenous approaches should be considered as dynamic and evolving, rather than fixed and rigid:

*“Indigenous knowledge - whether about farming or settling disputes - does not provide a set formula for community decision-making. It is simply a repertoire of ideas and actions from which individuals and communities faced with specific problems can draw, depending on their own level of knowledge, their preferences, and their ability and motivation to act.”*

Castro considers the structure of conflict resolution in the developing world as one of legal pluralism, whereby the individual, group or community may rely on processes directed by state, religious, ethnic, caste or local systems. In reality, these systems overlap, although community members may hold very different views of legitimate authority and decision-making from those of government.

Although indigenous conflict resolution at the local level tends to rely on processes of negotiation, mediation and arbitration, a common theme to these approaches is a reliance on face-to-face communication (see the explanation of Hall’s “high context” engagement below). For instance, Cohn (1967) describes how in northern India the first step of simply talking provides a key function in relieving aggression prior to dispute resolution. Once a decision has been reached through mutual agreement or some form of arbitration, then peer pressure, social ostracism or threat may be applied to ensure compliance.

Governments that seek to decentralise legal processes (and to reduce administrative costs) may set up local procedures and structures for local dispute resolution which draw from indigenous approaches (Castro, ibid.). However, there is a danger here that indigenous and locally respected approaches are co-opted by the state and by the elite to consolidate political structures and maintain current imbalances of power (e.g. the *salish* courts in Bangladesh and the *gram panchayat* in India).

Deliberate attempts to accommodate and recognise traditional practice and customary legal orders within a formal legal structure, require a comprehensive understanding of the cultural and political role of these practices and of their potential suitability within a

national system of conflict resolution. For instance, Moore and Santosa (1995) describe the limited success of the Indonesian government in promoting the traditional dispute resolution practice of *musyawarah* for use within a national framework. Since independence, the government of Indonesia has attempted to shift dispute resolution away from village-based practices to formal judicial and bureaucratic institutions. Because the traditional systems had been so effectively eroded within local government, bureaucrats did not recognise or understand the principles of *musyawarah* and its role in reaching consensus (*muafakat*) when they were re-introduced.

There is a danger that indigenous approaches to consensus building are presented as egalitarian processes that necessarily provide fair and equitable outcomes (Nader, 1995). As in all resolution processes, some groups will be better placed to manipulate proceedings through their better knowledge or social status. It may be possible to democratise consensus building methods further, through cross-fertilisation between developed world and developing world approaches and experience.

### *Transplanting Approaches to Consensus Building*

Theoretical and practical approaches to conflict management and consensus building have tended to understate the diversity of perceptions, norms and values that shape the cultural context of conflict and negotiation. Because these approaches are predominantly designed in response to disputes in the developed world (particularly the U.S.) they often lack what Kramer and Messick (1995) term a “social contextualist perspective”. In other words, much of the theory and practice of consensus building methodology is too generic and often fails to consider the local significance of conflict and consensus and how local actors perceive processes of facilitation, compromise etc. As Rabbie (1994) states:

*“The importance of culture and cultural symbols in facilitating or hindering cross-cultural communications dictates a need to incorporate cultural attitudes and perceptions into models and theories of conflict analysis and conflict resolution. Models that were produced by Western specialists have continued to lack the proper tools to deal with non-Western nations, and thus they have remained largely irrelevant to those people.”*

This theme is taken up repeatedly in the literature, particularly in respect to conflict resolution and the transplantation of developed world approaches elsewhere. For instance, Avruch et al. (1991) believe that the culturally diverse ethnoconflict theories (those locally constructed views of conflict) and ethnopraxis (the local techniques and practices of dealing with conflict) need to be developed and incorporated into any general approach to conflict resolution. Miall et al. (ibid) acknowledge that adapting theory and practice between cultural contexts is the most pressing and challenging task facing the field of conflict resolution.

The approach to researching conflict and consensus in the developed world has focussed on the attainment of measurable outcomes and products (such as civil dispute settlements, court avoidance etc.) rather than the processes themselves in a social context (Thompson,

Peterson and Kray, 1995). This bias may not be universally appropriate, however. In describing the complex and apparently unpredictable interaction between social and physical systems Uphoff (1996) suggests that a typically Eastern “both/and” worldview that acknowledges the overlapping, interactive nature of systems may be more appropriate than social science based on a Western “either/or” epistemology<sup>12</sup>. Non-Western cultures often adopt a creative and inclusive stance on conflict (a non-zero-sum perspective) and this co-operative approach can contribute to the development of conflict resolution in the West<sup>13</sup>.

Lund et al. (1994) emphasise that models should not be interventionist but culture-centred, incorporating culturally-sensitive assessments of each scenario and, presumably, applying suitable participatory tools and approaches. Such an assessment would have to consider the cultural context of conflict and norms of negotiation. Hall (1976) distinguishes between the two extremes of an American “low context” perspective to negotiation and a Japanese “high context” perspective. Typical characteristics of negotiation in low-context cultures are an emphasis on the self, autonomy, direct (face-to-face) engagement and competitive strategies. Conversely, high-context cultures emphasise collective identity, inclusion, indirect engagement and collaborative strategies. Generally, it is the developed and multi-institutional cultures that are low-context, although Hall considers the Japanese perspective a high-context one:

*“Low context cultures generally refer to groups characterised by individualism, overt communication and heterogeneity. The United States, Canada and central and northern Europe are described as areas where low context cultural practices are most in evidence. High context cultures feature collective identity-focus, covert communication and homogeneity. This approach prevails in Asian countries including Japan, China and Korea as well as Latin American countries.”*

Although this cultural diversity in the perception of conflict and consensus is widely acknowledged, anthropological models such as Hall’s, may be limited in offering pragmatic solutions to adapting existing approaches in isolation. The sustainable livelihoods approach can provide a frame in which to better gauge the relevance of different approaches to building consensus.

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<sup>12</sup> Uphoff was attempting an explanation of the scale of consensus and the surprising speed and success of an irrigation project at Gal Oya, Sri Lanka.

<sup>13</sup> In 1978 the US adopted a traditional practice of Egyptian village conflict resolution (the *Mulakah*) to broker agreement between President Sadat of Egypt and President Begin of Israel (Miall et al., 2000).

### *Monitoring Consensus Building*

Innes (2000) provides guidance on the monitoring of consensus building but both processes and outcomes are difficult to systematically record and evaluate. Generally, process evaluation will depend on qualitative feedback via interview or questionnaire, whereas outcomes may be evaluated quantitatively with respect to locally appropriate indicators of success or failure (these may include incidences of community co-operation, or verbal or violent conflict etc.)<sup>14</sup>.

There are three main problems in evaluating consensus building: 1) how can apparent outcomes be attributed to the process with absolute certainty; 2) how can feedback from participants be used or quantified if their knowledge of the process (or alternatives) is limited and; 3) what feedback is representative when consensus building is necessarily concerned with numerous stakeholders and diverse opinions? As Innes (ibid.) states:

*“Process may be very difficult to assess. A simple survey of participants or a measurement of outputs will probably not provide a meaningful assessment. Either could lead to a conclusion that a process was unsuccessful when it was actually successful or vice versa. For example, participants responding to a survey could say they were satisfied with a process when they were actually manipulated and misled, or they could say that they were dissatisfied when they actually accomplished a great deal but had unrealistic expectations.”*

Directed attempts to build consensus in NRM in the developing world are not always carefully monitored or documented. Where consensus building is externally-driven by NGO or government some form of process monitoring may be adopted. This may take the form of a diary kept by project personnel or a specially formed community group. However, consensus building within NRM projects is often considered a supporting activity rather than the sole purpose of intervention (see Section 3.4) and as such, if monitoring does take place it may not be thorough. There is potential to adopt locally relevant criteria or indicators for monitoring as part of a comprehensive and participatory approach to consensus building within projects (see Guijt (1999) for a comprehensive review of participatory monitoring and evaluation).

### *Consensus Building within the Sustainable Livelihoods Framework*

This review has presented consensus building as both: 1) a directed attempt to promote collective action through mutual learning and the development of appropriate stakeholder institutions or; 2) a means to better achieve *other* project goals through a holistic and participatory approach to project design and management. Both scenarios fit well within DFID's sustainable livelihoods framework.

Through reinforcing horizontal relationships, trust and reciprocity within the community and vertical links with other groups and institutions, consensus building obviously relates

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<sup>14</sup> Field evaluation in this project (DFID R7562) draws from guidance provided by Innes (2000), Burgess and Burgess (1996) and Kaner (1996).

to the concept of social capital. Similarly, mutual learning (and Glasbergen's social learning) through participation and the sharing of knowledge will enhance human capital by developing new skills and an awareness of new approaches to decision-making and dispute resolution.

However, consensus building has other roles in providing sustainable livelihood options from livelihood assets. New networks of communication, informal institutions and specially designed institutions for management and decision-making can help realise the potential for sustainable livelihoods by acting as "transforming structures"<sup>15</sup>.

There are also parallels between good practice within the sustainable livelihoods framework, generally (a focus on participation, an awareness of the interconnectedness of stakeholders and their actions, the need to strengthen the capacity to deal with shocks etc.) and effective consensus building. In relation to consensus in NRM, for instance, if processes are externally-driven there is a danger of overlooking very site-specific cultural, economic and environmental characteristics that are essential to understanding ongoing disputes. It is crucial that participatory approaches to consensus building should be adopted (by NGOs, government agencies, community groups etc.) if locally appropriate strategies and endogenous skills are not to be overlooked. The approaches and lessons learned from conflict management elsewhere will contribute, but it is local stakeholders that must play the central role in creating new relations and the formation of consensus. Local people should not be the passive recipients of a consensus building process but should be proactively involved as personnel wherever possible (Duryea, 1992).

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<sup>15</sup> This is reflected in the emphasis that AKIS and RAAKS (Section 3.3) places on social learning and platforms for resource use negotiation. Platforms here operate as transforming structures.

## Section 5 Case Studies

The following case studies are representative of the range and character of consensus building efforts within NRM in the developing world. Case Study 1 demonstrates how dialogue within and between local stakeholder groups can help generate new management options through mutual learning. Case Study 2 explains how new NRM institutions can generate conflict, both horizontally within the user communities, and vertically with government institutions. Consensus might be achieved through better local knowledge of the role and potential value of new local institutions through transparency and greater consultation with local stakeholders. Case Study 3 extends to the regional scale and the more overtly political and legal representation of a single ethnic interest group. This example demonstrates how the political position and skills of certain stakeholders may be championed to ensure future benefits through self-negotiated settlements.

### Case Study 1.

#### **Community-based Planning for Wetland Management: Lessons from the Uchali Complex in Pakistan (Bisham Gujja and Michel P. Pimbert, 1995).**

Source: Paper presented at the International Conference on Wetlands and Development, Kuala Lumpur 1995).

Wetland conservation in Asia is often viewed as an issue of law enforcement and of how best to impose new laws or regulations on local communities (Scott, 1989). In this study, Gujja and Pimbert undertook a participatory planning exercise with communities at two villages in the Uchali complex of Pakistan to explore ways to balance conservation and the needs of local stakeholders.

The Uchali complex is a wetland comprising three interdependent lakes (Uchali, Khabbaki, and Jalar) in the north of Punjab which are internationally significant as the only over-wintering ground for White-headed Duck (*Oxyura leucocephala*) and three other endangered species of bird including the Imperial Eagle (*Aquila heliaca*).

An initial integrated management plan for the region was developed by WWF-Pakistan and WWF International in 1993 with the aim of preserving its natural integrity and sustainably catering to the needs of local communities. Gujja and Pimbert undertook participatory rural appraisal to develop the management plan further and applied a combination of group and team dynamic methods, interviews and dialogue, together with visualisation and diagramming methods.

From the early stages of the appraisal it was obvious that any useful management plan would have to balance the conflict of interests between the needs of the local communities and the wider conservation agenda. A constructive dialogue was entered into with the communities by encouraging them to share their perspective on the historical aspect of this conflict. In conjunction with the community, this process led to the development of several alternative scenarios that might better balance both management objectives.

### *Lake Khabbaki and Dhadar village*

Discussion with local farmers revealed negative attitudes to Lake Khabbaki and its management for conservation. In a ranking exercise, the preferred management option for the majority of farmers was the total drainage of the lake to provide agricultural land. The resource of the lake's water was valued higher than the wildlife resources available to fishers and wildfowl hunters, and many farmers expressed a desire to use the water to irrigate land 100 meters above the lake.

A time-line exercise revealed that the lake was formed quite recently and had expanded considerably since the 1950s. The formation of the lake seemed to have undermined the productive assets and livelihoods of the majority of farmers in Dhadar and the neighbouring area (social mapping showed farming households to represent 90% of the total).

During village meetings a number of grievances over the lake and its management were explained. Farmers were angry because they saw the lakebed as an extremely fertile resource, unfairly made inaccessible to them for conservation reasons for "wealthy people". Villagers also complained that licences to shoot waterfowl and catch the stocked species of fish were only provided to government officials and outsiders. The severe punishments for poaching increased the villagers sense of injustice. Most male speakers felt that the benefits gained from cultivating the lake would help all local stakeholders and not just farmers.

However, women had quite a different perspective on the value of the lake and saw it as an essential source of water for washing clothes and for drinking. Water shortages created much more work with women regularly having to walk 4-6km to collect water.

A small community of immigrant fishers also expressed more positive views on the lake, relying directly on fish catches for their livelihoods and generally valuing the wildlife resources that the lake provides.

### *Conflict Resolution and Compensation*

Group discussions and semi-structured interviews were held with men and women representing the various groups identified through social mapping. The discussions focussed on options to improve the management of the lake and the advantages and disadvantages of the ideas were debated by men and women, separately. The villagers decided to rank the management options with regards to their potential results, impacts, feasibility, advantages and disadvantages (see table).

The farmers' argued that the lake bottom was needed for agriculture and that an exchange for rights to forestland would be workable for government and the villagers. The women emphasised health and education (a community welfare package) in preference to the idea for an exchange of land rights.

The villagers saw their management ideas as a basis for debate and negotiation both within the community and with government authorities. Before a final village meeting the community agreed to respect the control of fishing and hunting on the lake and to acknowledge the lake as government property if they are compensated for loss of land to the lake. There was also a consensus that poaching should be stopped (irrespective of social status) and that fishing should be properly controlled.

<b>Wetland management options</b>	<b>Men's preference ranking</b>	<b>Women's preference ranking</b>
Substitute the land at the lake bottom with forest to the north	1	2
Exchange rights to the lake bottom for a community welfare package	2	1
Use lake water for irrigation and partially reclaim the lake bottom	3	3
Direct fishing revenue to community improvements	4	5
Beautification of the lake and construction of lodges	5	4
Leave the lake as it is to protect water table	6	6

*Ranking of management options by men and women of Dhadar village. (Gujja and Pimbert, 1995).*

### *Ucchali Lake and Ucchali Village*

Lake Ucchali is saline and its formation has submerged 1000 acres of arable land and waterlogged a further 1000 acres. The lake is seen as a constraint on local livelihoods and villagers have no interest in the lake's wildlife. Most villagers do not perceive that there are any benefits to be derived from the lake (there are no fish, reeds or grasses).

### *Widening the Options*

In initial discussions, the community insisted that the lake should be removed and the land returned to the farmers. After further group discussion the villagers rejected the feasibility of draining the lake and considered the following management options:

1) social forestry to plant the unfertile shore of the lake and provide firewood, habitat for birds, reduce soil salinity and beautify the lake. A social forestry committee would be formed to manage the process and co-ordinate group action.

2) control of salination by digging channels. This option was brought to the attention of the whole village by several farmers who had already experimented with drainage

channels to increase the flow of water into the lake.

3) planting of salt-tolerant grass species to encourage birds to the lake and the stocking of salt-tolerant fish.

4) ecological restoration by reducing salt content or introducing salt-tolerant plants and invertebrates.

The main objective of the process was to use participatory approaches to encourage debate and new ideas for the management of the lake. The quality of management ideas and options put forward by the villagers was high and revealed the knowledge of the conservationists to be limited. Discussions revealed the limitations of simply designating an area as an “internationally important conservation site” if local people do not benefit in the short-term. The villager’s management proposals sought to link the needs of outside conservationists with those of the local community and the management plans were thorough enough to include proposals for appropriate institutions such as resource-user groups or to strengthen existing ones such as the Forest Protection Committees.

Gujja and Pimbert argue that the previous top-down and coercive approach to the conservation of the wetlands is likely to alienate local people from the purpose of management and result in an increasing reliance on enforcement and prohibition of activities at the lakes. The study presents what Pimbert and Pretty (1995) consider a people-centred, process-oriented approach where outsiders do not consider themselves as “implementers” but as “enablers”. The case study considers the ways in which consensus between outside conservationists and local stakeholders might practically be achieved.

## **Discussion**

This case study represents a participatory approach to reaching consensus between multiple stakeholders. Although the process is driven externally by WWF-Pakistan and WWF-International, and the main aim is one of consolidating vertical institutional relationships rather than reaching consensus through enhancing local, horizontal ones, the approach of Gujja and Pimbert allows creative input by local stakeholders. At various stages, participatory methods are applied in the multi-stakeholder context and within separate stakeholder groups which helps generate dialogue on potential solutions and identify the range of local perspectives.

Gujja and Pimbert acknowledge that different stakeholders view the Lakes in quite different ways but use this diversity of positions positively by encouraging alternative management scenarios from the community. The advantages and disadvantages of the suggestions are debated publicly and accepted or rejected in a filtering process in a similar manner to that of the action plan development phase of the PAPD process.

The community saw the process as legitimate and valuable because the development of action plans was viewed as a means to convince others in the community and to influence government.

## Case Study 2.

### **Jabalpur District, Madhya Pradesh, India: Minimising Conflict in Joint Forest Management (Shashi Kant and Roshan Cooke, 1999).**

Source: Buckles, D. (Ed.) 1999. *Cultivating Peace – Conflict and Collaboration in Natural Resource Management*. World Bank Institute.

Joint Forest Management (JFM) relies on mutual sharing of responsibilities between forestry departments and local communities. The limiting factor to its success is the successful resolution of conflicts between the two groups and within communities. The institutional requirements for successful conflict resolution were found to be transparency, accountability, a shift in forest ownership from state to community, and the absence of uncertainty.

Kant and Cooke applied participatory approaches to identify what villagers perceived as unjust or inequitable within the current JFM system. Community forestry groups evolved in the late 1970s in response to a need to protect dwindling forest resources from exploitation by outside groups. The emergence of these groups reflected the apparent inability of state institutions to manage the forests fairly and efficiently but their presence led to further conflict between community and the state. The National Forest Policy of 1988 sought to encourage popular participation and reduce conflict between forest managers and local users. In response to this policy and the growing emphasis on community needs over commercial ones, the government of Madhya Pradesh stipulated that Forest Protection Committees (FPCs) should be set up in sensitive areas and should receive 20% of all revenue created by the forests they protect. Village Forest Protection Committees (VFPCs) were set up in degraded areas and were allowed 30% of final timber produce.

In response to a bad fire and dwindling forest cover, a self-initiated forest protection committee was established in the study area in 1989. This group worked as a catalyst for the uptake of JFM in the area and in 1992 the group was formally recognised as a VFPC. The Madhya Pradesh Forestry Project of 1995 (funded by the World Bank) motivated the Forestry Department to establish other FPCs in the area. The process by which villagers were contacted and made aware of JFM was identical in each case - individuals and groups were informed of JFM and these people discussed the programme with the community in general before a local forestry officer convened a meeting with the villagers.

Both tribal and non-tribal ethnic groups were represented at the meeting, although the target of a minimum of 50% the adult population was rarely achieved. Women were not permitted to attend the meetings but were made aware of the discussions.

The organisational structure of the FPCs and VFPCs was designed by government but includes the local forestry officer, all *Panchayat* officials, at least two women and a local teacher. Members are elected annually and the committee meets monthly to ensure the

enforcement of national and locally devised rules. Kant and Cooke see these new committees as important conflict resolution institutions because the drafting of new local rules depends on face-to-face negotiation and the skilful management of meetings. The exchange of views and ideas at these meetings also provides an educational aspect as different stakeholders are given the opportunity to air their views.

The FPCs and VFPCs have the authority to levy fines against those breaking committee rules and these are usually paid quickly to avoid time-consuming referrals to local courts. Because offenders are from the same village or neighbouring villages, the VFPCs essentially function as conflict resolving bodies both within and between villages. The management of collective funds is decided by consensus at a general meeting where each of the committee members is entitled to identify key local problems or target areas for funding. A short-list is developed and through a process of debate (providing mutual learning of the needs of the community) several of the proposals are selected.

### *Outcomes at village level*

The quality and coverage of forests surrounding the four villages in this case study has improved since VFPCs have been in operation. Two of the villages (Kundwara and Roriya) have benefited from their close proximity to the regional Forestry Department offices and have received extra support and are now seen as model VFPCs. These villages are also quite culturally homogenous which has helped in the implementation of forest protection measures. The Gond tribals of these villages have an agricultural heritage and a detailed knowledge of the value of the forest resources. In Takiaria and Jamuninya, however, the dominant tribal groups, the Baigas and Kol, have traditionally depended on the harvest and sale of forest products. The cultural diversity within these villages and their greater dependence on forest products has made regulations harder to enforce.

To ensure the long-term success of these local managing institutions, conflict between local people and forest managers must be minimised. Kant and Cooke have identified several potential areas of conflict between the informal institutions of the villages, the formal institutions of the VFPCs and their vertical relationship with the Forestry Department. Several internal conflicts within the VFPCs reflect the system of selecting members (members are elected for five year periods and survive the annual committee re-elections, for instance) or to the allocation of paid positions to the members. The overlapping relationship between the *Panchayat* officials, the FPCs and the VFPCs makes the institutions competitive rather than complementary. As discussed, the problems implementing protective measures (such as restricting the gathering of fuel wood) at Takiaria and Jamuninya reflect the historic dependence on the resource by those communities. If conflict is to be avoided, time must be invested in gradually developing the informal institutions at these villages and ensuring that formal institutions better fit local ones. There are also horizontal conflicts within JFM and with other government departments. The Watershed Development Program (WDP), for instance, shares similar objectives to the JFM but has failed to link at a political level or at the local level where WDP committees have undermined the effectiveness of VFPCS and vice versa.

Kant and Cooke argue that communication between all groups should remain open to

avoid confusion and to gain the trust of all stakeholders. Increased interaction and openness will enhance the effectiveness of JFM. The authors argue that the “change agents” (the government and committee officials) are not properly accountable to either the public or the government. The lack of regular committee meetings allows influential members to by-pass democratic procedures and this lack of communication means that conflicts tend to escalate quickly. The local feeling of mistrust seems to signal a deficiency in the system.

Forestry officials need to re-learn their roles under JFM and operate as “conflict managers” rather than “conflict generators”. High ranking officials seem to be making this shift but local officers are not so willing to relinquish their power and the benefits they are now accustomed to. The transient nature of some of the JFM projects and the short posting of forest officers has also created mistrust and conflict. Another potential source of conflict is the gender imbalance in forestry management. Although two women are entitled to committee membership, the perspectives of women in the wider community are not acknowledged in project plans and the drafting of rules (women are not permitted to attend village meetings in this region). In fact, many of the committee rulings operate against the interests of women as the major gatherers of fuel wood and women rarely benefit from the collective funds raised. Kant and Cooke suggest that this imbalance can only operate to undermine the creation of a dynamic to facilitate both conservation and equity goals.

Conflict resolution and consensus building is obviously a key function of management within the JFM and the new institutions developed to run the programme must adapt to the new environment of collaboration and openness. If the programme is to gain the confidence and support of local communities then present conflicts must be addressed early on. Increased transparency, accountability and stability are needed to reduce conflict, increase the potential for collaborative management and improve the effectiveness and sustainability of the programme.

## **Discussion**

This case study is a commentary of how new institutional arrangements for NRM at the local level can both provide new platforms for negotiation *and* create conflict through unsuitable design. As with Uchali in Case Study 1, the emphasis is on vertical institutional linkage but Kant and Cooke also consider horizontal governmental relations and the way in which these formal structures are superimposed on local, informal institutions (traditional culture and gender relations). As Kant and Cooke acknowledge, any local NRM body must be considered in a wider regional or national institutional setting, and this case study deals with conflict within the co-management of forests.

The case study does not present any active and ongoing attempt to resolve conflict but provides suggestions for more suitable institutional design (both procedural and structural) that are likely to improve management through building consensus.

Kant and Cooke show that top-down approaches to forest co-management are unlikely to

be universally appropriate where local stakeholders represent a diversity of interests, attitudes and relationships to the resource. In addition, the confusion and uncertainty that surrounds the FPCs and VFPCs has corresponded in local pessimism and a reluctance by communities to actively engage with these decision-making bodies. Kant and Cooke stress the importance of a secure and open working relationship between local resource users and their managing institutions if VFPCs are to provide useful and lasting benefits to local forest management.

Although Kant and Cooke are not explicit about how consensus can be achieved, a participatory approach to discussing the role of VFPCs and their function with respect to local stakeholder input (the development of locally-relevant action plans, for instance) would consolidate the committees and their relationship to the local community.

### **Case Study 3.**

#### **Conflict and Consensus Building in the Awá Indian Territory – Ecuador (Christine Penzich, Garry Thomas and Tim Wohlgenant).**

Source: The Role of Alternative Conflict Management in Community Forestry. RESOLVE, FAO 1994.

Since the formation of the Awá Indian Territory in 1984 there has been a series of conflicts between the Awá people and neighbouring peasant communities. The forest inhabited by the Awá in Ecuador is rich in raw materials, timber and minerals and is under pressure from encroachment and over-exploitation. Conflict has occurred as a direct result of designating the forest a conservation area. This case study describes the attempts to resolve actual and potential conflict in the region.

The Awá Region refers to an area in northwest Ecuador that includes the Awá Community Settlement Forestry Reserve and the Awá Indian Territory. The area is extremely rich in biodiversity and represents the largest remaining tract of western ecuatorial forest. The Awá Region is also one of the country's poorest areas and the population suffers from severe health problems including malnutrition, parasitosis and malaria.

The designation of the Awá Indian Territory as a conservation and development region was hampered by governmental conflict at the national and regional level. Further conflict occurred at the local level between various user groups perceiving a threat to their continued access to the forest's resources and to their livelihoods. The main sources of the conflicts were: 1) the economic interests associated with the natural resources of the area and; 2) the absence of a legal framework appropriate to the situation.

Penzich et al. focus on the consensus building processes that occurred after the Awá Territory had been established. When the territory was designated the Awá community attempted to control access to the area, resulting in violent conflicts. The Director of the Awá programme was called on to act as facilitator in a meeting with Awá chiefs and representatives from the local towns. In a step-wise approach to the problem the Director

outlined the common skills, attributes and needs of the Awá and the other communities (despite their cultural differences) and asked both sides to present their view of the problem. The Awá representatives blamed outsiders for poisoning the river system with mercury, destroying the land with dynamite and stealing from local people's homes. The townspeople complained that the Awá prevented them from carrying out their normal economic activity of panning for gold.

The Director recognised that the needs of both groups were not mutually exclusive and asked the townspeople if they would abide by Awá rules if they were allowed to continue panning for gold. The Awá were asked if they would allow the townspeople access if they abided by Awá rules. A consensus was reached. This mediation process classically concentrated on underlying interests rather than positions.

### *Community participation in the resolution of conflict*

The Awá community's role in conflict resolution underwent a profound change - from passive recipients of advice and legal representation, to leadership in negotiations and decision making. External actors had originally worked to organise the Awá community and act as their legal representatives. Early meetings between the groups were designed to promote indigenous organisation, raise consciousness and build the organisational skills and capacity of local groups. As the technical and legal understanding of the Awá groups improved they began to push for greater political involvement in the management of the territory.

Penzich et al. reach the following conclusions:

- Community leaders and negotiators should first actively seek the majority opinion of their community before sitting at the negotiating table
- Leaders and negotiators should be aware of what constitute acceptable concessions (the community's best alternative to a negotiated agreement (BATNA))
- The community should not reject the support of facilitators
- Ideally, leaders and their representatives should have negotiating experience.

### **Discussion**

As in the example of new forestry policy in Madhya Pradesh, this case study outlines conflict generated by the uncertain role and responsibilities of stakeholders within new management regimes. In this case the Awá community wrongly challenged the rights of other users in the territory. The Director of the Awá programme intervened and adopted the stance of mediator between the conflicting parties, classically highlighting the common interests of both groups as opposed to attempting to compromise their positions.

Penzich et al. then go on to explain how the Awá developed political and negotiating

skills to represent their interests more effectively in a formal, legal context. The authors present conflict resolution in this context as an aggressive attempt by the community to obtain what they regard as rightfully theirs. Concession is presented as failure and access to reliable information helps strengthen bargaining positions and respond to counter-arguments (this contrasts with the view of the consensus process in Case Study 2 where transparency and the flow of information between and within conflicting parties was shown to be the key to engendering trust and collaboration). This example demonstrates how the negotiating position of a single stakeholder group may be enhanced through awareness-building and training (investments in human capital) so that the group can effectively represent itself in a legal and adversarial environment.

## Glossary of Terms

**Agricultural Knowledge and Information Systems (AKIS)** – an approach developed by Röling and Salomon (ibid.) to represent the dynamics and unpredictability of agricultural extension and group learning processes at a local scale. AKIS acknowledges the importance of *social learning* in the adoption and evolution of ideas.

**Alternative Conflict Management (ACM)** – generic term for those consensus building approaches applied to natural resource management (particularly projects) and that adapt *ADR* principles to the development setting.

**Alternative Dispute Resolution (ADR)** – consensus building approaches specifically designed to avoid normal legal or formalised processes of resolution and to emphasise openness and dialogue. Principally developed in the U.S. to democratise civil planning and corporate dispute resolution.

**Arbitration** – an adjudicatory process where disputants present their cases to an independent third party for binding (compulsory) or non-binding judgement.

**Best Alternative to a Negotiated Agreement (BATNA)** - any party's insurance strategy if consensus building is to breakdown. A BATNA may be withdrawal from a conflict, or an attempt to reach some form of compromise rather than consensus, for instance.

**Binding assistance** - where an external third party (arbitrator) has been granted the authority to impose solutions to a dispute.

**Collaborative management** – pro-active engagement of local stakeholders in natural resource management projects, particularly conservation projects (Borrini-Feyerabend ibid.).

**Conflict** – the pursuit of incompatible goals and positions by different groups (Miall et al, ibid) that may obstruct rational management (Rijsberman, ibid.).

**Conflict management** – approaches that limit and contain the negative impacts of conflict rather than remove its underlying cause.

**Conflict resolution** – both the process and outcome of halting conflict by removing underlying causes.

**Consensus** – a positive outcome (or state) where all stakeholders consider their position to be strengthened (or to be strong).

**Consensus building** – any process that seeks to reach unanimous agreement and create value by expanding the range of possible management options (Susskind, 1999). Consensus building approaches may be applied to manage conflict, but may also be used to engender greater collectivity and cohesion, generally.

**Facilitation** – a “light” form of third-party involvement with the aim of establishing

communication, rather than actively seeking potential solutions.

**Game theory** – a mathematical approach to economics and behaviour that attempts to recreate real trade-offs and motives by defining the rules of transaction in simulated “games”.

**Interests** – what the participants in a process of negotiation set out to achieve (Susskind, 1999) and what motivate people within conflict (Fisher and Ury, *ibid.*).

**Mediation** – a process of negotiation whereby a third-party maintains constructive dialogue but does not actively direct the discussion or dictate its outcomes.

**Multi-Criteria Analysis (MCA)** – a mathematical and economic approach to finding “best-fit” management policy solutions. Important management criteria (employment, conservation, revenue etc.) are identified and given nominal values before they are traded-off mathematically.

**Platforms (for resource use negotiation)** – formal or informal decision-making bodies representing interdependent stakeholders and concerning certain sets of management problems (Röling, *ibid.*).

**Position** – the public stance of an individual or group towards an issue or dispute. Positions are dictated consciously, or subconsciously, by *interests* (see above).

**Prisoner’s Dilemma** – a situation whereby the logical, selfish position of each party is actually counter-intuitive and destructive.

**Rapid Appraisal of Agricultural Knowledge Systems (RAAKS)** – a set of participatory tools developed by Salomon and Engel (*ibid.*) and designed to actively involve local stakeholders in re-appraising management options and problem-solving. Principally designed to analyse the effectiveness of agricultural extension programmes but applicable to any system.

**Social capital** – the formal and informal networks of membership, reciprocity or trust that people may draw upon in pursuit of their livelihoods. (DFID Guidance Sheets, April 2000).

**Social learning** – the enhancement of social capital by lifting barriers to communication and encouraging mutual learning through dialogue.

**Soft Systems Methodology** – Peter Checkland’s (1981) methodology to understand complex, “messy” problems that characterise human and management systems. SSM accepts the diversity of world views held by stakeholders but attempts to promote learning by deconstructing and discussing problems and potential solutions.

**Sustainable Livelihoods Approach** -- a framework designed to improve understanding of poverty and the effectiveness of development policy and programmes. The SLA focuses on the potential of individuals to realise sustainable livelihoods through their

present assets (human, social, physical, natural and financial) and how these assets might better be utilised to meet the current and future needs of the poor.

**Transforming Structures** – the formal and informal institutions that can convert livelihood assets to sustainable livelihoods. They can include both political infrastructure and social networks.

**Win-win** – the end-point of negotiation, analogous to consensus, whereby all parties perceive their position to be strengthened.

## References

- Ackoff, R. (1969). Systems, organizations, and interdisciplinary research. In: Emery, F. ed., *Systems Thinking*. Penguin Books, Middlesex, UK.
- Avruch, K. and Black, P. (1991). The culture question and conflict resolution. *Peace and Change*, **16**(1), 22-45.
- Axelrod, R. (1984). *The Evolution of Cooperation*. New York: Basic Books.
- Borrini-Feyerabend, G. (1997). Beyond fences: seeking social sustainability in conservation. IUCN, Gland, Switzerland.
- Boulding, K. E. (1956). General systems theory – the skeleton of science. *Management Science*, **2** (3).
- Brown, K., Adger, W. N., Tompkins, E., Bacon, P., Shim, D. and Young, K. (2000). Trade-off Analysis for Marine Protected Area Management. CSERGE Working Paper 200-02, University of East Anglia.
- Carney, D. (1999). *Sustainable Rural Livelihoods: what contribution can we make?* Papers presented at the Department for International Development's Natural Resources Advisers' Conference, July 1998. DfID UK.
- Castro, A. P. (1996). Indigenous knowledge and conflict management: exploring local perspectives and mechanisms for dealing with community forestry disputes. Paper prepared for the FAO, Community Forestry Unit, for the Global Electronic Conference on "Addressing Natural resource Conflicts through Community Forestry", January-April 1996.
- Center for Democracy and Governance – USAID (2000). Alternative Dispute Resolution Practitioner's Guide. Technical Publications Series . **15**.
- Checkland, P. B. and Scholes, J. (1990). *Soft systems methodology in action*. Wiley: New York.
- Checkland, P. (1981). *Systems Thinking, Systems Practice*. Chichester, UK: John Wiley and Sons.
- Cohn, B. (1967). Some notes on law and change in North India. In: Bohannan, P. (Ed.) *Law and Warfare*, pp 139-159. The Natural History Press, Garden City.
- Danzig, R. (1973). Toward the creation of a complementary, decentralized system of criminal justice. *Stanford Law Review* **26**, 1-54.
- Dawes, R. M. (1973). The commons dilemma games: an n-person mixed motive game with a dominant strategy for defection. *ORI Resources Bulletin* **13**: 1-12
- Department for International Development (UK). 2000. *Sustainable Livelihoods*

*Guidance Sheets.*

Duryea, M. L. B. (1992). *Conflict and Culture: a Literature Review and Bibliography*. Victoria, BC: University of Victoria Institute of Dispute Resolution.

Environment Council. 1995. *Environmental Resolve – Beyond Compromise: Building Consensus in Environmental Planning and Decision-making*. London, The Environment Council.

Estes, C. (1989). Consensus and community. *Healing the Wounds* 235-241.

Fisher, R. and Ury, W. (1981). *Getting to Yes*. Houghton Mifflin Company: Boston.

Gibbs, J. (1963). The Kpelle moot: a therapeutic model for the informal settlement of disputes. *Africa* **33**, 1-11.

Glasbergen, P. (1996). Learning to Manage the Environment. In: W.M.Lafferty and J. Meadowcroft (Eds.) *Democracy and the Environment: Problems and Prospects*, pp. 175-193. Cheltenham: Edward Elgar.

Guijt, I. (1999). Participatory monitoring and evaluation for natural resource management and research. In: Socio-economic methodologies for natural resources research – best practice guidelines. Department for International Development, Natural Resources Institute.

Gujja, B. and Pimbert, M. P. (1996). Community-based Planning for Wetland Management: Lessons from the Uchchali Complex in Pakistan. Paper presented at the International Conference on Wetlands and Development, Kuala Lumpur.

Habermas, J. (1984). *The Theory of Communicative Action. Vol. 1: Reason and the Rationalisation of Society*. Boston: Beacon Press.

Hackett, S., Dudley, D. and Walker, J. (1995). Heterogeneity, information and conflict resolution: experimental evidence on sharing contracts. *Local commons and global interdependence* 93-121.

Hall, E. T. (1976) *Beyond Culture*. Garden City, New York: Anchor.

Keohane, R.O. and Ostrom, E. (1995). *Local Commons and Global Interdependence: Heterogeneity and Co-operation in Two Domains*. London: Sage Publications Ltd.

Kramer, R. M. and Messick, D. M. (1995). *Negotiation as a Social Process*. Thousand Oaks, CA: Sage.

Lax, D. A. and Sebenius, J.K. (1986). *The manager as negotiator: bargaining for cooperation and competitive gain*. New York: The Free Press

Long, N. and Long, A., eds. (1992) *Battlefields of Knowledge: the Interlocking of Theory and Practice in Research and Development*. London, UK : Routledge.

Lund, B., Morris, C. and LeBaron Duryea, M. (1994). *Conflict and Culture: Report of the Multiculturalism and Dispute Resolution Project*. Victoria, BC: University of Victoria Institute of Dispute Resolution.

MacNaughton, A. L. and Brune, G. J. (1997). *Mediating sustainable development conflicts in warm and humid petrochemical zones*. Paper presented at the ABA/IBA Conference on Development, the Environment and Dispute Resolution in the Americas: New Directions for the Private Sector.

Mardle, S. and Pascoe, S. (1997). A review of applications to fisheries using multi-objective programming techniques. CEMARE Research Paper **117**, 24pp.

Miall H., Ramsbotham O. and Woodhouse, T. (1999). *Contemporary Conflict Resolution*. Polity Press: UK.

Moore, C. J. (1996). *The Mediation Process: Practical Strategies for Resolving Conflict*. Jossey-Bass.

Moore, C. and Priscoli, J. D. (1989). Executive summary on ADR procedures. Institute for water Resources, U.S. Army Corps of Engineers, Fort Belvoir, VA.

Moore, C. and Santosa, M. (1995). Developing appropriate environmental conflict management procedures in Indonesia: integrating traditional and modern approaches. *Cultural Survival Quarterly* **19**, 23-29.

Nader, L. (1995). Civilization and its negotiations. In: Caplan, P. (Ed.) *Understanding Disputes*, pp 65-82. Berg, Oxford.

Ostrom, E. (1990). *Governing the Commons: the Evolution of Institutions for Collective Action*. Cambridge University Press.

Penzich, C., Thomas, G. and Wohlgenant, T. (1994). Conflict and Consensus Building in the Awá Indian Territory, Ecuador. In: *The Role of Alternative Conflict Management in Community Forestry*. RESOLVE, FAO 1994.

Pimbert, M . P. and Pretty, J. M. (1995). Parks, people and professionals. Putting participation into protected area management. UNRISD-IIED-WWF, UNRISD Discussion Paper No. 57, Geneva, Switzerland.

Powelson,. D. (1972). *Institutions of Economic Growth: a Theory of Conflict Management in Developing Countries*. Princeton University Press: New Jersey.

Priscoli, J. D. (1990). *Public Involvement, Conflict Management and Dispute Resolution in Water Resources and Environmental Decision-Making*. IWR Working Paper 90-ADR-WP-2. Institute for water Resources, U.S. Army Corps of Engineers, Fort Belvoir, VA.

Pruitt, O. and Carnevale, P. (1993). *Negotiation in social conflict*. Open University Press: Buckingham.

Pruitt, D. and Rubin, J. (1986). *Social Conflict: Escalation, Stalemate and Settlement*. New York: Random House.

Rabbie, M. (1994). *Conflict Resolution and Ethnicity*. Westport, CT: Greenwood.

Ramirez, R. (1998). Stakeholder analysis and conflict management. In: D. Buckles (Ed.) *Cultivating Peace: Conflict and Collaboration in Natural Resource Management*, pp. 101-126. World Bank Institute.

Rijsberman, F. (1999). Conflict management and consensus building for integrated coastal management in Latin America and the Caribbean. *Technical Paper Series. Inter-American Development Bank, Sustainable Development Department*. December, 1999, 1-51.

Röling, N. (1996). Creating human platforms to manage natural resources: first results of a research programme. *Agricultural R & D at the Crossroads - merging systems research and social actor approaches*. 149-156.

Röling, N. G. and Jiggins, J. (1998). The ecological knowledge system. *Facilitating Sustainable Agriculture - participatory learning and adaptive management in times of environmental uncertainty*. 283-309.

Röling, N. (1992). The Emergence of Knowledge Systems Thinking. In: *Knowledge and Policy: The International Journal of Knowledge Transfer and Utilization*, 5(1): 42-64.

Röling, N.G. (1994). The soft side of the land: socio-economic sustainability of land use systems. Invited paper for the conference “Geo-Information for Sustainable Land Management”, organised by the ITC. Enschede, The Netherlands, 17-21 August 1997.

Salomon, M. L. and Engel, P. G. H. (1997). *Facilitating innovation for development - a RAAKS resource box*.

Scialabba, N. (ed.). (1998). *Integrated Coastal Area Management and Agriculture, Forests and Fisheries. FAO Guidelines*. Environment and Natural Resource Service, FAO, Rome. 256p.

Steelman, T. A. and Maguire, L. A. (1999). Understanding participant perspectives: Q-methodology in national forest management. *Journal of Policy Analysis and Management* 18, (3), 361-388.

Steins, N. A. and Edwards, V. M. (1998). Platforms for collective action in multiple-use CPRs. *Discussion paper for the 7th IASCP Conference, Vancouver*

Susskind, L. (1999). An alternative to Robert's Rules of Order for groups, organisations, and ad hoc assemblies that want to operate by consensus . *The Consensus Building Handbook* 3-60.

Thompson, L., Peterson, E., and Kray, L. (1995). Social context in negotiation: an information processing perspective. In R.M. Kramer and D.M.Messick (Eds.),

*Negotiation as a Social Process* (pp.5-36). Thousand Oaks, CA: Sage.

Uphoff, N. (1996). Understanding the world as a heterogeneous whole: insights into systems from work on irrigation. *Systems Research* **13**(1), 3-12.

Warner, M. (1999). *Managing conflict and building consensus in rural livelihood projects: strategies, principles, tools and training materials*. Overseas Development Institute: London.