LTC Paper

Disputes in Common Property Regimes

by

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INTRODUCTION

A. LITERATURE ON COMMON PROPERTY: DISPUTES AS AN AREA OF STUDY

Common property regimes (CPRs) have received considerable attention in the scholarly literature, especially since the provocative essay by Hardin (1968). Although the various perspectives taken and the legaUadministrative models proposed differ considerably, consensus seems to exist concerning the importance of effective conflict prevention and management to the success of CPRs generally.

The literature on CPRs provides diverse interpretations of philosophical, socio-political, and economic issues surrounding the origin and operation of such regimes (see Berkes 1989; Bromley 1989; Bromley and Cernea 1989; Ciriacy-Wantrup and Bishop 1975; Hardin 1968; Lawry n.d., 1989, 1990; McCay and Acheson 1987; Ostrom 1990; Runge 1986). These issues have commonly been demonstrated in the context of particular regions (see Lynch 1991; Odell 1981; Simpson and Sullivan 1984) or particular CPRs with which the author has familiarity (see Fleuret 1985; Greenhow 1980; Gulbrandsen 1985; Khan 1991; Roe 1988), including forestry CPRs—the focus of this paper (see Arnold and Campbell 1985; Gerden and Mtallo 1990; Shepherd 1991).

Bruce and Freudenberger (1992, p. 5) identify four areas of CPR management that require further research: (1) emerging patterns of CP (common property) management; (2) different institutional models for management; (3) appropriate research methodologies; and (4) alternative legal bases for CP management. In this comparative paper about conflict management, all these areas are briefly addressed—patterns, models, research methodologies, and legal issues. The ultimate question becomes, in the words of Bruce and Freudenberger: "of what government can do to provide an appropriate environment... [and moreover, what an

observer must do]...to examine the nature of government dispute resolution machinery, the manner in which disputes are resolved, and how this machinery interfaces with less formal dispute settlement mechanisms."

Despite the widespread understanding that effective conflict management is critical to the successful operation of a CPR (see general discussion in Stanbury, n.d.), disputes in CPRs have rarely received much attention (as an exception, see Cousins 1987; Fischer 1992; Rose and Isse 1989; Thomson et al. 1989). In fact, disputes about CPR management, membership, and resource allocation are widespread, appearing in all types of CPRs. Many CPRs have become highly dysfunctional or have dissolved due to conflicts among members or due to the inability of the user group (UG) to protect its interests when confronted with challenges from competing user groups or state interests.

Thomson (1989 et al., p. 115), in particular, argue strongly that the issues of dispute causation and dispute resolution are critical to CPR operation, though conflict management is often ignored by designers and analysts of projects that concern, as they designate it—"Renewable Natural Resource Management" (RNRM):

> When legal problems (e.g., property rights disputes concerning RNR) are not resolved, they can seriously impede or totally block efforts to exploit and manage contested RNR. Attention to the existence and exercise of authoritative relations concerning dispute resolution in going concerns involved in RNRM can provide critical insights into both problems and opportunities in RNRM.

In essence, disputes, which are indicators of systemic "tension pressure points" (Freudenberger 1992), can reveal areas of stress in a common property regime.

Despite the obvious implications of effective dispute management for successful CPR operation, studies of common property and dispute management ordinarily do not intersect. Thus, the literature concerning common property regimes rarely even mentions disputes, much less analyzes comprehensive dispute data, while the literature concerning dispute management only occasionally, and then superficially, covers common property issues.

B. SUBJECT MATTER OF THE PAPER

This paper is concerned with the impact of disputes upon CPR management. Unfortunately, as indicated above, the task of linking common property concerns with dispute management concerns is greatly hindered by the gaps in the literature. When the CPR literature mentions disputes, it most often mentions only dispute causes, excluding the complex dynamics of dispute processes (for example, the relationships of parties involved in conflict, the institutions called into operation, and the evolution of disputant relationships and dispute issues over time). At the same time, when the dispute literature mentions disputes about common property, it ordinarily fails to dissect the particular legal arrangements of a CPR that gave rise to conflict

(for example, the ways for dividing competing or complementary use rights within the user group, the formation and operation of the user group, and the specificity about external relationships with other groups or the state). The limited interface between CPR studies and dispute studies reduces possibilities for analyzing and comparing various CPR legal arrangements in terms of the incidence of dispute.

In view of the gaps in the literature, this paper addresses in an exploratory manner the following three questions concerned with conflict in CPRs:

(1) What kinds of conflicts arise in association with what kinds of legal arrangements? In answering this question, attention will be paid to types of CPRs, institutional arrangements, and user groups, and so forth.

(2) How are such conflicts processed (that is, managed in the system)? For example, what are the institutions/authorities responsible for dispute resolution, what means do they have at their disposal for dispute management, and what procedures can disputants follow for appeal?

(3) What arrangements (that is, combinations of variables, such as rules, institutions, and settlement procedures, *in context)* seem to be least likely to give rise to conflict or, otherwise, to be most conducive to satisfactory conflict resolution?

C. ORGANIZATION OF THE PAPER

In the first section of the paper, definitions of CP and a typology of property forms are presented. In addition, features of all CPRs are outlined: (1) resources; (2) users of the resource; (3) institutional arrangements; and (4) rules. In the final category, that of "rules," Oakerson's (1986) three-tiered rule model is outlined. Although all four features have an impact upon the types of conflict that will arise in a particular CPR, the rules, in particular, define the legal arrangements that will underlie conflict management.

In the second section, eight case studies of disputes in CPRs have been selected to represent diverse issues relevant to conflict management. All cases are organized according to the relationship between disputing parties, and each case is analyzed according to Oakerson's rule model.

In the third section, conflict management in CPRs is analyzed as a whole and comparisons are drawn from diverse systems. Comparative themes about CPRs are again organized according to the three tiers of Oakerson's rule model. The themes are drawn from the previous case studies and from the literature.

In the fourth and concluding section, the findings about the relationship between CPR legal arrangements and the incidence of conflict are summarized. A future research agenda is suggested.

In Appendix A, three proposed research questionnaires which deal with user groups, institutions, and disputes are presented.

I. COMMON PROPERTY REGIMES: DEFINITIONS AND ISSUES

A. COMMON PROPERTY: ONE FORM OF PROPERTY MANAGEMENT

There is no "tragedy of the commons" (Hardin 1968), "only common property institutions which function more or less effectively, depending on the nature of the resource, the details of the institution, and the level of scarcity" (McCay and Acheson 1987; also McGranahan 1991).

As McGranahan (1991, p. 1277) notes: "Common property is taken to include any property regime which ensures that more than one user has free access to the same resource. It can involve restrictions on what technologies can be employed, who qualifies as a user, what level of use is allowed, and so on. Moreover, it can include duties as regards resource maintenance."

B. TYPOLOGY OF PROPERTY FORMS

Bromley (1989) has proposed a typology of property forms, distinguishing between private property, state property, common property, and open access property. Bromley and Cernea (1989, p. 20) specify that the first three types of resource regimes are primarily differentiated according to the decision-making process that matches each respective regime. This paper is concerned exclusively with common property regimes, in which groups rather than single owners decide what is to be done with a resource and property.

Using the example of rangelands, Simpson and Sullivan (1984, p. 65) describe the many ways in which common property resources can be owned, managed, and exploited: (1) the land may belong to the government with use rights based only in tradition; (2) the land may be quasi-owned by a traditional use group; (3) the land may be owned by a group but managed by a vote of all owners; and (4) the land may be corporately owned but controlled by a hired manager. Although each system of ownership, management, and exploitation obviously gives rise to disputes that possess features unique to that particular system, this broadly comparative paper does not seek to differentiate according to system of ownership and management; rather,

it looks for general principles that are found in *most* systems. The principles are further illustrated with specific examples drawn from the variety of systems.

C. FEATURES OF COMMON PROPERTY REGIMES

Common property has no pure form; each property regime, whether by choice or coercion, is compelled to adapt to local conditions. More specifically, each CPR must adapt to the particular resource and social conditions found in each particular physical and institutional context. Despite variations in CP arrangements, all CPRs are characterized by the presence of the following components:

1. RESOURCES

CPRs are fundamentally concerned with resources; some CPRs are concerned with a single resource, whereas others are concerned with a variety of inter-connected resources. As an example of the variety of resources with which a CPR can be concerned, Jodha (1985, p. 248) describes the resources that have supported livestock farming in Rajasthan, India: community grazing lands, including forests protected on religious grounds; village forests and woodlands; private croplands available for public grazing after harvest of crops; community threshing and waste-dumping grounds; community ponds and animal watering points; migration routes and facilities; and community facilities for stock breeding. Conflict in CPRs normally focuses upon some aspect of resource management, access, distribution, or use.

2. USERS OF THE RESOURCE (USER GROUPS)

Users have rights to resource use as individual members of a group (see Ciriacy-Wantrup and Bishop 1975). Bromley and Cernea (1989, p. 15) describe the variation in user groups:

> The property-owning groups vary in nature, size, and internal structure across a broad spectrum, but they are social units with definite membership and boundaries, with certain common interests, with at least some interaction among members, with some common cultural norms, and often their own endogenous authority systems. Tribal groups or subgroups, or subvillages, neighborhoods, small transhumant groups, kin systems or extended families are all possible examples. These groups hold customary ownership of certain natural resources such as farm land, grazing land, and water sources. [See also sample Questionnaire 1 about users/user groups in Appendix A.]

In the CP literature, various authors emphasize different ideal models that should determine the membership criteria of resource user groups. For example, McCay and Acheson (1987) and Bullock and Baden (1977) indicate that user groups must be culturally coherent; therefore, group membership must be based primarily on cultural identity, for example, membership in a community or a particular kin group. In the authors' view, the user group should ideally share power with the government in managing the CP resource. As a contrast, Hardin (1968) and Fife (1977) indicate that group membership must be based primarily on common resource use since such a focus ensures that the group will be composed of rational

profit-maximizers. In the authors' view, the government should make major decisions about important matters, such as the resource boundary, and should exercise primary control. Finally, Ostrom (1990) indicates that group membership should be variable.

3. INSTITUTIONAL ARRANGEMENTS

Institutional arrangements can be double-edged in conflict situations: some types of arrangements may actually give rise to conflict (particularly when the structure of authority is breaking down), whereas other arrangements are specifically designed to regulate conflict. Institutional arrangements that are more likely to give rise to or to contribute to conflict, thus resulting more frequently in production loss, require either revision or careful monitoring.

Cousins's (1987, p. 48) discussion of grazing schemes in Zimbabwe demonstrates how institutional arrangements, depending on stage of development, can give rise to conflict, including particular kinds of conflict. In effect, he makes the connection between the status of the grazing scheme (operating versus planned) and the incidence of conflict. He further argues that planned schemes more often give rise to conflicts within the community, whereas operating schemes more often give rise to conflicts with neighbors (see sample Questionnaire 2 about institutions in Appendix A).

4. RULES (OPERATIONAL RULES AND RULES TO MANAGE CONFLICT

All CPRs must be governed by rules; in the absence of such rules, the property arrangement becomes one of "open access." Some CPRs are governed by formal rules; some by informal rules. Some CPRs are characterized by complex sets of rules; others by simple sets of rules. Some CPRs require rules to regulate internal conflicts (between members); others require rules to regulate external conflicts (between the group and another group or between the group and government agencies). The particular form that rules will take in each CPR is closely correlated with the formalization of a CPR; formalization tends to, almost by definition, bring about more "formal" and more complex rules as well as bring about rules that define more closely external relations of the UG.

Oakerson (1986, pp. 16–17) has classified rules within three categories: (1) rules that establish conditions of collective choice within the group; (2) rules of operation that regulate use of the commons; and (3) rules that define external arrangements, that is, the decision-making structures outside the immediate group that impinge upon the use of the commons (see also Oakerson 1992; Bromley 1989). In brief, rules define three aspects of the common property user group: (1) constitution; (2) operation; and (3) external arrangements. For example, rules of constitution govern group membership; rules of operation govern authority structures and access to resources; and rules of external arrangements govern conflict management, particularly in a situation of state intervention. This paper conceptualizes the data according to these three categories of rules.

When CP user rules are unclear or are broken, conflict between individual users, between user groups, or between a user group and the state may develop. Most CPRs are likely to experience some form of conflict at one time or another; nonetheless, some CPRs, by their

very nature, will continuously operate under the threat of conflict. Because the potential for conflict is always lurking under the surface of even peaceful relations, clear rules, including rules to alter nonfunctional or obsolete rules, are critical to minimizing conflict potential.

In addition to their function of controlling conflict, rules also serve to regulate competition. Peperkamp (1986, pp. 4-5), in his discussion of conflict concerning common property resources in select areas of Kenya, differentiates competition and conflict:

> competition: one or more parties (actors) are being hindered while converting their production needs in spatial terms, by the other party (parties) without feeling the need or having the will to take action against this...
>
> conflict: one or more parties (actors) are being hindered while converting their production needs in spatial terms, in such a way that one or more wish to take action at the cost of the other party or parties.

This discussion is concerned with conflict, which is characterized by *action,* whether taken by aggrieved CPR members, groups, or government representatives. When individuals act alone, only their personal interests are at stake; their individual differences can likely be resolved without negatively affecting the system. When groups or government representatives act, widespread problems may be exposed to public scrutiny; the whole system will inevitably be affected. In any case, rules must regulate conflict at all levels, whether involving few or many individuals (see sample Questionnaire 3 about disputes in Appendix A).

In summary, the particular constellation in each social/political context of *resource, users of the resource, institutional arrangements,* and *rules* determines the kinds of conflict that arise, who is likely to engage in conflict, who manages the conflict, and how the conflict is managed.

II. DISPUTE CASES

The eight cases presented in this section have been selected so as to represent the following diverse issues relevant to conflict management in CPRs: (1) different kinds of resource conflict (for example, grazing land, water, trees—tree resources are given priority); (2) different disputant relationships at respective levels of the citizen/group/state hierarchy (refer to Box 1); (3) different CPR management/institutional systems (ranging from informal management by family members to formal management according to officially recognized and sanctioned local by-laws or national legislation) (refer to Box 1); and (4) different external (national) legal arrangements (Guatemala, Lesotho, Somalia, Senegal, Bangladesh, Namibia, and Mexico) that interface with internal (customary community) legal arrangements. In effect, the strengths or

BOX 1: HIERARCHY OF AGENCIES FOR DISPUTE MANAGEMENT

Disputes about common property resources, as illustrated in the accompanying case study of the Taita people living in the Taita-Taveta District, Coast Province, Kenya, are often heard by authorities at different levels of an administrative hierarchy (see also Hesseling 1985 and Rose 1992 for discussions about hierarchies of land dispute settlement). The Taita share water from the Mwatate River that flows in a southwest direction out of the Taita Hills. They use this water to irrigate their crops of maize and beans, thus extending the growing seasons.

"Disputes are preferably sorted out among neighbors (usually, that is, within lineages) and by senior agnates. The canal committee is invoked with great reluctance, this being an admission that the agnatic group cannot handle its difíiculties internally, which places all concerned in an unfavorable light.

"Disputes between users of different canals are most likely to arise when an upstream canal committee has built its intake too far into the stream, thus reducing the amount of water available to those downstream. If informal consultation fails to resolve the issue, it will be taken up beíore the sub-chief within whose jurisdiction the canals lie. The sub-chief and his advisers (who parallel the traditional *izanga* organization) decide who is right or wrong, assess fines, and arrange for reparations if need be.

"If the two disputing committees are from different sub-locations, then the affair must be resolved at the level of the location, which is headed by a chief. In recent years two factors have combined to increase the number of such disputes: expansion of the irrigation system at the bottom of the hills through construction of additional canals and branches, and increased utilization of the system at the top of the hills through year-round commercial vegetable production. Nowadays the water available is simply not enough to meet all competing needs.

"In these circumstances of scarcity, downstream users tend to suffer most, for two reasons. First upstream users have the power of pre-emption; that is, they can simply appropriate the water by building out their intake and waiting for those below to seek redress through the sub-location/location administrative apparatus. But pursuing a case through this system is much more time consuming than building out the canal intake, and there is no guarantee the result will favor the downstream users. Hence, many acts of pre-emption go unchallenged. Second, upstream users are closer, both physically and politically, to location-level decision makers, and their coffee and vegetable trade has given them economic power as well. They are therefore able to dominate in the disputing process. This association between elevation and political power colors many other facets of Taita life; it is generally thought, and apparently true, that highlanders are disproportionately represented among the ranks of chiefs and sub-chiefs, and it is also often alleged that public funds ('Harambee' contributions) collected from among the people at large to build schools, clinics, and domestic water systems are spent more in the highlands than the lowlands."

Patrick Fleuret, "The Social Organization of Water Control in the Taita Hills, Kenya," *American Ethnologist* 12 (1985): 103-118.

weaknesses of CPR design are assessed in the context of each particular case—according to both internal and external arrangements.

As a whole, the dispute cases have been organized to reflect the relationship between disputants. The eight disputes are between: (1) members of a family and the community; (2) members of a cooperating pastoral group; (3) members of several competing pastoral groups; (4) members of a pastoral group competing with an agricultural group; (5) members of different communities as well as the communities and the state; (6) members of a landless group competing with a landed livestock-holding group; (7) members of a landless group opposing state intervention; and (8) members of several cooperating forest-management groups.

Each of the eight cases is summarized and subsequently analyzed according to Oakerson's rule model: rules of collective choice, rules of operation, and rules of external arrangements. Rules of collective choice and operation define internal group relations, whereas rules of external arrangements define the group-state relationship. Following all case studies, dispute processes, including causes, forums, and appeals are discussed.

A. DISPUTE BETWEEN A FAMILY AND THE COMMUNITY

CASE #1: FAMILY STRUGGLES TO ASSERT PERCEIVED LAND RIGHTS AGAINST CLAIMS BY THE LARGER COMMUNITY (GUATEMALA)

In the village of Paqui in Guatemala, an isolated, mountainous community where land is scarce, a small group of community members, a "family," claims to be the heirs of the community leader from the time of the *reducción* (systematic attempt to facilitate the westernization of the native population by organizing them into Spanish-style communities characterized by private rather than communal property). They further claim that they are entitled to sole ownership of the land, since the government intended for this land to be given to the head of the community as an individual, and not to the community itself. They base their claim upon the fact that the head of the community originally signed the papers in the property transaction. On the other hand, members of the larger community dispute the supposed heirs' claims, asserting that the head of the community was merely acting on behalf of the community and in its collective interests.

At first this claim was regarded by most interested parties as specious. A case was raised at the district court, where a judge heard the arguments but made no decision. The case has languished at the court for over two years, during which time neither the community nor the heirs claiming ownership have been officially allowed to use forest resources. In addition, the village council has no direct relationship with the government and thus can make no claim to the eminent domain powers of the government.

Until that time at which the case is settled, the community's common property rights remain diminished and benefits are eroded (CPR management cannot offer members outputs,

members are inclined to steal resources, and members do not respect the rules). Furthermore, should the case be decided against the community, other CPR management entities could be undermined by similar litigation. [Case in Castellon 1992.]

Rules establishing conditions of collective choice

(1) The membership of the group (family or larger community) possessing ownership rights is unclear.
(2) The role of the community leader in managing the common property is unclear.

Rules regulating use of the commons

(No information provided.)

Rules defining external arrangements

(1) Property law was poorly defined and inconsistently applied in different communities.
(2) The local court appeared unwilling to make a decision.

The dispute primarily concerned rules of collective choice: the rights and responsibilities of the smaller family group in relation to the larger community were unclear and thus a subject of contention. In addition, dispute settlement was hindered by uncertainty regarding the rules of external arrangements: confusing legal provisions and the unwillingness of the court to define, much less enforce, the respective property rights of the disputants.

B. DISPUTE WITHIN A COMMUNITY AND BETWEEN THE COMMUNITY AND SURROUNDING COMMUNITIES

CASE #2: RANGE ASSOCIATION ATTEMPTS TO MANAGE INTERNAL DISPUTES AMONG MEMBERS AND TO PREVENT ENCROACHMENT BY OUTSIDERS UPON ITS LAND (LESOTHO)

Collective or public regulation of grazing was hardly evident during the pre-project period. Apparently, stockholders made private decisions about grazing, thus placing their animals where they chose. Chiefs were often unfair, were weak in the face of pressure from friends, large holders, and outsiders, or did not care enough about range conditions to enforce grazing regulations.

The Sehlabathebe grazing association operated according to a plan that had been created by project range managers in 1982. Unfortunately, many operating rules were violated by large numbers of stockholders. The executive committee of the association appeared unwilling and unable to mount a consistent rule enforcement program, and the project increasingly took over management of the enforcement function.

Initially, the project staff concentrated on "constitutional," that is, organizational, issues. The project staff made contacts with leading livestock owners, identifying potential leadership and promoting the project's goals and management ideas before local assemblies. They assisted in crafting the association's constitution and by-laws and in preparing the grazing management plan.

In brief, the plan provided for the distribution of all livestock, measured in animal units, among the three grazing areas: village, lower cattle posts, and upper cattle posts; for example, cattle should be moved from the village grazing area to the lower cattle-post pastures in the winter, and small stock should be brought to the village in the winter. The plan also prohibited use of the area's cattle post by outsiders.

The executive committee of the grazing association was empowered by the association's constitution to establish dates for the rotation of pastures and to appoint range riders who would enforce the plan. When operationalized, the committee's performance had two features: enthusiasm for impounding livestock originating from outside of Sehlabathebe, and inaction in enforcing grazing rules on Sehlabathebe, though enforcement patterns varied over the first three years of the project. In the first season, the majority of trespass cases were against outsiders, whereas by the third season, the majority of trespass cases were against insiders (Sehlabathebe residents). The discrepancy in enforcement patterns was attributable, in part, to the priorities of the association and, in part, to the demoralization (caused by low pay) and fear experienced by the range riders.

Members of the executive committee disagreed among themselves about enforcement of internal controls, enforcement of the summer rotation of cattle to the cattle posts, and enforcement by range riders of provisions prohibiting cattle from the village. Moreover, the executive committee appeared unable to enforce rules upon its membership, including uncooperative chiefs who were themselves violators. Most chiefs deferred day-to-day decision-making and enforcement to the association, though they still retained legal control over village grazing.

In one case involving an internal dispute, a chief, with the assistance of several neighbors, resisted an attempt by range riders to impound his smallstock found grazing in the cattle posts when they should have been in the village. The expatriate project manager and the association chairman took court action for trespass against the chief, the chairman, and five stockholders.

In another 1985 case involving external dispute, three large sheep holders from Ha Moshebi, a village outside of Sehlabathebe, attempted to reoccupy a cattle post in Sehlabathebe which they claimed was theirs before the establishment of the RMA. When confronted by range riders, they presented a grazing permit which they claimed was issued by the principal chief's office. This led to a major stir in Sehlabathebe as the sub-chief, the grazing association chairman, and the project sought clarification from the principal chief, who resided in a village 90 kilometers from Sehlabathebe. When contacted, the principal chief denied any

knowledge of the permit, though he admitted it had been issued by his office. When pressed by the project, he revoked the permit and the stockholders removed their sheep.

In August 1985, the Mosotho project counterpart returned from training in the United States. He was a well-liked man who understood the local personalities and the broader political contexts of the disputes in the executive committee. He presented arguments to the committee, attempting to encourage local management capability rather than project management and enforcement. Nonetheless, by moving in to shore up weaknesses in the association's internal management, he further weakened the executive committee leadership. General consensus was that the grazing association depended upon the project for continuation of activities. [Case in Lawry 1988.]

Rules establishing conditions of collective choice

(1) A range association with an executive committee was created to establish and enforce rules regarding livestock movements between and among pastures.
(2) The organizational rules were outlined in a constitution and by-laws.
(3) A range management plan was developed.
(4) All stockholders within the community were bound by the range management plan, though not all were in agreement.

Rules regulating use of the commons

The executive committee established dates for the rotation of the pastures.
The executive committee appointed range riders to enforce the plan internally and externally.

Rules defining external arrangements

(1) The executive committee, through the actions of the range riders, enforced trespassing provisions against outsiders (impounding stock).
(2) The executive committee relied upon the local court and the police to back up provision when offenders were recalcitrant.

The dispute concerned all three types of rules: community members and the executive committee disagreed among themselves regarding provisions of the range management plan; the association's executive committee was unable to implement fully provisions of the range plan; and the range riders, police, and local court were unable to enforce effectively and uniformly the plan's provisions.

C. DISPUTE BETWEEN SEVERAL PASTORAL GROUPS

CASE #3: SEVERAL GROUPS FIGHT ONE ANOTHER TO ASSERT WATER RIGHTS AT A NATURAL WELL THAT HAD BEEN REHABILITATED (DISPUTE CAUSED BY DEVELOPMENT PROJECT) (SOMALIA)

Officers from a government ministry improved a well in the Central Rangelands, thereafter closing a large natural well that occurred nearby, adjacent to a stream. They closed the larger well in order to prevent the entrance of water-borne disease and ammonium chloride (bacterial and chemical pollution) into the smaller but improved well. From their perspective, the water source was "improved" because the new well produced water of better quality (cleaner, in part, because animals drank from troughs rather than by wading in the water)—even though lesser in quantity. In addition, they considered the new well more permanent and durable since it had been lined with a concrete filling, and nomad users thereby did not have to reopen it manually every year.

Some nomad users—mostly those who were distantly located from the well—developed a more negative perspective of the undertaking. Unfortunately, they had few options for making their grievances known: they did not have their own user committee, and their access to government officials was limited. Consequently, they stewed quietly among themselves over their grievances, as follows: user participation was not equal in that they had not been consulted about the location of the proposed project; user committee rights to oversee water distribution and to collect newly assessed fees had been assumed by some groups (groups located near the well) at the expense of other groups (groups located far from the well); technical features of the well had been undesirably developed—particularly provision of only one trough and entrance point for water access; and the well was undesirably closed by officials during each wet season in order to prevent ammonium chloride from entering it. In effect, the disgruntled users believed that they had been granted too little control over project development and too little claim to benefits, and they believed that their access to the water had been limited by technical innovations and seasonal restrictions.

The situation was aggravated by the fact that the disgruntled groups were already on poor terms with the groups with which they were supposed to be cooperating—even before the project started. Eventually, the former groups violently destroyed the rehabilitated well with bullets. They thereafter reopened the larger, more accessible well, and operated it according to custom. (See Box 2 for more in-depth listing of dispute causes.) [Case in Rose and Isse 1989.]

Rules establishing conditions of collective choice

(1) The membership and structure of each user group was not defined.
(2) Interactions between/among user groups and their leaders were not defined.
(3) User groups competed with one another for rights of control and access to limited water resources.

Rules regulating use of the commons

(1) Water access rights were not defined and distributed.
(2) Water fees were assessed and collected by one group and its allies.
(3) A water committee was not set up to determine water access and distribution and settle disputes.
(4) Operations and maintenance staff were not recruited.
(5) Technical features of each proposed water point were not assessed in relation to each ecological and social setting; for example, only one trough and one entrance point were provided for water access, and the well was closed during the wet season.

BOX 2: CAUSES OF DISPUTE ABOUT CP WATER RESOURCES

According to a study by Rose and Isse, disputes about access to water at reservoirs* in Somalia can arise under any one, or more, of the following circumstances:

- a person or group is denied access to water;
- a person complains that his water share is inadequate;
- a person pushes his way to the front of the water line or crosses to another water line;
- a person transfers his water privilege to someone in the back of the line;
- a person refuses to pay for water;
- a person complains that he has been charged unfairly for water;
- a person complains that water which he has purchased or obtained has been stolen;
- a person allows his animals to mix with animals of a person ahead of him in the line, thus subversively advancing his position in the line;
- a person allows his animals to wade in the water, thus posing a sanitation hazard.

Most disputes caused by the above situations can be resolved through careful local-level administration/regulation. Usually customary law specifies methods of water access (e.g., a lottery system) and sanctions for disobedience (e.g., fines or exclusion from water source). In fact, local-level control is often advisable, considering the distance of many water sources from town officials and police. The government should only be called upon to incarcerate troublesome individuals or to separate feuding groups.

* **Some** reservoirs might be considered "open access," although the nomad groups who traditionally control the territory in which the reservoir is located assume prioritized rights. Other reservoirs are restricted in access by government policy to an established number of user groups. The government probably views the user rights more restrictively than do some competing user groups; in fact, in times of scarcity, non-user groups will attempt to expand their rights.

Laurel L. Rose and Abdullahi M. Isse, "Socio-Ecological Considerations in Construction/ Maintenance of Range Reservoirs," Socio-Ecological Report prepared for the Government of Somalia by the Food and Agriculture Organization of the United Nations (Rome: FAO, 1989).

Rules defining external arrangements

(1) Relationships among groups were not structured and managed under an external authority; consequently, a dissatisfied group destroyed the well.
(2) Traditional leaders and local government officials did not cooperate within a water committee.
(3) The state did not intervene in the dispute.

The dispute equally concerned all types of rules. The user group/s were not organized and regulated by clearly defined rules; the structure within which the groups should operate was not defined (for example, water access); and the role of external agencies was not defined. Unclarity at all three rule levels resulted not only in disputes but in the lack of internal and external mechanisms for resolving these disputes.

D. DISPUTE BETWEEN A PASTORAL GROUP AND AN AGRICULTURAL GROUP

CASE #4: TWO GROUPS ARGUE ABOUT RIGHTS TO TREES (SENEGAL)

Conflicts over rights to trees in Thialle, Senegal, center around the right of third parties to lop baobab branches for animal forage. By traditional law, the rights to lop baobabs found in fields are vested in the field owners. This provision requires further clarification under three circumstances: (1) when trees are on inherited land that has not been formally divided among the heirs; (2) when trees are on land that has been received under secondary access rights (the land has been received from other villagers or outsiders in the form of loans, rentals, sharecropping contracts, and pledges); and (3) when trees are on community woodlots. In the first situation, the land user must seek permission from the head of the family to use the trees on his field, and he cannot exclude other family members from using products from the fields on his parcel. In the second situation, the land user usually will not plant trees and is not always allowed to harvest trees (the owner ordinarily limits his use to three years, after which time the "renter" can claim ownership). In the third situation, the user group may not be granted clear land rights and thus tree rights, so that confusion develops regarding group and individual rights to tree resources.

Customarily, field owners generally allowed herders to remove branches to feed their livestock; however, the animals were not permitted to enter the fields. More recently, the Senegalese Forest Code has placed restrictions upon such rights. According to the Forest Code, the baobab is a protected species and all cutting rights (including noncommercial cutting) are subject to approval by the Forest Service (Article D.35). Moreover, as a protected species, the baobab cannot be cut for use as animal feed (Article D.24).

In 1989, the Forest Service revitalized some of the village forest-protection committees, CPNs, which had originally been charged with preventing and reporting illegal bush fires. The committees' redefined function was to prevent illegal use of forest resources and to report offenders, thereafter receiving 10 percent of the fines levied on the offenders turned in.

One of several conflicts developed at the beginning of the 1990 rainy season. Eight Peul herders who were cutting baobab branches were apprehended by CPN members from neighboring Wolof (farming) villages. The Peul claimed to have obtained the authorization of the field owners prior to lopping the branches. The Wolof farmers were divided as to whether the Peul had prior authorization or not. The majority of the Wolof informants expressed the opinion that they personally did not object to Peuls cutting in their fields as long as they did not harm their crops.

The evidence suggests that farmers, as both individual and group landholders, are enforcing their rights to exclude herders—not because they object to their lopping the branches, but because they wish to avoid being fined by the Forest Service for allowing others to cut their baobabs. Moreover, the fact that CPN members receive 10 percent commission from the fines levied on the offenders they turn in may also contribute to enforcement of the Forest Code.

At the time of the study, the conflict between Wolof farmers and Peul herders had not yet been resolved. The Forest Service stance was that herders can collect the leaves, provided that they do not cut the branches and the field owner gives his authorization. The *sousprefer* publicly stated that he cannot authorize any baobab branch-cutting for livestock feed, even if the landowner does not object, since the forest law forbids this practice. The CPN members claim that they are just doing their job, which is to uphold the forest regulations.

The Peul claim that most farmers would let them lop the branches, as they have done for decades without harming the trees, were it not for the unwanted intervention of the CPN. [Case in Stienbarger et al., n.d., pp. 13-14.]

Rules establishing conditions of collective choice

(No information provided.)

Rules regulating use of the commons

(No information provided about user groups of farmer families or about user groups on community woodlots.)

Rules defining external arrangements

The Forest Code was not uniformly enforced by authorities at different levels, thus creating confusion and disrespect for the law.
Government authorities enforced the Forest Code within local communities, despite disobedience: herders appeared determined to resist the code since they urgently needed forage for their livestock, and farmers appeared unconcerned by the herders' activities.

The dispute primarily concerned rules of external arrangements. The user groups, consisting of farmers and herders, had cooperatively shared tree resources before the Forest Code was introduced. After the code, confusion existed about tree ownership rights, in general, and herders' rights to forage, in particular. Rules of operation also contributed to conflict in that such rules were unclear, and farmers and herders did not share a structure within which to formalize agreements.

E. DISPUTE WITHIN A COMMUNITY, BETWEEN COMMUNITIES, AND BETWEEN COMMUNITIES AND THE STATE

CASE #5: VILLAGERS, CHARCOAL PRODUCERS, AND THE SENEGALESE FOREST SERVICE STRUGGLE OVER TREE RIGHTS (SENEGAL)

As a consequence of current urban energy demands, charcoal producers have recently moved into the Middle Senegal River Valley for the purpose of exploiting the common property woodlands. But the traditional common property regime stresses using only what is needed by community members and sanctions against the marketing of wood and use of this resource for individual gain. The objections of villagers are muted by the demands of the urban consumers of fuelwood and the urban-based patrons of the charcoal industry—both of whom act as two commanding groups that the government attempts to placate through its charcoal industry policies. Such policies have encouraged increased environmental degradation and the disenfranchisement of the local populations who have traditionally managed the woodlands.

In the past villages managed woodlands as flows, but currently, the management issue concerns who should have access to the resource for extraction purposes and who should bear responsibility for protecting the still living tree population. The question of who actually controls access to and use of the wood resources is confusing because of discrepancies between legally assigned rights and accepted or practiced rights. Moreover, state laws are sometimes inconsistently applied to local situations. State laws may be superimposed on local rules but not enforced when the state has no interest in controlling access to and use of the resources. Currently, the Senegalese forestry department and the charcoal producers are actively and legally asserting access to the local woodlands.

Two main layers of rules function in the region: legally sanctioned state rules, and laws (principally the 1964 National Domain Law and the 1974 Forest Code) and rules created by local institutions. Traditional resource-use rules do not have legal standing in Senegal. The set of rules that predominate depends largely on whether the state chooses to activate its controlling interest or implicitly abdicates this right, leaving room for traditional rules to operate.

Trees and land are administered separately by two different bureaucratic structures and regulated through contradictory laws. Thus, the land law bestows use rights of state-held lands to any individual or group who exploits them and according to particular national and local development guidelines, and the 1980 amendments to the Local and Territorial Administration

Law grant the rural councils the right to plan for the exploitation of all forest-gathering products and wood cutting; however, in direct contradiction, the Forest Code does not grant the rural council authority to mandate regulations affecting commercial activities of forest resources in their territory. In fact, a village may be able to acquire woodlands through the rural council to create a protected forest reserve, while the Forest Service has the legal authority to make management decisions concerning the trees on the acquired land.

Historically the woodlands have been managed by the community—a grouping of several villages and their village territories and the transhumant herders living in the area. The uncultivated woodlands and the trees on fallowed fields are considered common property resources, regulated by a set of rules. Recent changes originating both externally to and internally within the local communities have caused a deterioration of the existing common property resource system and a decline in the power of traditional leaders. Villagers are forming new interest groups. The traditional common property rules no longer successfully define user group membership or user rights nor serve to reduce conflict between traditional user groups and between the local users and outsiders.

The arrival of the charcoal producers has prompted numerous conflicts between the various actors competing for access, use, and management of the woodlands. The woodlands are viewed differently by each of the groups involved in these conflicts. Disputes between charcoal producers and local inhabitants have been violent on several occasions. Neighboring villages, which once shared in the management of these common woodlands, have responded disparately to charcoal production in their zone and have, on occasion, fought each other. Villagers opposed to the presence of the charcoal producers have repeatedly clashed with the forestry department.

Villages diverge in their responses to the introduction of the charcoal industry. Two villages which possessed a common border and shared many historical, social, and economic characteristics chose different responses: in the first, the villagers elected to protect their communal woodlands and fought to close their territory to outsiders, while in the second, the villagers assumed that they did not have the power necessary to combat the authorities and therefore chose to sell their wood resources. The first village endeavored to secure their wood resources by evolving and adapting local resource management rules and institutions to meet their newly defined needs. The institution that villagers are adapting to manage the wood resources is the youth organization. After a year of unsuccessful attempts at working with the Forest Service to ride the zone of charcoal makers, the villagers decided to contact the gendarmerie for assistance. This brought two state authorities (the gendarmerie and the Forest Service) into conflict and the affair escalated from a local to a regional problem. The regional forestry inspector subsequently visited the village and granted the power to protect its woodlands from outside charcoal producers. In the second village, politically dominant groups sell the wood resources secretively, arguing that if they do not sell the wood, then soon they will have neither wood nor money earned from the wood. These groups are opposed by other groups, usually the landless or the land-poor who depend on the common property resources

more. The latter favor protection of the resources in the interest of the larger community and long-term sustainability of the resource base.

The conflicts and concerns that have arisen from the introduction of charcoal production in the Senegal River Valley illuminate several important resource management issues—equity, efficiency, and sustainability. Preservation of a locally managed common property system would be more equitable for the community members because it would guard the interests of landless and land-poor members who depend more heavily on continued access to wood common-property resources, but such a strategy would require new leaders and institutional strengthening. [Case in Fischer 1992.]

Rules establishing conditions of collective choice

(1) By tradition, the woodlands were managed by communities as common property.
(2) Control of the woodlands broke down in many communities, such that elite groups or individuals exploited the wood.
(3) Many communities did not rely upon either their local institutions which had lost control or their leaders who tended to serve their own interests to protect their access rights.

Rules regulating use of the commons

(1) Charcoal producers extracted wood, except in cases in which the government formally granted villagers the right to protect their woodlands.

Rules defining external arrangements

(1) The Forest Code and other legislation were not uniformly enforced by authorities at different levels.
(2) Village user groups sometimes convinced external agencies to act in their interests—either through protection activities or through purchase of their wood resources.

The dispute concerned all three types of rules. The rules establishing collective choice were unclear, multi-layered in two competing systems (state and customary), and contradictory; consequently, various parties—either the villagers or the charcoal producers—used the ambiguities to their own advantage in litigation (choice of law and forum). In the first case, the villagers used the rules to mobilize authorities to protect their wood; in the second case, the villagers used the rules to gain rights to sell their wood. The rules regulating use were also vague: the charcoal producers freely extracted wood from a region unless the villagers physically prevented them or government orders restrained them. The rules defining external arrangements were most problematic since laws and institutions were unclear, and individual authorities could enforce laws or utilize institutions haphazardly, depending upon their interests and priorities.

F. DISPUTE BETWEEN A LANDLESS GROUP AND A LIVESTOCK HOLDING GROUP (DISPUTE PROVOKED BY A DEVELOPMENT PROJECT)

CASE #6: TWO GROUPS STRUGGLE TO CONTROL FOREST RESOURCES, INCLUDING LAND ¨OWNERSHIP¨ (BANGLADESH)

"The area on which Betagi now stands was at one time under the control of the Revenue Department and Forest Department. Gradually over the years through encroachment and timber theft (in some cases involving the collusion of the local officials of the forest and revenue departments), the land had been completely deforested and had come to be used by local elites for grazing and the construction of cattlesheds (by which means they hoped to establish rights to the land). The statutory right of the state had proved to be ineffective in protecting the forest, since economic considerations and social power overcame legal considerations. That is, the value of the forest produce far outweighed the cost of any fine that might be levied, and some officials of the relevant departments could be bribed to look the other way.

"In 1976, a new conservator, Professor A. Alim, was placed in charge of the Eastern Circle, which included that land where Betagi now stands. In casting about for a way to reforest this denuded area, he seized upon the idea of, as he put it, "linking the naked man with the naked land." He sought the cooperation of Dr. Mohammad Yunus, a professor at Chittagong University and founder of the Grameen Bank, which makes loans to the landless and poor, particularly women, and Mahbub Alam Chashi, an early mobilizer of the self-help movement. Together they set out to settle 101 landless households on the land. If it worked, this would have two effects. First, the households settled on the land would serve as "social fences," protecting trees they themselves had planted. Second, households which were given access to the means of production would no longer have to steal from the government forest (or work for timber thieves) in order to keep body and soul together.

"Professor Alim arranged for the government to give the community an annual lease to the land with the assurance that, if they could bring the land completely under production within five years, they would get a longer-term lease. Credit from the Bangladesh Krishi Bank, which provides agricultural loans, was arranged. The tenurial strategy adopted had the following components:

(1) homogeneity of titleholders—all recipients of land were to be landless laborers (72 households);
(2) medium-term security—the group was initially given a one-year lease with the opportunity of a five-year extension, a period long enough for fast-growing tree species to become productive;
(3) group responsibility—the lease for all the land was given to the group as a whole rather than to individuals. This had two effects. First, because it prevented outsiders from pressuring or forcing individual households into selling their land, it increased everyone's security. Second, because the whole group was endangered by any household's failure to repay the loan, the group enforced repayment. Group cohesion was witnessed by mandatory weekly meetings as well as instruction in literary and simple accounting procedures.

"Six years after the initial settlement, Betagi had more than justified its founders' vision. The ecological effects were clearly positive—the once-bare land was covered with trees and crops. And the people were running their own community with dignity and pride. But the experience had also demonstrated that establishing secure tenure goes far beyond staking out statutory rights.

"Security of tenure involves access to power. In its most naked form, it means, as Zillur Rahman (1987, personal communication) has remarked of Bangladesh, that rights need to be established every day. And so it was for the people of Betagi. Their leasehold right to the land could easily have become as ineffective as had been the statutory right of the Forest Department to the long-departed trees. Security of tenure ultimately depended upon force in the face of force and the power of the village's patrons. Local elites who were evicted from the land with the establishment of the village initially waged a campaign of harassment against the villagers—beatings, house burnings, arrests. The villagers fought back and the elites switched tactics, filing some twenty court suits against the village as a whole and against the tree patrons individually. The power and prominence of the patrons protected the villagers from a subversion of the justice system and their legal title was upheld in case after case after much struggle.

"But security of tenure has a temporal dimension as well and, at the end of five years, this became problematic for the villagers.... [In late 1987] each household received inheritable title to its land, which cannot be alienated." [Case in Fortmann and Bruce 1988: 338-41.]

Rules establishing conditions of collective choice

(1) Homogeneous community of landless poor attained exclusive rights to resources, thus eliminating livestock holders' assumed rights.
(2) Community was granted annual lease to the land, with the possibility of receiving a longer lease after five years.
(3) From the internal community perspective, each individual was responsible for his land plot and repayment of the loan.

Rules regulating use of the commons

(1) Community members met weekly.
(2) Community members received instruction in literary and simple accounting procedures.

(Information about group leadership not given in case description.)

Rules defining external arrangements

(1) From the external government perspective, the land was leased to the group as a whole: that is, the group was responsible for repayment of the loan, and no individual household could sell its land.
(2) Local elites harassed the villagers, eventually resorting to court action to defend their perceived rights.
(3) "Outside" elite patrons assisted the villagers in upholding their legal title.

The dispute primarily concerned rules of external arrangements: a competing user group of livestock holders relied upon intimidation tactics and the courts in their attempt to regain perceived land rights. The rules governing collective choice and user group operation were fairly well defined.

G. DISPUTE BETWEEN A LANDLESS GROUP AND THE STATE

CASE #7: GROUP PETITIONS THE STATE TO REVERT PRIVATIZED GRAZING LAND BACK TO COMMON PROPERTY LAND (MIER GRAZING LAND BETWEEN NAMIBIA AND BOTSWANA)

[see also the Barabaig case of central Tanzania, as described in the *Newsletter* article, "Tanzania," 1990]

Since 1981, the Mier people have opposed attempts to privatize and sell their land in fenced "economic units." Despite support from the United Democratic Front, the personal intervention of Nelson Mandela, and a lawsuit by the people of Mier, the Mier Rural Areas Bill became law in June 1990. The bill gives the government power to divide and sell Mier land to private individuals.

The Mier Residents Association (MRA) is waging a bitter fight against this law. They say that it will cause great hardship since very few people can afford to own private land. Laws restricting communal farming are not new to Mier. Before the Rural Coloured Areas Act of 1963, land was unfenced and nomadic pastoralism was practiced. By the 1960s, occupation rights were being granted, while the 1970s saw the start of fenced grazing units.

Fenced units have blocked free access to the dunes, where farmers formerly grazed their stock, especially after the rains. In 1981, the division and fencing off of the duneveld itself dealt the death knell to traditional nomadic stock farming. Under the new regime only a handful of farmers got grazing units. [Case in Khan 1991.]

Rules establishing conditions of collective choice

(1) The landless poor were loosely organized to defend perceived land rights against interests of local elite.

Rules regulating use of the commons

(No information provided.)

Rules defining external arrangements

(1) Legislation to privatize land passed, despite protests by herders.
(2) Different "outside" elite patrons assisted *either* the government side (supporting private land interests) *or* the pastoral side (supporting communal land interests).

The dispute primarily involved external arrangements. Legislation had privatized land, thus eliminating the common property user group and its land rights.

H. DISPUTE BETWEEN A COMMUNITY AND CONCESSIONAIRES, BETWEEN COMMUNITIES, AND AMONG COMMUNITY MEMBERS

CASE #8: SEVERAL COMMUNITIES PETITION THE STATE TO REVERT CONCESSIONAIRE FOREST INTERESTS TO THEM; ONCE SUCCESSFUL, COMMUNITIES STRUGGLE WITH ONE ANOTHER AND WITHIN THEMSELVES (MEXICO)

As part of the 1950s national development policies, 261,000 hectares of Sierra Juarez forests in Oaxaca came under a 25-year concession to the foreign-owned (but nationalized in 1965) Fábricas de Papel Tuxtepec (FAPATUX) to produce paper and news pulp. Although born out of the demand for national economic development, FAPATUX brought a profound paternalism to its relations with the communities that nominally owned the forest resources. Although it claimed to provide for a rational and integral use of the forests, it did no real forest management or reforestation during the concession period.

FAPATUX did not have absolute access to community forests; it was required to negotiate yearly contracts with the communities. However, its legal standing as concessionaire enabled it to suppress the communities' attempts to assert their rights—for example, to sell timber to other buyers or to use their own timber in setting up a woodworking shop.

In 1968, the community of San Pablo Macuiltianguis organized fourteen other communities into the Union de Pueblos Abastecedores de Materia Prima a FAPATUX. The communities' actions led to a five-year boycott of FAPATUX. Their primary objective was to receive more economic benefits; sustainability of the resource was not yet an issue.

During the 1970s, local economic initiatives were forestalled by the bargaining concessions offered by FAPATUX. But as October 1981 and the end of FAPATUX's 25-year concession approached, a new surge of grassroots initiatives developed. On 9 March 1980, 13 of the communities assembled in the mountain hamlet of Guelatão to create ODRENASIJ, an organization whose primary goal was to prevent a renewal of the concession and thereby guarantee communities the right to manage their own forests. The new organization published a newspaper, organized the first national conference of forest community organizations in May 1981, and lobbied state and federal government officials to promote its cause.

In 1982, the communities won their struggle, and ODRENASIJ, having met its primary purpose of defeating the concession, collapsed in 1983. The question of management arose. The individual communities slowly learned management techniques. By the mid-1980s, time profits permitted communities to invest in materials, thus improving their profits—for the benefit of the entire community.

One of the communities, Santiago Comaltepec, typifies the struggles experienced by all the communities. By the mid-1980s, it found itself split internally among conservationists, community foresters, and national timber interests. The battle came to involve factional interests between those parties supporting a bioreserve and a sawmill—each activity was

supported by a different NGO (one with an environmental orientation and the other a development orientation). The bioreserve initiative eventually failed because it upset the delicate equilibrium of municipal geopolitics, and the operating sawmill was closed in April 1990 when a new municipal president was elected. The dispute about the sawmill divided the community into pro and anti camps. In March 1991, the president reopened the sawmill.

Currently, community forestry efforts are challenged by both economic and political pressures. The political pressures have led to conflicts, for example, between supporting NGOs and with local government which is accustomed to controlling most peasant organizations. [Case in Bray 1991.]

Rules establishing conditions of collective choice

(1) Communities were organized under ODRENASIJ to regain their forest rights from the concessionaire.
(2) Communities struggled over many years to define and establish individual, factional, and group interests.

Rules regulating use of the commons

(1) The communities experienced internal conflicts in their effort to define rules of operation: leadership, development objectives, use of resources and materials.

Rules defining external arrangements

(1) The communities struggled against the concessionaire's control of forests.
(2) Once the concessionaire was defeated, the communities struggled among themselves to define rights and establish wider linkages.
(3) The communities' plans were repeatedly defeated or compromised by internal and external political interests (for example, the president who closed the sawmill).

The initial conflict concerned external arrangements: local communities struggled to regain community forestry rights. After they succeeded, conflict developed regarding rules of collective choice and use. The communities which had previously cooperated were no longer bonded by a common interest, and each community needed to devise rules of operation.

I. SUMMARY

1. RULES AND THE INCIDENCE OF DISPUTE

Most of the cases involved more than one type of rule. If the cases can be considered representative of the totality of conflict situations, then apparently rules defining external relations constitute the major source of conflict. Such rules tend to be unclear, unacceptable to local groups, or unenforceable. The rules are unclear if they are still in the process of development (cases 3 and 8). User group members may use unclarity in such rules to defeat

other group interests (case 3) or to promote their own interests (case 8). The rules are unacceptable if they have been rigidly developed without the input of local groups (case 4) or minority populations (case 7). The rules are unenforceable if the authorities have little incentive to enforce them (case 2) or no obvious structure within which to enforce them (case 3).

Conflicts about rules establishing conditions of collective choice generally concern problems of membership or the action plan. Conflict about rules regulating use of the commons generally concern problems of leadership (cases 1, 2, 3, and 8) and resources: access to resources (cases 2 and 8), distribution of rights/resources (cases 2, 3, 4, 5, and 6), and control of resources (cases 3, 4, 5, 6, 7, and 8).

2. INTERFACE BETWEEN CUSTOMARY AND STATUTORY LAW

In cases 2—6, the common property resources were regulated by mixtures of customary law and administrative/statutory law; traditional leaders and government administrative/court officers applied the law in the context of tribunals and courts. In cases 1 and 7, the common property resources had been converted to private property and were presumably regulated by statutory law. In case 8, the common property resources were regulated by statutory law and government agencies (the role of customary rules and institutions is unclear). The most significant interface between customary law and statutory law occurred in cases 2—7 (though this interface has scarcely been covered in depth within the common property literature).

3. IMPACT OF LEGISLATION AND GOVERNMENT POLICY UPON DISPUTES

At times, the interface between legal systems actually caused, or worsened already existing, conflict. This was particularly true for cases 3, 4, and 5, in which unpopular and inadequately specified government policy (case 3) and confusing legislation (cases 4 and 5) gave rise to grassroots resistance. In addition, when people reacted negatively to unpopular policy or legislation, the traditional methods of conflict management between cooperating groups (such as the neutrally aligned pastoralists of case 3) were further suppressed by government administrative action. The aggrieved parties did not have effective legal channels for appealing and obtaining redress for their complaints. At other times, the interface between legal systems provoked conflict between competing groups, as in case 6, but the modern legal system provided effective legal means of appeal and enforcement. Finally, in case 7, the interface between systems (conversion of common property to private property) provoked conflict, but the government ignored most protests and suppressed others (no effective means for arbitration established).

4. DISPUTES WITHIN MULTIPLE LEGAL SYSTEMS

As a whole, it might be stated that the interface between customary and statutory systems had the most legal basis in cases 4, 5, and 6, and the most political basis in case 7. It might also be stated that the legal interface between systems was forced downward (to the village) from the top (government agencies administering the law) in cases 4, 5, and 6, while the interface between systems was propelled upward (through the legal system) from the bottom (the village) in cases 6 and 8. CPR users demonstrate faith in their legal system when they initiate legal action.

5. CHANGES IN PROPERTY SYSTEMS AND IMPACT UPON DISPUTE

All cases involved transformations (potential or actual) within each respective property system. Cases 2 and 3 involved a transformation from a mixed common property/open access system to a more fully common property system. In case 2, many pastoral groups had had access to rangeland pasture before a project restricted access to one group. In case 3, each one of the groups that cooperated in the government project had customarily managed the water well as a common property resource within the group (that is, elders regulated water access) but as an open access resource in relation to the other groups (few common regulations), whereas after the project, the groups were compelled to manage the water well as a common property resource among all the user groups. In addition, cases 1 and 7 involved a transformation from a common property system to a private property system, though the disenfranchised, poor pastoralists were fighting to revert the grazing land back to a common property system.

6. CAUSES OF DISPUTE

The causes of dispute in the preceding six cases can be differentiated according to social, legal/administrative, and technical aspects. Social causes were brought into play under the following circumstances: when people did not have clear propriety rights to resources (cases 3, 4, and 5) or when such rights were not equitably distributed (cases 3, 4, and 7); when the benefits deriving from such rights were are not equitably distributed (cases 3, 4, 5, 6, and 7); when people competed for access to and use of a scarce resource (cases 3, 4, 5, 6, and 7); and when potential users were not granted full participation (case 3, 4, 5, 6, and 7). Legal/administrative causes were brought into play under the following circumstances: when government administrators did not work closely with local project participants (case 3); when customary practice conflicted with imposed government administrative policy (cases 3 and 6) or modern legislation (cases 4, 5, and 7); and when legislation was poorly implemented or weakly enforced (cases 3, 4, and 5). Technical causes were brought into play when external constraints were not considered in CP management (case 2 [boundaries] and case 4 [tree harvesting])and when the physical design of a project was not considered in the local context (case 3 [water well design and seasonal constraints]).

7. DISPUTE RESOLUTION: AUTHORITIES INVOLVED IN DISPUTE SETTLEMENT PROCESSES

Dispute management in the eight cases involved the intervention of local or government officials, depending upon the level of the dispute. Sometimes traditional elites received the assistance of government officials (cases 3, 4, and 5); and sometimes government elites intervened to assist local elites (case 6), to supersede their actions (case 7), or to monitor their activities (case 8). Local authorities were able to obtain compliance without "outside" intervention when customary law was generally respected, when the facts of the case were clear, or when the matter was considered minor and "private." Local authorities required outside assistance when the cooperating groups were distantly located from one another, were heterogeneous in composition, and were not under a common authority with a shared dispute resolution mechanism (case 3); unfortunately, in this case, outside assistance was not obtained before the well was destroyed. (In any event, the fiercely independent Somali nomads of case 3

would likely not have resorted to an outside mediator to resolve differences—unless the mediator had been engaged in the project *from the start*, not just at the first signs of trouble.) The local authorities of case 4 would have rejected outside interference, if they had had their choice, but the government authorities provoked conflict by enforcing unpopular provisions of the Forest Code. Case 6 was unusual in that national elites defended the resource-poor population against threats to their contested common property rights. Cases 3 and 7 represented polar opposites on the local-state continuum: in case 3 the state intervened very little to bring about conflict management, while in case 7 the state intervened extensively.

8. DISPUTE SETTLEMENT PROCEDURES

Dispute management involved the following method: adjudication in cases 1, 2, 4, 6, 7, and 8. No dispute management method was applied in case 3. Mediation would be effective in cases, if government officers assisted in a co-management capacity to achieve satisfaction. Adjudication was ineffective in case 1 in the sense that the court hearings were very prolonged and no decision was reached, whereas adjudication was effective in cases 6 and 7 in the sense that compliance with the law was enforced, but was ineffective to the degree that the disenfranchised parties in each case rejected the legitimacy of the law and the fairness of the authorities.

9. DISPUTE SETTLEMENT PROCEDURES IN CONTEXT

Dispute management methods must be tailored to each general context and specific dispute situation. Negotiation can be effective when disputing parties are willing to talk, giving and taking a little in reaching a settlement (competing/cooperating user groups in case 8). When the disputing parties are more hostile toward one another and require prodding to reach an agreement, mediation may be more effective—particularly when a commonly respected mediator is willing to intervene. As mentioned above in relation to the competing user groups of case 3, the mediator must usually be involved in the project from the start—especially when the mediator does not have traditional legitimacy and when he must bring together people within new cooperative relationships. Adjudication is only "effective" (in terms of bringing about local compliance without police action) when the basic premises of a law are respected (not the situation in cases 6 and 7). In case 6, government policy deliberately reduced the rights of one group in favor of another group (by granting land rights to the poor), whereas in case 7, government policy *in practice* reduced the rights of one group in favor of another group (by privatizing land which poor pastoralists could not purchase). Because the rights of respective populations became the subject of mediation—apparently only *after* the enactment of legislation—mediation was not effective and enforcement was required.

10. DISPUTE PREVENTION: WRITTEN AGREEMENTS

Many observers argue in the literature that formal (perhaps written but not always legal) agreements need to be reached to legitimate/clarify rules and rights and thus prevent dispute. In case 6, leases should be drawn up more precisely; and in case 7, leases should be drawn up for common property. In case 4, local leaders should witness agreements between parties with opposing interests.

11. DISPUTE PREVENTION: ADDRESSING LOCAL-LEVEL PROBLEMS

Local authorities should cooperate in order to create special committees (a joint water committee in case 3 and a joint tree committee in case 4). Other policy proposals need to address the role that the government should play in local affairs. The assistance of government agencies may be required in the following situations: to foster inter-group and general community cooperation (cases 3, 4, 5, and 6); to back up the authority of local authorities (cases 3, 4, 5, and 6); to aid in legal revision/reform (revision of the Forest Code in cases 4 and 5, revision of forest policy in case 6, and reform of the Mier Rural Areas Bill in case 7); and to provide advice (regarding appeal methods) and assistance (provision of operational and technical staff) to local authorities (cases 3, 4, 5, 6, and 8).

III. CONFLICT MANAGEMENT IN CPRs: RULE MODEL

In order that rules be effective, the following conditions must be present.

A. RULES ARE SPECIFIED AND PUBLICLY ACKNOWLEDGED

Rules must be established to define the rights and duties of user group members, that is, common property resource users. These rights and duties should be fully understood and agreed upon by all members or their representatives (that is, state organs, development agencies, user group leaders). In action, compliance with rules should be mainly voluntary rather than the result of a calculus of evasion and punishment (Wade 1987, p. 229).

Arnold and Campbell (1985, p. 15) give four types of group rules that are used in traditional forest management in the hill forests of Nepal: (1) rules that regulate the harvest of select products and species; (2) rules that regulate the harvest according to the condition of the product; (3) rules that limit the amount of the product; and (4) rules that use social means for protecting areas. The same authors (ibid., p. 24) also delineate the guidelines that direct the users committee: (1) user membership, (2) non-partisan,(3) flexible membership, (4) equitable, and (5) democratic.

When conditions have permanently changed, user groups must have the power to modify rules. Such conditions may be produced by the changing composition of a group, by changing (internal) conditions of productivity/scarcity, or by changing (external) market conditions.

B. RULES ARE ENFORCED

The enforcement mechanism must be able to specify and back up, with force if necessary, "legitimate" responses of. (a) persons bonded together within common property relationships, and (b) groups bonded together within common property relationships, and (c) groups not sharing common property relationships (one group has rights, whereas the other does not). Clearly, disputes erupt when rule infractions are not addressed by a recognized authority (see Box 3).

BOX 3: ENFORCEMENT OF CP RULES

Thomson notes that it is important to determine who is authorized to enforce common property resource use and management regulations, because this determines the transactions costs of enforcement proceedings and the recourse that members will take:

> "If local regimes (e.g., officials of Bake! Region villages which have created local irrigation systems, headmen, or Muslim clerics in Majjia Valley villages where windbreaks have been established, Pastoral Association officials in Mali's Inner Delta Region, or Pastoral Unit officials in Eastern Senegal, etc.), can enforce RNR rules, transactions costs will be low. If infractions can only be respectively sanctioned by SAED officers, Bouza Arrondissement foresters, Malien civil administrators of ODEM project employees, or by Senegal administrators of PDESO personnel, costs of recourse will be relatively higher. Probabilities of enforcement will weaken correspondingly.
>
> "A second set of issues concerning recourse relates to the degree to which rule enforcement and dispute resolution procedures are perceived by members of the going concern, officials, and outsiders to be fair and predictable or potentially biased and subject to abuse of power. Where the former situation exists, temptation to violate use rules is reduced because it is perceived that the dispute resolution system treats disputants equitably and sanctions are more predictable. Where enforcement or dispute resolution procedures can be rigged and manipulated, achieving an enforceable decision becomes more difficult and expensive. Transactions costs rise under such circumstances, and discourage people from trying to maintain RNRM rules as enforceable rules of conduct.'

James T. Thomson et al., "Options for Promoting User-Based Governance of Sahelian Renewable Natural Resources' (Burlington, Vt.: Associates in Rural Development, 1989), p. 116.

Thomson et al. (1989, pp. 58-60), in their paper about Sahelian irrigation projects, describe rule enforcement at the lowest village level. They write that village associations must determine fines to be assessed for breaking various rules, explaining how this happens: "The membership unit in the village irrigation association is usually the household. The head of the household represents it in association meetings. If a household member breaks the rules on its individual household plot, the household has to pay a fine. If a collective work group breaks the rules or executes an agricultural practice incorrectly on the collective plot, the group has to reconvene and carry out the task until it is done correctly."

Thomson et al. (1989, pp. 51–52) also describe various routes that might be taken through higher levels to process an irrigation dispute among the Sahelian Mossi:

> Mossi lineages have internal dispute settlement mechanisms. Assuming all holders on a micro-watershed belong to a common lineage, it is possible that downhill holders could compel uphill holders through lineage pressure to either install contour dikes or maintain existing ones. If that does not avail, earth priests *(tengsobasama),* or possibly Muslim clerics, might be able to devise solutions. Mossi village headmen would probably not afford effective recourse since, as police-administrative leaders, they traditionally leave land tenure-related issues to the earth priests. Appeals to government officials at the arrondissement or higher levels, or to members of the village-level *Comités de defense de la revolution* (CDR), might be successful. However, appeals outside the local area are likely too expensive and thus, less attractive. It is not clear whether the CDR can act effectively on such issues.

Government authorities ordinarily need to establish a protection system that has clear, easily enforced rules of compliance. In addition, they should help a user group in specifying rights/duties and in resolving problems—for example, in establishing territorial rights and adjudicating boundary disputes. In a dispute situation, they must have the ability to order that activities be ceased (for example, resource utilization stopped) until an agreement/compromise can be reached.

In a situation in which non-users encroach upon the rights of users, authorities at higher administrative levels may need to re-specify respective rights. As an example, Molnar (n. d., p. 141) describes disputes about forest resources in which the public authority at a higher level, such as the forest department or district council, steps in to back up the local-level authority and invalidate the claims of non-users.

C. OAKERSON'S RULE MODEL

Using Oakerson's rule model, it might be postulated that disputes arise in association with any of the following three categories of rules regulating common property and the user group: rules establishing collective choice; rules regulating use of the commons; and rules defining external arrangements. The sub-categories in this section generally apply to all CPRs, regardless of the resource in question (for example, trees) or the specific system of law. When relevant, writings that explain the points in more detail are quoted. Although the points usually present the dominant perspective, some points also present minority or competing perspectives (for example, the role that the national government should take in local CPR management).

1. RULES ESTABLISHING COLLECTIVE CHOICE ARE CONCERNED WITH:

a. the legal personality of the community (Runge 1986). [Disputes can arise when the community is not clearly defined.]

James (1975, p. 18), using the example of New Guinea, writes of legislation aimed to incorporate traditional groups—to enable them to hold group title and engage in business ventures.

Lynch and Talbott (1988) describe the legal processes according to which Philippine communities attempt to define their legal personality and thus to protect their customary claims to ancestral forest lands.

Guha (1989) explains how Indian peasants organized in the Chipko environmental movement to protect their rights to forest resources and their way of life against incursions by the state and accompanying commercial values.

b. the interests/rights/responsibilities of all affected parties in the community. Compensation should be provided for reduction in rights. [Disputes can arise when one group assumes inordinate control of planning, operations, and benefits.]

Numerous interests must be considered in planning and developing a CPR: for example, equity in the distribution systems which are established for products from the CPR (see Molnar n.d.). Sharp (1980), in his study of forest enclosures prior to the English civil war, found that adjacent landowners were carefully compensated for their stake in the forest but small artisans were not. The ensuing disturbances, led by artisans, contributed to the civil war.

Rights in a resource should be clearly defined and assigned to specific user groups. Gerden and Mtallo (1990) note that in Tanzania, different forest user groups are entitled to different forest reserves and different forest products. Some of the Traditional Forest Reserves (TFRs) they classified are: Haymanda, meeting place for the male elders, cemetery ground, place of natural springs, privately controlled TFR's for female ceremonies. Distinctions between TFRs ensures tree conservation and clarifies rights, with the end result that disputes about unwarranted utilization of scarce resources or about infringement of access are less likely to arise. Violations of '1'1"R classifications may be sanctioned by either the by-laws of the local government or by the traditional court, or both.

Rights in land are commonly divided into several overlapping levels: customary, administrative orders, court rulings, state and national legislative statutes, and constitutional law (Molnar n.d.). As one example of a tenurial right that must be specified at the customary level and recognized at higher levels, Cousins (1987) notes that boundaries must be delineated and agreed upon before the introduction of a grazing scheme in Zimbabwe in order that boundary disputes will not disrupt the scheme at a later date. Many other types of CPRs (e.g., forest) require clear delineation of boundaries either to resolve unclarity in an existing, private CPR or to prevent disputes in a planned and legalized CPR. Borlagdan (1990) explains that boundary disputes between participants in a forestry project in the Philippines have to be resolved before land is surveyed (preferably by the farmers themselves or with the support of the farmers' organization). In effect, boundary definition can resolve existing disputes or prevent future disputes, but it can also exacerbate/instigate disputes.

Wade (1985, pp. 10–11) defines the respective responsibilities of herders and farmers in an Indian grazing project. The responsibilities of the herder encompass: movements of and restrictions to be placed upon the flock, payments to be made, activities of the herder, and sanctions for breaking rules. The responsibilities of the farmer include: restrictions to be placed upon the flock,

payments to be made, and assistance to the herder. Such responsibilities are specified in order to prevent dispute, and disregard of them may lead to dispute.

c. the constitution of the user group. [Disputes can arise when groups/communities are too diverse in interests and needs to agree upon and further implement a widely accepted plan of action.]

Shepherd (1991, p. 169) argues that communities in Africa, as well as CPR user groups, have become more heterogeneous (that is, members are not locally born) due primarily to population growth and land use changes. Consequently, CPR management has changed from use-rights based on clan-membership, and thence rights to use clan resources, to exercise of state-granted privileges and management by restriction and exclusion. Such heterogeneous communities no longer have strong systems of control and authority.

Lawry (n.d., p. 2) stresses that "[c]ommon property regimes will not easily emerge in heterogeneous local communities, where resource users have varying interests in *conservation,* and where local authority structures have been undermined as a matter of deliberate state policy." He also notes (n.d., p. 11) that "when groups of households vary in their economic interests in the communal resource, and in their management practices generally, so too they may vary in their willingness and ability to adopt certain aspects of *any* communal management scheme. The dilemma is one of achieving coordinated, common behavior in an environment characterized by producer diversity."

In upland Cebu, as described by Borlagdan (1990), a forest project was administered as though the participating community were homogeneous. Ultimately, the project was disrupted by a factional dispute between one group that consisted of fourth-generation migrants bound by kinship ties and another group that consisted of new migrants who were better educated and more experienced in formal leadership. The groups disagreed about leadership and resource allocation.

Roe (1988, p. 224), in his doctoral study of livestock rangelands projects in sub-Saharan Africa, writes that "the potential for intra-locality *tension* and conflict over who are `really' insiders to the locality is always present in such systems." He concludes that CPR management must provide sufficient pressure to keep conflicts "immanent"—that is, it must determine who are "insiders" (members) and "outsiders" (non-members) in order that a potential spark of conflict is extinguished.

d. the participation of the usersluser groups in the identification, planning, implementation, and management of a project, resulting in a sense of project "ownership" (also the cooperation of the community at large and surrounding communities is ensured). [Disputes can arise from differences of opinion regarding operations and the lack of recognized authority to handle the differences.]

Relying upon the example of forestry projects in India, Odell (1981, p. 12) describes how critical user participation is to the success of a CPR, including dispute prevention:

> Recent programs in Madhya Pradesh to re-establish forest reserves near villages for fuel, fodder, and construction purposes have recognized the critical need to have the full participation and support of local villages to succeed. If local people see the *Panchayans,* as the new village forests are known, as incurring costs that outweigh the benefits that will accrue to them, then fences will disappear, trenches will be bridged, saplings will be destroyed by man or beast, and encroachment upon shrinking forest reserves will continue unabated. More precisely, local participation is deemed essential because it can promote the development, protection, and management of village forests, and assist in the equitable distribution of project costs and benefits, and because it aids in local conflict resolution and provides linkages to local and outside people and institutions. While several proposals for developing this participation have been considered, village *Panchayats* will probably play an important role in the future, although the amount of authority Government will ultimately give them is not known.

Wade (1985, p. 4) discusses the participation of special work groups in an Indian grazing project: "a work group of village field guards [is] employed by the council to protect the crops from the depredations of livestock and thieves... and a work group of `common irrigators' [is] employed by the council to distribute water to the rice fields and to help bring down more water to the village through the government-run irrigation canal." The work of such special groups serves as a stop-gap measure to prevent the emergence of dispute situations.

Malhotra and Poffenberger (1989) report that the Working Group of the Forest Protection Committees in West Bengal suggested that community participation can be improved by offering some unskilled or semi-skilled jobs to local people, offering monetary incentives for involvement ("money pack models"), and providing compensation for losses.

Arnold and Stewart (1991, p. 43) argue that the existence of local rules and a forum to change them if they are not effective, rather than the specific character of the rules, is associated with successful CP management—including conflict resolution. In illustration, they explain how *Panchayats* in India were not partitioned on the basis of relative need or actual use, not were they controlled by internally developed rules, with the consequence that disputes arose between individuals, groups and villages.

e. the restructuring of old institutions and the creation of new institutions. [Disputes can arise when the institutions are not properly matched to the administrative requirements and capacities at both local and wider levels.]

Lawry (n.d., p. 7) writes that "new efforts should aim to design and empower credible new local government structures which give expression to the advantages of local control and management, in ways that do not compromise the tenure security of important user groups within the community, such as women, or those treated apart from the community, such as transhumant pastoralists. Such structures will not emerge simply upon the withdrawal of the overbearing central state. States themselves will need to provide a legal framework for such structures, which define and protect the use rights of individuals and groups, but also define the rights and responsibilities of communities in relation to those of the state.... New institutions capable of managing resources

more intensively than traditional institutions may have to be created." These new institutions, which should by design be sensitive to local needs and also familiar with local traditions, should be capable of solving problems of access and equity before disputes arise. Such institutions will need to turn their functions away from direct policing and administration of resource use toward providing extension services and technical assistance to users.

Poffenberger (1990a, b) explains that in Thailand and Indonesia, efforts toward institutional change have brought about a national working group that monitors the overall forestry program and local working groups that supervise regionally based projects. The national working group tends to be composed of educated elite, while the local groups are composed of villagers. The main problem encountered by the working groups is that of communication: that is, how to observe and further convey information about local-level administrative as well as technical difficulties. Poffenberger delineates three management practices that can bolster the operation of working groups: encouraging process-focused field reports, involving field staff in higher level meetings, and bringing senior members to the field.

f. the evaluation of project alternatives (including freedom to organize and enter groups). [Disputes may arise when users are not given the opportunity to investigate fully and debate options.]

Odell (1981, p. 13) argues that project alternatives must be considered and debated if equity issues are to be addressed and thus full participation of all members of the community ensured. He gives the following possible alternatives in a forestry project in India: (1) open access on a first-come, first-served basis; (2) access by permission of the *Panchayat* chairman; (3) direct, free distribution by the *Panchayat* to villagers under criteria laid down by the *Panchayat;* (4) sale by the *Panchayat* to villagers; (5) Forest Department cutting and distribution to villagers; (6) Forest Department selling to villagers; (7) plantations divided into plots for each household to manage. Clearly, conflict will arise if an alternative is not properly matched to the needs of a community (see also McGranahan 1991 on alternative forestry CPRs).

According to a study conducted by Cornista and Escueta (1990) in the Philippines, the Ikalahan, an upland Luzon tribal community of 5,000 people, drafted, with the assistance of a Protestant missionary, a contract embodying their ideas of a self-governed communal forest lease in the Philippines. Although their organizational strategies carefully planned land distribution and staffing, disputes still arose under unplanned or changed circumstances, such as the arrival of new claimants in the area or claimants' children marrying and requesting land.

2. RULES REGULATING USE OF THE COMMONS ARE CONCERNED WITH:

a. the system of cooperation between user groups. [Disputes can arise when user groups have not developed the proper foundations for cooperative endeavors.]

Wade (1987) describes the conflicts inherent between upstream and downstream farmers in an irrigation system; he argues that such disputes between competing groups are inherent to that type of CPR because of water shortages. The problem in regulating such a CPR lies less in formulation

of rules that regulate the individuals under the same local authority structure (for example, all upstream farmers), and more in formulation of rules that regulate both competing groups under different local authority structures (that is, establish a system of cooperation).

b. the system of authority within the community (that is, the supervisory committee). [Disputes can arise when individuals or factions within a community compete to assume authority or to control new institutions.]

Local institutions, which provide the traditional managers of CPRs, are, in the view of many observers, the logical source of members to serve on supervisory committees of planned or fully legalized CPRs. Not only are such institutions most likely to guarantee the most effective participation of community members in a dispute situation, but they incur the fewest costs in dispute settlement because they are already functional (see McGranahan 1991, p. 1279).

Using the example of gazing associations in Botswana, Odell (1981) argues that the ***kgotla*** (village councils) should logically serve as the primary supervisory committee because [the ***kgotla]*** are the "best understood, most readily accessible, and well-attended and effective of all institutions at the village level."

In opposition to arguments supporting local institutions, Little and Brokensha (1985) discuss the variables which may have made local resource management systems ineffective in Africa. As explained in the words of Cousins (1987, p. 79):

> Changes have occurred in the nature and locus of decision-making with regard to natural resources, generally in the movement of such decision-making from local communities to state-controlled institutions. Inequities of wealth that result from processes of economic differentiation can make collective decision-making problematic. Increased linkages to the market and commercialization of natural resources lead to changed management systems, often because powerful entrepreneurs are able to operate outside of indigenous controls. Population pressure and an associated shortage of land create competition and tensions that local institutions may not be able to resolve, and thus make common property management vulnerable.

The CPR supervisory committee should generally be characterized by the following: it must have the ability to enforce penalties for infringement of rules (either through ostracizing offenders from goup, denial of user privileges, or imposition of fines/compensation); it must concern itself only with nonprivatizable benefits (that is, it does not get involved in disputes unrelated to the resource it is regulating and does not try to compensate, for example, the owners of animal-damaged crops, since such intervention would create conflict about privatizable value [see, for example, Wade 1987, p. 230]); and it takes on secondary functions only when it has become very proficient at its core activities (see, for example, ibid.).

c. the rights of users. [Disputes can arise between competing user group members when rights and responsibilities are not defined. Sometimes poor definition of rights suppresses potential conflict, though undesirably produces inequities.]

Lynch (1991, p. 13) delineates six general categories of rights that can be found within a common property management system: (1) rights of direct use; (2) rights of indirect economic gain; (3) rights of control; (4) rights of transfer; (5) residual rights; and (6) symbolic rights. As he explains, the rights may be held by an individual, a nuclear or extended family (clan), a neighborhood group, or the community as a whole. "Tenurial rights often overlap and invariably encompass spatial, temporal, demographic and legal dimensions."

Stienbarger et al. (n.d., p. 12) describe how the failure to clearly define rights to the community woodlot in Thialle, Senegal, led to conflict, particularly when people discovered that they would be allowed to sell wood. In this case, both the tree planters and the original landowners were unsure about division of profits.

Shepherd (1991, p. 166), in writing about the Bay Region forest project in Somalia, explains that serious conflicts existed between the herders in the area producing charcoal for Mogadishu and the state charcoal co-operative because the project offered only slightly improved rights to local users rather than substantial local management of the resource.

In Central Himalayas, as described by Somanathan (1991), the state took over control of forest lands, restricting local people's use rights. The villagers resented commercial exploitation of forest products and were less inclined to use forest resources sustainably.

d. the distribution of project costs and benefits. [Disputes may arise in CP projects when contracts for the distribution of project benefits have not been negotiated before the benefits begin to appear and can thus be appropriated by powerful segments of the community (Bromley and Cernea 1989, p. 52).]

Odell (1981, pp. 13–14) notes that benefits from forestry projects may be: fuel, food, fodder, or employment opportunities. At the same time, costs of such projects may be: inconvenience, deprivation of grazing rights, disruption of a water or grass regime, or loss of the opportunity to cultivate land. In general, conflict will arise in a CPR if users believe that they are not receiving their due benefits or if they believe that they are unjustly bearing too many or certain kinds of costs.

e. the application of technical developments. [Disputes may arise when users are not permitted to retain some traditional methods of resource management and are not instructed in new methods by extension agents.]

Traditional (known) and modern (unknown) management methods can serve to reduce the incidence of dispute: used together they promote more equitable and sustainable use of tree resources.

Shephard (1991, p. 156) lists several management methods that have been used or are planned for the communal management of forests in Africa: fallowing systems, the conservative use and selective maintenance of particular species, reservation and sacred groves, the opening and closing of areas by time and season, management by taboo and religious sanction, management by fire,

management by animal grazing and browsing, and management of the individual tree. Although management plans for rotation of particular lengths and specified products is unknown in rural Africa, planned actions which encourage some tree species and eliminate others are well-known and common.

Wade (1987, p. 231) points out that disputes can arise if users (that is, user groups) are not provided with technical assistance and are not well-informed about sustainable yields. Also, he comments that inadequate analysis of resources such as capital and labor may result in unsuccessful programs and even conflict.

Cousins (1987, p. 65) notes that extension staff should be well-prepared for a project and, following implementation of the project, should periodically evaluate it. Disputes may arise, or may not be effectively handled by extension staff; if staff members are any of the following: not convinced of the benefits of a project, unable to devote the time to a project which is burdened by complex arrangements,too dependent on insecure funding or outside support, and not well-trained. Bromley and Cernea (1989, p. 24) point out that external staff and agencies must have at their disposal institutional arrangements and organizations, independent of the local community, that can assist the nascent resource management effort.

f. the management plan. [Disputes can arise within the user group when disagreement exists regarding the form the management plan should take or how it should be implemented (for example, see case 2 above)]

Shepherd (1991, p. 168) writes that the Guesselbodi forest project in Niger did not consult with the local people about possible management plans. Rather, the management plan was presented to the people when it was already finished. Because no attempt to investigate local authority structures had been made, a co-operative for handling wood purchase and sale was created. Shepherd argues that after three years the co-operative was not functioning effectively: users were not fully cooperating.

3. RULES DEFINING EXTERNAL ARRANGEMENTS ARE CONCERNED WITH:

a. the role of the state. [Disputes can arise when the role of the state is unclear or unacceptable to local user groups (for example, see cases 4 and 8 above)]

Fife (1977) and Hardin (1968) argue in favor of a state management model, in which the government (that is, central authority) assumes an important role in supervision, making major decisions about, for example, resource boundaries. As a contrast, Arnold and Stewart (1989), writing about the ***panchayat*** system in India, suggest that group-managed regimes which are free to adapt to local situations ensure successful CP operation.

Lawry, who studied grazing associations in Botswana, advocates a modified perspective, thus suggesting that co-management schemes be developed in which states and communities cooperate. He notes that various changes have weakened local institutions to the extent that they are unable to engender support at the local level for imposition of intensive controls. He argues that the

government role in a "co-management" arrangement might be to "assign group rights to a specific territory, provide technical guidance on resource management practices, and help create a more positive economic environment for cooperation by, for example, giving a local cooperative preferential marketing rights to a local resource like fuelwood, fish, or grazing. The local cooperative organization would distribute income among members, mobilize community participation, and advise the government on local acceptability of proposed management practices and rules" (Lawry 1990, p. 420). The government would also seek to ensure the democratic functioning of the local institutions and would retain overall accountability for the management of common assets (Lawry et al. 1984). (See also Poffenberger 1990c on "joint management systems" in Southeast Asia.)

Poffenberger (1990b) also described a cooperative plan between national and local working groups in Indonesia and Thailand. Critical issues for effective cooperation were perceived as: identifying change agents (facilitator, key insiders, outside resource persons); organizing working groups; communicating both national concerns and rural conditions, needs, and opportunities; understanding management problems; diversifying leadership; and increasing the number of informed resource persons.

b. the total project context. [Disputes can arise between local users or between users and government agencies when users feel that their needs, or conditions impinging upon those needs, are not being addressed.]

In planning a CPR, numerous conditions must be considered in context: the boundaries of the common resources which may be too large and not clearly defined; the physical distance between the common-pool resources and the residence of the users which may be too great (see Wade 1987, p. 231); the system of land tenure and land use change which may undermine the confidence of user groups in their long-term land use rights (i.e., extended leases are not granted to user groups); population growth which may outstrip the CPR resources (on India, for example, see Jodha 1985, p. 253); urban growth which puts pressure on CPR resources; increased commercialization of common property resources-based activities which is aided, in part, by technological innovation (on India, for example, see Jodha 1985, p. 253); and proposed privatization of the CPR by industries and encroaching farmers (for example, see Molnar n.d.).

Cousins (1987, pp. 54–58) notes that members of communities in Zimbabwe, when questioned about a prospective grazing project, are likely to be troubled by similar conditions that will impinge upon the effectiveness of their project: lack of funding, incomplete planning, internal dissension, poor motivation within the community, location of homes in grazing area, small grazing areas, no cattle owned, lack of water supplies, unwanted cash or labor requirements, inadequate knowledge of grazing scheme, and fear of destocking. Such conditions, particularly those concerning location of homes in a proposed grazing area and involvement of nonowners of cattle, when not assessed and dealt with, would likely lead to intra-community conflict after implementation of the project. Other issues, such as existing boundary disputes with neighboring communities or proposed fencing, would likely lead to inter-community conflict.

c. the channels of communication between user groups and local authorities and between user groups/local authorities and state authorities that are not specified and facilitated. [Disputes can arise when communications are unclear, thus resulting in confused objectives and uncertain results.]

Poor channels of communication often lead to ineffective operation of a CPR. Most often, poor communications result in weak control or loss of control by the user group (for example, case 7 above).

According to Malhotra and Poffenberger (1989), who write about West Bengal forest committees, it is the responsibility of the government to recognize local committees, to facilitate communication and interaction within and between committees, and to facilitate communication with government agencies.

d. the rights of each level of the hierarchy in relation to one another. [Disputes can arise when rights are unclear and thus a subject of contention. Or disputes can be difficult to resolve when rights are poorly defined or overlapping.]

Lawry (n.d., p. 3 [see also Arnold and Stewart 1989, p. 13]) comments that the major public policy problem lies in achieving the right distribution of rights among interested parties: the farmer, the community, and the state: "Farmers require security of tenure adequate to assure returns to investment and good land management; the public, through local and state agencies, needs the ability to intervene to arrest destructive behavior by users. Getting the balance right is a difficult policy problem, but the task is by no means impossible."

Molnar (n.d., p. 143) describes how conflicting claims/rights to grazing lands in Rajasthan, India, led to conflict. Competing parties were: the traditional village users of grazing lands, the *panchayat* (village government), and private individuals who had encroached upon the lands over time. She writes that disputes about land rights sometimes led to court cases, many of which resulted in dissimilar resolutions. Unfortunately, villagers often did not defend their rights in the courts, not realizing that the courts might rule in their favor. The result was that many villagers unnecessarily lost their land claims. Their chances to compete successfully against counterclaims of the *panchayat* and private individuals would likely have been considerably improved had they been better informed about their legal options.

Molnar (n.d., p. 143) also describes how community woodlots in the Indian social forestry programs were hindered by confusion regarding responsibilities:

> When *a panchayat* gave permission to the forest department to establish a woodlot on village grazing land, with an agreement that the forest department would recover its costs at the time of harvesting, everyone saw the agreement differently. To the *panchayat,* it was much like renting the land out to the forest department on a 50/50 share basis, since cost recovery usually led to this division of profits. To the local village, it meant a loss of grazing land to the *panchayat* and forest department, with no assured returns to the village. To the villager admonished by the forester for grazing his cattle inside the enclosure, it was evidence of the forest department's assumption of tenure over the land, even if on behalf of the environmental

needs of the villager. To the forester, it was *panchayat* and village land, and the people were responsible for protection. Thus, no local sense of responsibility for protection or plantation maintenance developed in the intended direction of sustained CPR management. Rather than reinforcing local village conceptions of common grazing land management, which had been undermined by population pressure, the woodlot model introduced a new arrangement for which no one had clear responsibility.

e. the protection of existing common property rights. [Disputes can arise between groups/communities or between a group/community and the government when newly created rights suppress existing rights, without acceptable compensation being offered to the aggrieved parties.]

Shepherd (1991, p. 167) explains that at Rawashda Forest in Eastern Sudan local conflict existed over tenure in the forest, which was seen as tribal CPR land that had been alienated by the government when the reserve was created (see also Khan 1991; Molnar n.d., p. 141; and Tanzania 1990).

According to Sharma (1990), who writes about conflicts concerning forest lands in India, the problem is that of differentiating between encroachment and disputed claims. Forestry officials may prosecute for encroachment villagers who attempt to claim ancestral lands, yet the villagers may believe that the problem is one of disputed claims. The villagers argue that the government did not consider tribal claims and needs. In the author's view, distinguishing between encroachments and disputed claims is an important aspect of improving the relationship between groups/communities and the state.

SUMMARY:

Lawry (1990), as discussed above, advocates a co-management scheme, whereby communities and the state cooperate. The cohesiveness and viability of the user group will determine the degree and type of state control/monitoring/assistance.

Rights to use: Local autonomy is likely to prove effective when: the user group is controlled by elected representatives; the user group members already act collectively; the user group has a homogeneous membership; the user group is well-defined; the user groups communicate well; and the community at large is consulted. At the same time, greater central control and supervision are required at least during transitional/developmental periods when: the user group is controlled by elite; the user group members do not already act collectively; the user group has a heterogeneous membership; the user group is poorly defined; the user groups communicate poorly; the community at large is not consulted.

Institutional arrangements: Local autonomy is likely to prove effective when: legal personality is clear; leadership is respected; the institutional framework is well-structured; linkages between institutional/administrative levels is effective; user rules are precisely defined; user/administrative rights are precisely defined; land rights are precisely defined; and enforcement mechanisms are effective. At the same time, greater central control and supervision are required

when: legal personality is not clear; leadership is not respected; the institutional framework is poorly structured; linkages between institutional/administrative levels is not effective; user rules are not precisely defined; user/administrative rights are not precisely defined; land rights are not precisely defined; and enforcement mechanisms are ineffective.

Access to resources: Local autonomy is likely to prove effective when: local needs/preferences/methods are accounted for; local (contextual) conditions are considered; CPR operations/alternatives are clearly specified; external agencies are well prepared; user groups are provided with technical assistance; and project evaluation procedures are developed. At the same time, greater central control and supervision are required when: local needs/preferences/methods are not accounted for; local (contextual) conditions are ignored; CPR operations/alternatives are poorly specified; external agencies are poorly prepared; user groups are not provided with technical assistance; and project evaluation procedures are not developed.

In essence, strong, effective, local user groups and institutional structures ensure local autonomy, whereas weak, ineffective, local user groups and institutional structures necessitate more central control and supervision. Considerable external intervention/supervision may be required in the initial phases of a project in order that local autonomy may be assured in later phases of that project.

IV. CONCLUSIONS AND FUTURE DIRECTIONS

A. CHANGES IN CPRS

CPRs have been influenced, often negatively, by the so-called "modernization process." Commercialization, population pressure, and technological change, among other things, have proved to be important factors underlying resource depletion, land sale, and border encroachment—and thus factors which have contributed to the weakening of CPRs and ultimately to the production of conflict (see Gulbrandsen 1985, p. 31).

Development agencies have attempted to compensate for the negative influences of modernization by providing resources and services within the context of CPR program development. Unfortunately, their interventions often failed on several accounts: development agents did not weigh project alternatives for each context [as Odell (1981) demonstrated for an Indian forestry project]; they did not consult with local user groups at all stages of project development [as Shepherd (1991) showed for another forestry project in Niger]; they did not ensure local user-group viability and user participation; they did not make rights and duties known to the majority of users (that is, formal agreements were only made between government officials and a few key village leaders); they did not put distribution into the hands of local power brokers; they did not establish clear legal arrangements (forums, procedures,

and channels of appeal); they turned over management to an artificial, political body with no customary management responsibilities; and they introduced a protection system which was alien to local customs and difficult to enforce by local people. Their failed interventions, which clearly did not take into account local needs and interests, were most often associated with conflicts about management, use rights, and enforcement.

B. INTERVENTIONS IN CPRS

Interventions in CPRs are generally more successful when they are tailored to the needs of each social/political/legal context—that is, when they are not forced to fit within an ideal mold of CPR management. Molnar (n.d.), who emphasized legal arrangements in her research, suggested two aspects of the legal context that development agents should take into account: (1) review of the formal and informal institutions that govern use, access, management, and development of that resource; and (2) knowledge of the formal, legal status of rights in a particular resource and how the legal rights relate to customary rights or to the actual use of the resource.

C. RULES UNDERLYING CPR MANAGEMENT, INCLUDING DISPUTE RESOLUTION

In this paper's introduction, several questions were raised about dispute management. As the case studies demonstrate, in association with a comparative analysis of the literature, common property can be effectively managed if all of several basic requirements are present: a well-defined user group; community consensus about the use of the common resource; an institutional structure to manage the CPR; a set of rules to regulate resource use; user knowledge of the rules and their rights in the resource; a well-defined dispute resolution process to regulate and enforce their rights; and a means to enforce sanctions for violation of the rules.

Although disputes in CPRs are indeed often caused by uncontrollable changes produced through the larger "modernization process," that is, changes that are external to the operation of the user group and the immediate legal/administrative system within which it operates, disputes are all-too-often caused by poor design of the very laws, rules, institutions, and procedures that are intended to regulate the CPR.

Each CPR requires a different constellation of rule categories, depending on, among other things, the resource, what is to be done with the resource, and how institutional structures are to be organized for managing the resource. For example, some CPRs require elaborate specifications about rights of transfer (case 8); others require elaborate specifications about economic gains and profit distribution (cases 4, 5, and 8). All CPRs require rules that regulate conflict (whether informally through mediators or formally through an institutional structure).

The paper has discussed dispute data according to three categories of rules: rules that establish collective choice; rules that regulate use of the commons; and rules that define external arrangements (Oakerson 1986).

Viewed as a whole, bodies of rules may be unacceptable to members of a local community and government administrators for any one of several reasons: imprecision, inefficiency, or inequity. In case 1, the rules, particularly those governing property transfer (inheritance), were imprecise and thus subject to debate. In case 3, Somali elders were expected to administer a water development project according to new rules governing group organization and use. Unfortunately, the rules were imprecisely defined (for example, regarding water access, water distribution, and fee assessment); the project gave rise to an enhanced demand for the resource and thus necessitated re-definition of competing user group rights of access and control. The rules in case 8 were similarly imprecise, for community rights had only recently been obtained, following the return of control over forest resources from the concessionaire to the communities. In cases 2, 4, and 5, the rules were relatively well-defined either in a management plan (case 2) or in legislation (cases 4 and 5), but were inefficient, because they were out of synchrony with local customary practice and adaptation. For example, in cases 4 and 5, the rules underlying the unpopular Senegalese Forest Code were ignored, manipulated, or disobeyed by many parties. In case 6, the Bangladesh government policy and, in case 7, the Mier grazing land legislation were both apparently precisely formulated, but were destined to be disobeyed and challenged because of perceptions of inequity: either from a wealthy disenfranchised group (case 6) or a resource-poor disenfranchised group (case 7).

D. INSTITUTIONS UNDERLYING CPR MANAGEMENT, INCLUDING DISPUTE RESOLUTION

Just as rules can be plagued by problems of imprecision, inefficiency, and inequity, so too can institutional arrangements be similarly troubled. In case 3, as mentioned, institutional arrangements were deficient in all respects, whereas in cases 4, 5, and 7, institutional arrangements were relatively precise and effective in their task of rule enforcement and conflict management, though they were not based upon the interests and needs of the resource-poor local people whom they might have been expected to serve. Issues of justice were raised. In case 6, the interests and needs of the local elite were sidestepped in favor of the resource-poor, because the project designers believed that the realignments in power over resources would best serve national resource policy and justice. These designers, through the assistance of national elites, effectively used courts to enforce rules and resolve local-level conflicts. Molnar (n.d.) praised the institutional arrangements described in case 6, but she noted that other forestry programs in Bangladesh, particularly those in areas which lacked land reform programs, were plagued by restrictive provisions (for example, leases) as well as by vague provisions. She commented that government representatives did not always provide sufficient assistance to clear up ambiguities, and when they did, their motives were suspected.

Problems can arise when institutions are assigned with the specific task of conflict resolution—particularly when these institutions must address complaints of user groups that are defending their rights against challengers. Local institutions are probably best suited to settlement of disputes between members of the same user group—either an extended family or a community (cases 1 and 2). The Thomson et at. (1989) research from Mali and Senegal indicated that local enforcement is the better option when it involves lower transactions costs, fairer enforcement, and a greater likelihood that disputants will respect the rules and decisions. As a contrast, government agencies or higher courts are likely better suited to settle disputes between user groups that did not customarily

share a local institution in common, that did not cooperate before the CP development project or otherwise cooperated in a nonrelevant manner, or that will likely not accept local decisions as fair (case 3).

In effect, analysis of the literature leads to the following assumption: when the conditions under which the CPR operates have been altered, either through the unintentional impact of external influences (for example, technological innovations) or through the deliberate interventions of a development project, and thus several competing user groups have attained a renewed or newly defined stake in the resource, then the government (through its specialized agencies) will need to assist the groups in developing a conflict management system that is adapted to the larger framework of social and legal relationships. Thus, government should suggest modes and places for confrontation, provide neutral mediators or adjudicators, develop a system of appeal beyond the local court(s), and find the means to enforce decisions between groups not bonded by close social/political ties.

The Senegalese villagers who challenged government forest policy in case 4 did not have an easy task; their opponent was not really the cultivators but rather the state and its laws. The Namibian pastoralists of case 7 faced a similar problem, but even more so, since they were also opposed by wealthy cultivators (with vested interests) who supported state policy. As a contrast, the Betagi settlers of case *6 might* have faced a similar problem in their confrontations with their wealthy neighbors, even though administrative policy had been adapted in their favor. Fortunately, an unusual solution had been found to empower them: powerful patrons supported their court appeals.

Institutional involvement in conflict inevitably involves third party arbitrators, mediators, or adjudicators. When problems arise within a "traditional" user group, as in case 2, a locally respected elder can serve as the arbitrator or mediator. When problems arise among several user groups, as in the development project of case 3, a neutrally aligned observer can serve as the arbitrator or mediator, but he should preferably have been involved in the project from the time of its early inception (an outsider would likely not have sufficient knowledge of the project or the disputants' values/interests to effect a mutually agreeable settlement). When problems arise between the user group and the government, such as in cases 4, 5, 6, 7, and 8, in which local groups challenged government legislation (cases 4, 5, 7, and 8) and administrative CPR policy (cases 4 and 5), adjudicators may need to be relied upon. Impartial adjudicators are especially important when the power differential between disputing user groups is significant (cases 6 and 7). The adjudicators should ideally rely upon the force of the state to interpret legislation, validate or reform policy, and enforce decisions among disputants who are weakly or *unequally* bonded by superficial ties of participation in a CPR.

E. DISPUTE PROCESSING AND RESOLUTION: INTERFACE BETWEEN CUSTOMARY AND STATUTORY LAW

Disputants frequently experience problems of access to forums, particularly when they are appealing from customary to statutory law. But even within the customary system, the fora and officials at

higher levels may be biased toward the more politically and economically powerful side [for example, the upstream water users in Fleuret's Kenya case (see box 1)). Sometimes statutory law, by design, favors the more politically and economically powerful side (for example, in case 7, the wealthy people who could purchase freehold land), thus leading the weaker side to assume that access to courts would be difficult and not likely to result in success. Thomson et al. (1989) argued that Mossi disputants did not even attempt appeal of their cases since they believed that the expense would be too great. In case 6, as mentioned above, an unusual solution was found to aid disputants in their appeal to statutory law and courts—the Betagi poor were aided in their efforts by powerful patrons. But Molnar (n.d.) showed that many Indian villagers did not even know that they could defend their rights in court with a good chance of success. They were thus victims of poor information about legal rights and opportunities. Molnar also showed that the Indian forestry scheme created confusion at all levels about the persons and forums that would serve functions of protection and eventual appeal: no party was clearly assigned responsibility and all parties denied responsibility.

F. DISPUTE RESOLUTION: APPEALS

As mentioned, user groups may not attempt appeals to statutory law because of the time, expense, and trouble involved. But even more important, they may not possess adequate information about *how* the legal system works, such as to make it work for them. Thus, even when they are informed about their legal rights, they may still not know whom to approach with complaints or how to present and argue their complaints. The local user committee might be an ideal forum within which extension agents or local government officials could disseminate information about legal rights and the operation of the legal system. Unfortunately, as Wade's (1987) description of an Indian grazing committee's tasks so typically demonstrates, local committees are almost universally assigned tasks that are purely administrative or technical in nature. Or committees are widely perceived as forums exclusively for settlement of disputes between users. Rarely are they perceived as potential purveyors of information about the larger legal system—that is, as go-betweens who can serve to link communities and state agencies. Therefore, they rarely receive from "the top" (government agencies) the information that might truly help their constituent users survive challenges to their organizational integrity.

G. RESEARCH AGENDA

The dispute cases discussed in this paper offer only the barest details, at least in terms of understanding dispute resolution processes. The problem lies in the common property literature: case histories commonly cover basic causes and outcomes of disputes but consistently ignore disputant interactions and procedural developments within dispute processes.

Most authors provide only minimum detail regarding dispute resolution processes: parties involved, patterns for utilizing optional dispute forums, and methods for arguing and appealing cases. Even more important, they do not raise analytic questions that would correlate common property legal arrangements with dispute occurrence. For example: What characteristics of CPRs

(resource, management style, and so forth) determine the type of legal arrangements, including dispute resolution procedures, that are most appropriate? What factors determine the type of dispute resolution procedures that are employed in each case? What impact do particular types of disputes have upon the development of dispute processing styles in each case and in the system over time?

In effect, common property studies need to grant attention to *processes* of dispute resolution. Investigative efforts would need to examine correlations between types of disputes and methods for dispute settlement. Also, they would need to study disputants' access to and use of different dispute settlement forums. Answers to such questions would assist in correcting legal problems that led to enormous social conflict, mismanagement of resources, or damage to the CPR and would also assist in achieving a good match between laws (customary or statutory) and the entire context within which they must operate.

Ideally future studies that focus specifically on dispute processes in CPRs should not only reveal "tension stress points" in a particular CPR, but also point to relationships between types of CP systems, types of legal arrangements, and types of disputes. In other words, new studies should focus on broader, comparative issues.

Such studies might rely upon one or more of four research techniques: (1) archival investigation (probably in the field) of published CPR dispute cases that came before committees, tribunals, courts, and the like; (2) interviews with scholars who have conducted field investigations of CPRs; (3) interviews in the field with community leaders overseeing CPR user groups; and (4) attendance in the field at meetings of committees, tribunals, courts, and so on, dealing with dispute situations.

APPENDIX A: POLICY DEVELOPMENT SURVEYS

Bromley and Cernea (1989) comment that projects fail repeatedly because of failure to understand the institutional dimensions of economic behavior at the village level. They write: "The absence of sociological analysis as part of project preparation work, and the insufficient consultation of local people lead, time and again, to plans and projects that are unrealistic and unsustainable beyond disbursement completion" (p. 27).

In the early stages of a newly recognized CP association, potential threats may arise from many places, among which might be: "(1) the improper management of the group's financial assets; (2) the logistic and cultural difficulties of the group of common `owners' when intrusion by non-members into its land must be prevented or repulsed; (3) the problem of each individual family's compliance with the rules and authority system of the association; and (4) the possibility that alternative organizations may challenge the right of the pastoral associations to manage their resources..." (Bromley and Cernea 1989, p. 39). These and other threats to the young association, if actualized, may damage its credibility or undermine its ability to perform its functions.

The local conditions under which a newly emerging or dramatically evolving CPR will operate should be assessed through formal and informal questionnaires and interviews. One set of questions should deal specifically with issues of dispute—past, present, or anticipated.

The following questionnaires were designed to obtain a better understanding of *local perspectives* about user groups, institutions, and disputes. Such understanding can potentially improve group management, clarify rule structures, and avoid infringements of rights.

QUESTIONNAIRE 1: SAMPLE QUESTIONS ABOUT CPR USER GROUPS

1. Is the group defined automatically to include everyone with certain characteristics or is membership voluntary? If the former, what are those characteristics? Specify them clearly in each case.
   a. Location of residence?
   b. Descent?
   c. Political allegiance?
   d. Contract?
   e. Other?

2. If group membership is voluntary, what portion of the local residential community is included? What portion of members do they constitute?

3. If voluntary, why do some join and not others? What are the characteristics of those who have joined?

4. Does everyone in the group in fact use the commons? If not, who does not use it?

5. Does everyone in the group use all parts of the commons equally, or is use localized or otherwise limited to a sub-group of the community in some way? If it is localized, how is it done?

6. If localized or limited, is this a matter of right, or just proximity and convenience?

7. If the former, what is the basis of the right?

Source: John W. Bruce, *Community Forestry: Rapid Appraisal of Tree and Land Tenure* (Rome: Food and Agriculture Organization of the United Nations, 1989).

QUESTIONNAIRE 2: SAMPLE QUESTIONS ABOUT CPR INSTITUTIONS

1. Are non-members prevented from using the commons? What institution does this, and how?

2. From where does its authority to do this derive?

3. How is the institution constituted? For instance, is it hierarchical, as with the office of chief, or elected, as might be the case with a committee of elders?

4. How does the institution make decisions? Does it make rules? Does it execute them? Are there others responsible for executing its decisions? If so, who are they, and how are they chosen?

5. Does this or some other institution plant trees on the commons? Do individuals do so? If so, who actually does this work and how are they compensated? Where do seeds and seedlings come from and who bears their costs, if any? Is there a nursery?

6. Does the institution or some other institution create reserves which are closed to cutting to recover? If so, how large a portion of the whole area is currently in reserve?

7. Does the institution or some other institution directly cut branches, leaves, or trees? If so, does it distribute these, and by what system? Or does it market them, in which case how are revenues distributed? Do members feel assurance that they will receive this benefit? Why or why not?

8. Does the institution seek to regulate levels of member use? If so, does it do this through tree tenure or by setting and monitoring use levels? If the latter, how is this done?

9. What sanctions can the institution mobilize against members when its rules or orders are disobeyed? Can it cut off use rights, temporarily or permanently? Can it fine or imprison? Are there other sanctions used, such as corporal punishment? For what offenses are particular penalties characteristically imposed? Are they effective?

10. What sanctions can the institution mobilize against non-members?

11. Is a particular ministry or government agency responsible for institutions of this type? If so, what is the nature of the relationship?

12. Are government officials or the courts ever asked to enforce a decision made by the institution?

13. How are disputes concerning use of the commons settled? Disputes among members? Disputes between members and non-members?

Source: John W. Bruce, *Community Forestry: Rapid Appraisal of Tree and Land Tenure* (Rome: Food and Agriculture Organization of the United Nations, 1989).

QUESTIONNAIRE 3: SAMPLE QUESTIONS ABOUT DISPUTES ON CPRS

The following questions about disputes on CPRs should be asked in association with questionnaire/interview schedules dealing generally with CPRs. The questionnaire/interviews may assist either in planning a new CPR or in evaluating a currently operating CPR. [Conflict analysis (potential) should ideally be done in the initial stages of project design.] The questions cover the following issues: (1) dispute causation; (2) persons and agencies (institutions) responsible for dispute resolution; and (3) methods of dispute resolution.

Questions to be asked regarding an ongoing project:

1. *Causes of dispute:*

   What are some common disputes about a (specific) resource? (Ask the respondent to describe: the origins of the problem and the relationship between disputants.)

   What kinds of disputes might develop as a result of a [particular] development project?

   How might the disputes be connected to:

   a. the type of resource,
   b. the kin relations of disputants,
   c. the methods for managing the resource,
   d. the local ecology (e.g., seasonal factors)

   What characteristics of groups are most likely to give rise to disputes?

2. *Persons and agencies responsible for dispute resolution:*

How and by whom (e.g., elites or elders) are disputes settled?

What is the role of traditional leaders in mediating disputes between:

a. members of a CP group,
b. separate groups participating in a CPR, and
c. groups not participating in a CPR.

3. *Methods of dispute resolution:*

If the parties to a dispute refuse to abide by the CPR committee's decision, what is done [e.g., force by group members, fining, exclusion from group, referral of the case to government officials (civil servants) for further consideration, referral to state court officials (legal personnel)]? Give case studies.

Under what conditions does/should government or court officials intervene in disputes? Specify the resource in question, the cause of dispute, and the agents to whom an appeal may be addressed.

Questions to be asked regarding a planned project:

Will the project or policy intervention lead to disputes over land, water, or other resources?

Who will the stakeholders be and how will they be affected?

What is the potential for gender-based conflicts?

What institutions are available at the target group level that can handle disputes?

How would conflicts be resolved if they were to emerge?

After the project ends, who will manage disputes if they arise?

Source: Laurel L. Rose and Abdullahi M. Isse, "Socio-Ecological Considerations in Construction/Maintenance of Range Reservoirs," Socio-Ecological Report prepared for the Government of Somalia by the Food and Agriculture Organization of the United Nations (Rome: FAO, 1989).

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