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Natural resource management and land policy in developing countries:

Lessons learned and
new challenges for
the World Bank

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and Robin Mearns**

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1. Introduction

The World Bank's concept of its development mission has deepened in recent years with greater weight given to poverty eradication and environmental stewardship. Natural resource management has thus taken its place alongside agriculture as a major rural development concern. New insights have emerged, which include a more integrated picture of rural livelihoods, and the understanding that they depend to a significant extent on forest and animal products extracted from beyond the farm. There is also growing appreciation of the viability of production systems that make extensive but sustainable use of fragile resources, such as those of pastoralists.

Poverty is commonly associated with heavy dependence on natural resources. Those who depend upon these resources include indigenous peoples, whose cultural survival is tied to their use of the land. The growing focus on poverty eradication has directed attention towards solutions that meet the needs of those in poverty, rather than solutions that give highest priority to the demands of the larger national economy. Nowhere is this shift in emphasis clearer than in the Bank's work on forestry and livestock. An earlier generation of projects focused on commercial production, often for export and with foreign exchange needs very much in mind, but more recent projects give priority to meeting local livelihood needs by working with local production systems. In the case of projects to support protected areas, the interests of groups beyond the local also come into play, such as those at a national or international level who favor biodiversity conservation. The need to balance competing claims among multiple users and uses at multiple scales then becomes a major challenge.

Natural resource projects pose special issues for land policy and administration. Forests and pastures are sometimes denominated 'common property resources', or 'common pool resources' because they are often used by a collective group. Such resources are often used in this fashion because they are difficult to partition, for a variety of reasons specific to the resource. The same factors that give rise to difficulties in partitioning the resource may also have important implications for equity and/or sustainability, for example serving to prevent elite capture of benefits, or to spread risk over time among a diverse range of users. Owing to their phys-

ical extent and the extensive use made of them by multiple users, however, common-pool resources can be quite difficult to control and manage. Some are managed sustainably by effective community institutions and conventions, while others fall into the category of 'open access', the free-for-all that Hardin (1994) has in mind when he argues that individual users of a common will in the absence of control inevitably over-utilize and degrade the resource.

Where effective community management is not present, individualization is often proposed as the solution. While the difficulties faced in partitioning common-pool resources are usually not insurmountable, the potentially adverse consequences of doing so need to be considered much more systematically than they have been to date. The governments with which the Bank works are often confronted with a choice between building or strengthening community institutions and empowering them to manage the common property resource, or individualizing rights to the resource. It may in fact be better not to think of these resources as inherently 'common property resources', which prejudices a policy issue, but simply as resources which by some combination of their nature and policy choices are more often than most resources managed under common property regimes.

The Bank becomes involved in these choices in a number of situations. Its opinion is sought when policies are being made, or when the adequacy of legal regimes for these approaches are under discussion. In the projects it funds, the design includes use and management of these resources. Where a resource is managed well as either common property or individual property, the maxim 'if it isn't broken, don't fix it' will in practice apply. But there are three circumstances in which choices need to be made:

- Where a resource has been subject to open access but there is now a desire to create stronger user incentives for sustainable use and management;
- Where a resource has been under common property management but the system is being undermined by outside pressures, and the choice is whether to re-enforce or re-engineer the existing system or to partition the resource users;
- Where a resource has been under unsuccessful direct state management and its use, management and possibly ownership are to be devolved to smaller social units, households or communities.

These situations are often made more difficult by the fact that arguments in favor of individual or community-based models for management of the resource may reflect competition for control of the resources by different interests. The choice between group or individual management has implications for production and distribution of benefits. Different approaches will each have their constituencies at local and national levels, and within the international NGO community. Individualization, while simpler in design, often produces landholdings on a scale that excludes many traditional users, usually the poor, from access to the resources in question. The poor commonly obtain a larger part of their livelihoods than others from common property resources, and women and other vulnerable groups rely on them disproportionately. This argues for their proper institutionalization, maintenance or even expansion important in poverty reduction strategies.

There is now broad acceptance of the workability of common property regimes. On one level they are quite simple. Common property, Bromley (1992) points out, is simply property of a group. It may be in full private ownership or in some other secure and robust tenure. Its objective, from an economic standpoint, is much the same as individual property: to increase security of expectations while reducing externalities and internalizing the costs and benefits of use decisions, thereby increasing incentives for efficient and sustainable use. The incentives are for the group, rather than the individual.

But common property regimes are complex and exhibit many of the problems of collective action. Their success requires legal and real empowerment over the resources, adequate institutional arrangements for decision-making and enforcement, and the social capital to carry it off. These are conditions that are often only met imperfectly, and cannot be perfected quickly or easily.

There are three problematic choices to be made, and they interact with each other:

- **Scale:** What is an efficient scale on which to manage the resource? This is affected by in part, the scale at which effective community institutions exist, but also by minimum scale requirements for the activity.
- **Management Organization:** Who is to manage the resource? Will it be all members of the local community, including seasonal users, or a user group constituted specifically for the purpose? Is it adequately organized for the purpose and does it have the requisite social capital? Does it have the legal recognition that allows it to hold property rights?

- **Control over the Resource:** The community must be empowered to manage the resource, and that implies the power both to control use by members and to exclude or limit access by non-members. The state and its management institutions tend to mistrust local users and seek to maintain a residual title and ultimate control over use of the land. Conversely, local users, distrust the motives for such attempts to maintain control.

While the Bank does not have an operational policy on property rights, Bank activities have long been informed by a strong conviction in the importance of robust property rights in creating incentives for development. It is sometimes assumed that this equates to a commitment to private, individual rights in land in all cases, but in fact the Bank has maintained the flexibility to learn and respond to the needs of particular project contexts. There has been a growing appreciation within the Bank that the emphasis on elimination of poverty, as well as the commitment to avoid or mitigate negative social and economic impacts of projects, can sometimes best be realized through adoption of community management options under common property regimes and a variety of contractual regimes. It is important that individual and group rights not be seen as fundamentally at odds. It is rather a question of how to combine these in a system that works to provide security of tenure. Protection for the community is often an effective way to provide protection for individual members, especially against land-grabs from outside the community. But individual and household rights need to be protected from abuse by those within the community. The key here may lie in the development of effective checks and balances. The withdrawal of the state from the role of direct manager of natural resources, allows its agents to find a new facilitating role as the authority to which individuals or groups can appeal when their rights are denied.

There is a growing recognition that indigenous tenure systems embody important social values which are key to managing natural resources, targeting benefits from project activities to the rural poor, and preserving the access of poorer members to these resources. This is reflected in recent Bank land administration projects which seek to register customary rights, such as that in Côte d'Ivoire. The right question is being posed by such projects – though they may not always answer it well. Where customary forms of common property exist, whether traditional or informal arrangements of more recent origin, can we find ways to re-enforce them and secure them

through formalization processes such as registration? This is not an either/or proposition, and some of the more interesting experiences noted below involve combinations of customary and formal property institutions. For example, as noted by Bromley (personal communication 3/29/01) resort may be had to formal law to define external boundaries of community resources, but custom relied upon to govern use between members of the community.

Formal and legal recognition of customary commons can however be complex because some traditional uses do not fall neatly into pre-set categories. Instead, one often finds overlapping use rights; for instance an area enjoyed as a commons for woodcutting, hunting and bee-keeping by a village may also be part of the recognized commons of another group, such as pastoralists visiting the area on a seasonal basis. Such complexities can be handled through rights of way, or other similar arrangements which provide continued recognition to overlapping uses that do not threaten sustainable management of the resource by the principal users. In other cases, where secondary use may not be consistent with sustainable management, exclusion of those users and the development of compensatory schemes may be necessary. The creation of common property institutions, because they confer the power to exclude, can be bedeviled by conflict, and skills in conflict management and dispute resolution are now recognized as a necessary part of the repertoire of members of and those working with common property institutions (Bruce 1999).

In the development of common property solutions to resource management issues, there is a growing repertoire of institutional options that can be mobilized, such as common property associations, conservancies, community land trusts, and group titling (Knox et al. 1998). Much of the innovative work going on in land tenure in developing countries today seeks to develop tenure models that recognize and protect individual, family/household and group interests, nesting them firmly within legally recognized community interests. Such formalization requires care to 1) keep those interests as robust and secure as they before, 2) leave room for the development over time of stronger household and individual rights to the resources they manage, and 3) allow for clearer definition of common property rights in user groups or the community as a whole.

It is best to characterize the Bank's experience in these areas to date as experimental. It is working with these approaches to different degrees in different regions, depending on the relative importance of these forest

and dryland resources. For example, much of the work on pastoral land management is taking place in arid and semi-arid areas of Africa and Asia. Although the issues being confronted may appear strikingly similar, different policy choices may need to be made according to what is judged to be feasible under different ecological, socio-political, and historical circumstances. In the forestry sector the Bank is working on a very broad geographical basis, and the issues faced are quite different from region to region. While its experience in forestry situations with common property solutions has been positive, in pastoral contexts the Bank has learned some of the limits to common property approaches.

The Bank has often not been at the forefront in developing these ideas and their applications. Certainly much of the learning from which the Bank has profited has been done by others. But the Bank is now gradually accumulating experience within its own project portfolio, and seeking to learn from this experience.

2. Forests and protected areas

The Bank has been involved in land policy issues in a variety of forestry settings. An earlier generation of projects included support to commercial timbering but by 1993 concerns within the Bank led it to withdraw from funding commercial logging operations or the purchase of logging equipment for use in primary tropical moist forest (Operational Policy 4.36). The same policy document placed new emphasis on targeting poverty, participatory approaches and attention to the concerns of forest dwellers and indigenous peoples. This helped generate projects with innovative approaches to local livelihoods. Much of the new Bank lending in the forestry sector has been within the context of broader NRM projects (OED 2000). This is an area where there has been a substantial amount of experience from numerous countries, which has been reviewed quite thoroughly (Arnold 1999, Bruce 1999). The Bank is currently finalizing a major review of its forest strategy, and has sought to learn from this period of experimentation in and outside the Bank through commissioned studies (e.g., Shepherd et al. 1999).

Approaches to land issues in the last decade have been diverse. The Bank has not shown commitment to a single form of land management for forestry. It has tried to work with both state and private ownership of forest lands, for which management models are well developed, with heavy reliance on management under concessions and other contract arrangements. It has sought to liberalize state forestry and encouraged governments to move out of direct management, and focus on enforcement of relevant rules and regulations, and on combating corruption. It has emphasized weak property rights as a serious impediment to forestry development and husbandry on privately-managed lands, and sought policy and legal reforms to strengthen those rights. Private holders of forest land have been major beneficiaries of Bank-funded titling projects, as in Thailand. Finally, it has experimented with the development of community-based forest management through a variety of mechanisms, and relied increasingly on participatory models for design and implementation of its projects.

Across this range, there is need at national level for a permissive policy environment to enable experiments with new models for the organization of forestry, and in particular community forestry. Bank support to

reviews of different models can contribute to this process, by showing clearly the terms of access to forests, and distribution of costs and benefits. When the Bank engages in dialogue about reforms in forest or land law, it is important to bear in mind that there is not a single model for any given country, though work under one model may be more extensive than under others. Diversity exists within a country and region, although certain situations are more common in some regions than others. All may exist within a given country. An appropriate national legal regime must therefore be permissive, and provide a 'menu' of appropriate solutions, both in terms of user organization and tenure.

In the former Soviet Union and Eastern Europe, the Bank has participated in the restructuring of the huge state forestry sector which has involved retention of many forests in state ownership but with a move to management through leases and concessions under contract to private individuals and firms. Private forestry requires a clear legal basis in property rights and continuing Bank support for both property rights reforms and registration of land rights have been essential. The needs of a forestry project may present an opportunity to press for broader reforms in land policy and law. Local communities have sometimes, though not frequently, been given management of the resource, and individual privatization has sometimes taken place, especially in the context of claims for restitution of land seized during the communist era.

The Albania Forestry Project pioneered work on community forestry in the Europe and Central Asia (ECA) region. The bulk of Albania's forests have remained under management by the national forestry agency, and the Bank's involvement has been primarily directed towards modernizing and liberalizing that sector. Some forest land is being handed back through restitution, and the Bank has, through its separate funding of land registration activities, been helping to enhance security of tenure for privately owned land. There is some evidence for considerable cutting of forest on the land due to be given back to former owners, and concerns over 'mining' of this resource have been expressed.

There has also been experimentation with community forestry. A new 1992 forestry law provided for devolution of use rights in forests to local communes (*komuna*), the lowest unit of local government, consisting of two or more villages. These in turn contract with local families and user groups for management of the forests, often scrub woodlands, for silvo-

pastoral use. Management by individuals and user groups under contract tenure for ten-year periods are planned, with an agreed-upon management plan. The komuna level of government is relatively new and not very strong, so capacity-building must be an important part of the program. Elsewhere, this capacity issue might have been dealt with through local NGO participation in the project, but rural NGOs have not yet developed to a significant extent in these regions. Three pilots are underway and the target is to transfer 40% of forests to komuna management over the next several years (Box 1).

Two hurdles have had to be faced that will arise in similar contexts: 1) the suspicion evidenced by local people towards any group action where enforced collectivism has only recently been abandoned, and 2) the atrophy in village-level institutions during the collective period, which necessitates a rebuilding of social capital. The experience in Albania suggests that if these issues can be recognized at the outset and addressed effectively, there is a niche for community forestry in the post-communist context. The Bank is currently developing a proposal for a GEF/IDA Natural Resources Management and Poverty Reduction Project in Armenia along the same lines.

In a superficially similar policy context, in China, the Bank has provided funding for programs where local communities work under government funding and management contracts to reforest hillsides, relying heavily on household operations with long-term leases. The success of these programs (OED 2000) is based on the relatively strong village structures and the fact that in the partition of land at the end of the commune system, much hillside land was included in the territories of these villages and given to them in ownership. Combined with access to funding from provincial and national agencies for reforestation, this has allowed village forestry a much larger and more successful role than in Eastern Europe and the former Soviet Union. A new generation of Bank programs will seek to enhance incomes for local people through such forestry efforts (Box 2).

The Chinese and Albanian experiences together suggest a careful examination prior to moving into community forestry of 1) whether patterns of devolution of land from the state have created good opportunities for community action in this area, 2) the strength of local institutions and 3) popular attitudes toward group ventures. They also remind us that community forestry projects can include actors at several different levels. Vesting con-

trol of the resource at one level of community does not prevent delegation of actual management of the resource to smaller communities or families under contract. The availability of adequate organizations for management at certain levels should be a critical determinant for choosing the right scale. It is not easy for projects to create new institutions that are sustainable beyond the term of the project, so existing institutions should be utilized where they are effective. That said, the principle of subsidiarity applies; a modest scale and a smaller group generally produces better management. Equally, more than one scale can be involved in a single project. It is common that certain activities, such as contracting for credit and marketing, be organized and managed at one scale by the group, but tree planting and husbandry be carried out by member households on a smaller scale.

In India, Laos and elsewhere in Asia, the Bank has worked successfully with the Joint Forest Management (JFM) model, under which degraded state forest land is provided to local communities for reforestation under management contracts. Shifting management to user groups (as opposed to the entire community) seems to work well. This focuses incentives more tightly on the group that has an important dependence on the resource, one of the conditions for effective common property management.

The Bank's Laos Forest Management and Conservation Program has supported the launch of a successful pilot program for participatory management of state-owned forests. In 60 villages in two provinces, boundaries have been demarcated and use plans developed. Village forestry associations, which are user groups, sign 50-year management contracts with the Forestry Department. The pilot results are promising, though the share of local people in the income from the trees remains low, reflecting the government's ownership of the forest resource and lack of recognition of customary rights. In spite of the positive results, the lack of law and policy enforcement in the sector is endangering opportunities to replicate the program (Box 3).

This experience parallels that of Bank projects in India, such as the Madhya Pradesh project. That project has supported allocation of degraded state forest lands to Village Forestry Committees under management plans developed with the state Forestry Department. The transfer to poor forest dependent people of rights (with responsibilities) to forest product usufruct resulting from the project has been a significant means to tackle poverty (see Box 4).

In projects of this nature, the terms of the management and benefit-sharing agreement are critical in determining impacts on poverty. The management agreement often takes many management decisions out of the hands of the local managers. In some cases it may be possible to gradually vest greater control in local communities, even providing them with ownership of the land, but there may be limits to this strategy when the land has attractive alternative uses in agriculture. The management agreement is a means of making sure that the land remains in forest, and communities are clearly not free to decide what use they would like to make of the land (Jon Lindsay, personal communication 3/27/01). Where strong tenure of the land cannot be provided, granting ownership of trees to the planting community or user group can help provide the needed sense of security to those investing their labor (Fortmann and Bruce 1998).

It is important to distinguish the situations above, where communities are being engaged to reforest degraded state forests, usually in situations of heavy population pressure on land, from those in which communities have been controlling and managing the forest resources concerned, whether or not these are technically owned by the state. Quite different approaches are appropriate, as the following cases from Colombia and Tanzania suggest.

In Colombia, the Bank in its support to the Natural Resource Management Program found itself required to grapple with lack of clarity in land rights among Afro-Colombian and Indigenous populations in the Colombian Chocò consisting 77% of natural rainforest. The Bank supported collective titling of the forest as a first step toward establishing effective authority over its use. In its first years, the project concentrated on legal issues, community capacity-building and awareness through workshops and publications. Later, Regional Commissions developed principles, criteria and guidelines for titling by community councils. Peasant associations and other NGOs played a major role in this process. Mechanisms were developed for highly effective conflict resolution, permitting the issue of 83 titles covering 404 communities with nearly 40,000 families and covering nearly 2 million acres (Box 5).

In Tanzania, the Bank has worked at national level on land law reform and at the local level, funding experimentation with use of traditional legal models for the creation of local woodland reserves. The Forest Resources Management Program, launched in 1992, sought to support

community-based initiatives in forestry, but found significant problems in the underlying tenure regime. The system of village government and land management established in the wake of the massive resettlements of the post-independence period had never been given an adequate legal basis. Working with the openness to reform in the wake of the 1992 report of a national commission of inquiry on land matters, the 'Shivji Commission', the Bank supported a policy process that resulted in a new land law in 1998, providing substantially more secure land rights for both individuals and communities. At the same time, however, the Bank was working at the local level with creative approaches such as the forest *ngriti*, with over 1300 mini-reserves established on a customary model in Mwanza and Tabora regions (Wily 2000b). (Box 6).

The Colombian and Tanzanian cases suggest the importance of interplay between national policy and local initiatives, and the need for the Bank in its programming to address both, sometimes at the same time. In Tanzania, while working in innovative ways with customary approaches at the local level, the Bank's forestry project supported land law reform. While forestry projects usually need to work for a time within the confines of existing land policy, law and administration, where these do not meet the need, forestry and NRM projects need to take advantage of their involvement to push for the needed reforms. Reforms of land policy and law often originate in sectoral concerns, rather than in the ministry responsible for land matters, which tends to become comfortable with its prerogatives under existing dispensations. In Colombia, the needs of community NRM required a resolution of long-standing uncertainties in territorial rights of ethnic communities, and a Bank project helped define those rights as a precondition for more effective resource management.

These cases provide a broad overview of the different contexts in which land tenure issues are being recognized and addressed in forestry project contexts. But there remain important issues about who benefits from these rights. Are the poor and disadvantaged benefiting? Those involved in deciding whether to expand community forestry must grapple with these issues (Box 7). In particular, do women benefit from such projects?

Two approaches may be taken to address these issues. Where community forestry involves management by existing communities, typically the project sponsor, a government agency or a donor or an NGO, will require the community to reserve a certain number of positions on the management

committee for women or other marginalized groups. This confers only modest power in most cases, but it expands women's understanding of how and why decisions are made and it does confer a voice in decision-making. The second approach is seen where user groups are created for community forestry management, such as the village forestry committees common in South Asia. In those cases, women's groups can be given management of forest resources. If such a group is successful, however, it may have trouble maintaining control of the resource, a possibility suggested in Box 8 on a women's forestry group in Nepal.

Protected area projects often cover resources used to some extent by local communities, and whose products may form an important component of their livelihood. These projects are challenging in terms of land policy and poverty impacts because by their nature, they are more exclusionary than many other forestry initiatives. The question is, have they been more exclusionary than necessary, and, where a denial of access may be necessary, has it been minimized and has mitigation been adequate? These projects are especially challenging because they raise issues linked to a number of fundamental bank policies, on Natural Habitats, Involuntary Resettlement, and Indigenous Peoples. Bank staff need to support the establishment and consolidation of protected areas while minimizing, especially in the case of indigenous peoples, any displacement or denial of access to resources such as forest products and grazing, while providing for adequate mitigation where such does occur (Box 9).

The Bank's work in this area has been the subject of major debate with the NGO community (e.g., Clay et al. 2000; Forest Peoples Program and Bank Information Center 2000), and in examining older and more recent projects, a number of trends emerge. The Bank's initial work on protection of local peoples in this context was through formulation of its Involuntary Resettlement Policy, linked to loss of access to natural resources important to livelihoods. The use of standards initially developed for displacement caused by infrastructure projects was not always a comfortable fit. While dislocations due to road construction could usually be predicted in some detail and plans for mitigation provided early on in project development, protected area programs involved impacts that often did not become clear until much later in the day. In addition, there has also been a tension between an approach that emphasizes 'do no evil' (avoid impacts and compensate those which do occur) and an approach that emphasizes 'doing good', that is, building project components that provide alternative opportunities for affected communities.

In recent policy discussions and project design in the Bank, the emphasis has shifted towards the latter approach. The draft new Operational Policy on Involuntary Resettlement provides that for protected areas, potential losses of access should be handled through a 'process framework', a project annex detailing a highly participatory process that the Bank and client government agree to follow. The emphasis is upon working with local people to devise community-level plans that mitigate changes in access by providing culturally acceptable alternative opportunities, to the extent possible.

The Bank-supported Indigenous and Community Biodiversity Conservation Project in Mexico, to be implemented in areas of Oaxaca, Michoacan and Guerrero, is one of the first generation of projects to employ this approach (World Bank 2000). The project emphasizes full community involvement in all stages of project design, complementing protection with sustainable land use in adjoining landscapes. The four components of the project emphasize (a) capacity building in local communities, preparatory to channeling of grant resources to those communities for establishment of biodiversity conservation areas; (b) training and capacity building, including horizontal exchanges between communities; (c) community investments for conservation areas and sustainable use, and (d) establishment of 'Community Green Venture Funds', established at community level for continued financing of conservation and sustainable use activities.

It is the emphasis on participation that distinguishes this generation from the Bank's earlier projects. The challenge under this participatory scenario will be adequate monitoring to ensure that the communities, while taking advantage of these opportunities to build conservation and development initiatives that they find attractive, adequately mitigate any negative impacts on some of their members. New issues may also arise. The Bank's abstention in recent years from funding of commercial logging in tropical moist forests has resulted in a broader disengagement from discussion of sustainable forestry policy. Many in the Bank are anxious to see it re-engage in this area and, if it does so, there are important new models for enhanced poverty impacts that should inform that engagement. Ghana's 'Social Responsibility Contract', signed by the concessionaire with the local community as a condition of the concession, creates enforceable rights for the local community. These include rights to subsistence use, replanting after harvesting, and a specified share of the real market value of the harvest gained by the concessionaire (Kufuor 2000).

3. Pastoral land tenure and resource access

The Bank has supported pastoral and rangeland development in arid and semi-arid areas, particularly in Africa and the Middle East, for several decades. The manner in which land tenure and policy have been approached in this field, however, has often been found wanting. The literature is replete with examples of misguided Bank and other donor support projects. Examples include borehole development in Botswana and group ranches in Kenya, both of which have exacerbated conflict over resources and contributed to elite capture of higher-value, better-watered land; uncontrolled privatization of common pastures; and severe environmental degradation.

Over the past 15 years or so, there has been a fundamental questioning of the conventional wisdom that underlay earlier, failed pastoral development efforts (Sandford 1983, Behnke et al. 1993, Scoones 1994, Leach and Mearns 1996, Niamir-Fuller 1999). This has also led to a more nuanced approach among some donor agencies and national governments to rangeland tenure and policy (Lane and Moorehead 1994, Grell and Kirk 2000). The learning process has been incremental rather than lending itself to discrete shifts in policy and practice; nonetheless, it is possible broadly to characterize the distinguishing features of these approaches.

Conventional, property-rights approaches tend to treat all extensive livestock production systems as if they were essentially similar. The central issue to be addressed, in this view, is to achieve sustainability by balancing the number of grazing livestock against the long-run carrying capacity of the range. On the assumption that groups are unable internally to control access to and use of resources among their members, it is taken for granted that the appropriate management solution is to assign property rights to individuals (or to the state). The resource is assumed to be perfectly divisible in this respect, and conflicts among resource users are assumed to be minimized through sub-division and individual appropriation.

The fundamental premises behind this line of reasoning are weakened once ecological variability and the possibility of uncertainty are acknowledged (Box 10). Livestock producers in such systems need to be able to

'track' available forage or browse for their animals, which usually requires that they have access to large areas that encompass a diverse range of landscape niches. This calls for livestock mobility and flexibility in access to resources to the maximum extent possible. Sub-division of the resource, and assigning property rights to individuals or groups at too small a scale, risks creating rigidities that preclude opportunistic, tracking strategies on the part of resource users. This could have the effect of worsening their vulnerability to drought, worsening asset/income distribution among resource users (since higher quality resource patches tend to be captured by those with greater bargaining power), and exacerbating existing tendencies towards overgrazing under current management practices, resulting in more not less conflict.

Property rights theorists have not been unaware of these challenges. Recognizing that certain resources have distinct attributes (such as a high degree of ecological variation over time and space) that lend themselves to use in common, common-property approaches are also widely advocated as appropriate for pasture land tenure. This often implies a need for strengthening, reconstituting, or adapting customary rules governing land tenure and resource access. It is assumed, first, that the resource unit can be defined at a sufficiently broad level that the full range of desired landscape niches is included, and natural variability thereby internalized. Second, it is assumed that a group of users can be identified that is commensurate in scale with this resource unit. Property rights over the resource may therefore be vested in the group as a corporate entity, leaving more detailed questions of resource allocation, access, use and management to be decided by governance structures internal to the group.

While attractive in theory, there has been little success with such 'fixed-boundary' common-property approaches to pasture land tenure in practice. On the one hand, they often aim at a moving target: external pressures on pastoral production systems may confound even the best-laid plans for their internal management. Pressures typically arise from the conversion of better-watered land to crop agriculture and its loss as dry-season grazing or browse to pastoralists, or competition from other forms of land use such as peri-urban development or environmental conservation (Fratkin and Mearns, forthcoming). Under such pressures, formerly sustainable pastoral production systems can quickly become so compromised that it is extremely difficult for them to recover. The limits of what is feasible may be closely circumscribed by prevailing population

densities, patterns of migration into or out of pastoral areas, and the availability of supplementary or alternative sources of livelihood, which necessitates a case-by-case, context-sensitive approach between and within particular countries.

On the other hand, social groups large enough to internalize the necessary degree of landscape diversity are often too heterogeneous to overcome the challenges of collective action. Not only are there multiple uses made of the resources in question by multiple users, so that their claims overlap, but these claims are frequently contested and subject to intense negotiation and re-negotiation over time. It rarely proves possible to 'resolve' such conflicts once and for all; indeed, conflict is seen to be an integral feature of many pastoral and agro-pastoral production systems (Hendrickson et al. 1998). Where common property regimes are 'strengthened' with external support so as to create more or less fixed resource-unit and social boundaries, such conflicts may become unmanageable.

In recognition of the need for a more flexible approach to land and resource tenure under such conditions, 'negotiated-tenure' approaches are increasingly being tried. The focus of these process-orientated approaches is to provide a framework for fair and transparent consultation and negotiation among competing user groups, such that boundaries and access are subject to ongoing negotiation (Behnke 1994). The problem still remains of specifying who are 'legitimate' resource claimants, and who has the right to decide (Leach, Mearns and Scoones 1999). These approaches are in the forefront of international thinking on pastoral land tenure and resource access, and are still at a highly experimental level. (Hesse and Trench, 2000).

Making allowance for the usual lagged effect in the way conceptual advances filter into development practice on the ground, the learning process described here has begun to exert a powerful influence over the Bank's pastoral development portfolio in the past decade. Many of the 'new' generation projects under implementation or in preparation incorporate some of the latest thinking and lessons learned from past experience. The current portfolio is therefore diverse, and reflects the accretion of ideas concerning pastoral development over recent years. No single ideology or 'model' for pastoral land tenure and policy prevails, as is appropriate given the wide variety of ecological, social and economic contexts in which pastoralists and agro-pastoralists pursue their livelihoods. While

there are hopeful signs in certain countries, meaningful progress remains hampered by the relative political weakness of pastoralists in most countries and the breadth and complexity of the reform agenda.

Earlier reviews of Bank-supported experience in livestock development have not chosen to focus particularly on its implications for land tenure and policy, although relevant lessons can be drawn from them. Aside from the errors of commission that hindsight now allows us to recognize, as in the case of Kenya's group ranches, there have also been errors of omission: arguably, more could and should have been done to protect pastoral land rights in national policy dialogue. Bank-supported approaches to pastoral development in Africa and the Middle East have evolved from support for capital investment in ranching through fencing, water point development and introduction of exotic breeds of livestock (1960s-1970s, e.g. Botswana, Kenya, Yemen); through development of infrastructure (water, roads, marketing) in communal rangelands (e.g. Eastern Senegal, Somalia), including adjudication of grazing rights under the concept of group ranches (1970s-1980s); to support for pastoral associations and integrated, participatory approaches to natural resource management (1980s-ongoing, e.g. Burkina Faso, Mali, Mauritania) (de Haan et al. 1994). While the need to facilitate herder mobility through more flexible approaches to land tenure and access to grazing was recognized from the late 1980s, less practical progress was made in this respect than in the organization of herder-managed services (notably animal health and water-point rehabilitation) through pastoral associations (Shanmugaratnam et al. 1992; Pratt, Le Gall and de Haan 1997, Øygard et al. 1999).

More recently, with the renewed emphasis on poverty reduction, the Bank's evolving livestock strategy reflects the growing consensus that pastoral development is motivated as much by social and environmental objectives as by production- or output-orientated objectives alone (de Haan, Steinfeld and Blackburn 1998; de Haan et al. 2001). Attention is shifting towards a broader concern with the sustainability of grassland ecosystems and livelihood security for those who rely on them. Risk management through drought contingency planning and investment in community-based infrastructure has become a major focus of current Bank support for pastoral development (notably in Kenya and Mongolia), and it is acknowledged that land tenure remains an important dimension of the relevant policy reform agenda in this respect. Important and challenging opportunities to support poverty reduction through grassland tenure

and management interventions are also beginning to open up, for example in China, with the central government's recently announced priority on development of the western region.

A recent review by the Operations Evaluation Department (OED) of Bank-supported drylands interventions found that levels of lending in this field have been lower than is often claimed. Over FY90-FY98, around \$1.73 billion was lent for a total of 54 projects that aimed to reduce land degradation in dryland areas, with a marked decline over FY94-FY98. This represented 6 per cent of total lending in agriculture over the same period. By no means all of this lending addressed pastoral development or pastoral land tenure directly. OED judged that annual lending volumes specifically for pastoral development had declined tenfold from \$200 million in the late 1970s to \$20 million by 1999. It is likely, however, that a disproportionate share of overall lending for drylands development had some implications for pastoral land tenure and resource access, whether positive or negative.

Recent assessments suggest that the quality of Bank-supported work focusing on land tenure in dryland areas has been only marginally satisfactory. The Rural development Department (RDV) found that of 39 projects since 1985 related to pastoral land tenure, land tenure, access to resources, and conflict resolution were identified as key issues in 27 cases, but in only 16 of them were relevant actions undertaken. Similarly, only six of the 18 projects examined in the OED review were judged to have made a practical contribution through studies or pilot schemes that may lead to purposive change in land tenure and resource access arrangements on the ground. The Bank's performance in supporting policy reforms that affect drylands, including land policy, was found to have been less than satisfactory. Policy reform was considered substantially relevant for 11 of the total of 18 drylands projects reviewed by OED, yet in only three was significant progress made.

This mixed experience begs the question, should the Bank have attempted to intervene more in pastoral land tenure and resource access? OED drew several conclusions from past experience in answer to this question. First, land tenure in drylands is highly complex, not least owing to conflict between customary and statutory legislated rules. Towards the drier end of the precipitation gradient, the need is more for fair, efficient and equitable rules of resource access rather than titled ownership of land. Conflict

management is recognized to be an especially important area for future attention, particularly given changing livelihoods in drylands (transitions towards mixed farming rather than livestock production alone; 'de-agrarianization' in farming areas (Ellis 1998, Bryceson 2000)). Second, this complexity imposes a higher risk of failure or poor performance in attempting to achieve change in land tenure and resource access. And third, whether or not the Bank should have attempted to play a more active role in policy and practice, it should certainly have done more to support multi-disciplinary analytical work as a means to reduce the risks through greater understanding of the issues involved.

In Chad and Mauritania (Box 11), Bank-supported initiatives in the late 1980s to organize herders into pastoral associations based on existing tribal fractions achieved a measure of decentralization in animal health service delivery and water point rehabilitation in otherwise highly centralized administrative settings. Policy reforms around land and water tenure failed to materialize, however, in part owing to the misalignment of project goals (improved NRM) and those of pastoralists and policy makers (water and animal health). Subsequent Bank-supported efforts in Mauritania tended to address the needs of agro-pastoralists and sedentary villagers rather than those of transhumant pastoralists, encouraged by a village-territory oriented approach. Some of these interventions have had the unintended outcome of strengthening the land claims of sedentary farmers at the expense of transhumant pastoralists. Even ostensibly participatory approaches to land use planning, such as the *gestion des terroirs* approaches that are widely applied in West Africa, risk exacerbating such conflicts, since they tend to focus on village communities that can easily be spatially delineated, rather than at a broader, landscape scale which would also encompass transhumant pastoralists and the landscape niches they value.

Building on the lessons learned under this earlier generation of projects in West Africa, the Bank is supporting the pilot-testing of a 'holistic resource management' approach to pastoral land use in a number of West African countries including Chad, Burkina Faso, Mali, Mauritania, Senegal and Niger (Box 12). Adopting a consensual approach to goal-setting, taking account of local livelihoods and landscapes as a whole, the program aims to support pastoral and agro-pastoral communities in developing grazing management plans that also take account of transhumant herders as secondary resource users, together with the complementary provision of

agricultural services. An independent evaluation of program achievements in 1999 found strong support for the initiatives among participating agro-pastoralists, who perceived benefits in vegetation cover, animal health, calving rates, milk production, higher income from livestock, and reduced labor demands. These benefits could not be confirmed by field observations, however, or by the system for monitoring and evaluation of development outcomes. M&E systems are therefore being strengthened, in terms of local capacity to adapt and re-adapt grazing management plans according to changing conditions, external support to assess the livelihood benefits for participating communities, and the wider environmental benefits of the program. Pending the outcome of those evaluations, the program is poised to scale up these pilot initiatives to national and regional levels. Significant challenges lie ahead in maintaining the momentum achieved to date in local-level conflict resolution.

In international experience to date, there are very few countries in which a permissive legislative framework exists at national-level to underwrite the principles of mobility and flexibility in pastoral land tenure and resource access. Where such a framework does exist, its central provisions are often weak and difficult to implement, in the absence of implementing regulations and sound institutions to realize the vision in practice. As a result, the Bank and other donors are increasingly adopting a twin-track strategy, focusing attention both on supporting or scaling-up local-level, pilot initiatives in adaptive co-management and, often at the same time, on national policy dialogue.

In Mauritania, for example, GTZ is supporting pilot schemes for 'focal-point management' of the natural wetlands vital to the sustainability of pastoral livestock production and, in parallel, the development of national policy reforms to create the legal basis for a *Côte Pastorale* (Box 11). Central among the principles being followed are efforts to give legal recognition to customary resource management practices, in particular those of transhumant pastoralists. Involving a fundamental decentralization of power, the process is still in its infancy, but in June 2000 a new law was enacted that aims to preserve pastoral mobility and rights to common grazing for transhumant herders. A similar national policy reform process began in Niger in the early 1990s but has since stalled at the political level. Burkina Faso offers another case in which GTZ is supporting local-level, collaborative approaches to natural resource management and conflict mediation between transhumant pastoralists and agro-pastoralists, again

by creating platforms for multi-stakeholder consultation and negotiation around land tenure and resource access (Box 13).

In Kenya, having learned lessons from the failed group ranch approach of the 1980s which disintegrated owing to elite capture of benefits and ad hoc land privatization, the Bank is also supporting focal-point management in the context of a broader drought mitigation strategy (Box 14). Recognizing the vital importance of key water and grazing resources during times of seasonal and episodic stress, and building on those customary land and resource tenure systems that remain effective, the approach has provided space for Government-NGO partnerships to address inter-tribal conflicts over land and access to key resources. A detailed pastoral land tenure study laid the basis for policy dialogue with Government, although here, as in West Africa, the political context demands a slow, cautious approach to land policy reform. Against a background of armed and often violent conflict, political favoritism of some tribal groups over others is a major obstacle to a negotiated approach to focal-point management, since different stakeholder groups are perceived to enter these negotiations on an unequal footing.

Pastoral risk management is a major focus of the Bank-supported program in Mongolia, justified by a broader concern to support the Government's efforts to eliminate poverty and ensure sustainable livelihoods for all. Here, severe winter weather conditions frequently compound the effects of drought to threaten livelihood security for those – around a third of the total population – who rely on livestock for a living. A central priority of the Government is to rebuild a pastoral risk management strategy adapted to the needs of a market-oriented economy, including attention to pasture land tenure and management (Box 15). By comparison with the African examples discussed above, Mongolia's national policy framework is remarkably supportive, in principle, of mobile livestock production. Nonetheless, economic transition in the 1990s gave rise to new pressures within the extensive livestock sector which, combined with growing poverty, have increased the proportion of the population that is vulnerable to risk. While the Constitution protects state-owned grazing land as 'common land', community-based initiatives are essential to restore previously effective systems of seasonal pasture rotation and grazing reserves for emergency use. Many of the pressures in the livestock sector, and rising vulnerability among herding households, can be attributed to the lack of alternative livelihood sources. The proposed Mongolia Sustainable

Livelihoods Project currently under preparation would therefore also support community-driven investments in local infrastructure and access to rural micro-finance services in order to improve livestock marketing and help to foster more diverse livelihood strategies.

In China, the Bank has had little involvement in matters of pasture land tenure and management to date. This looks set to change, however, as central Government places growing emphasis on environmental management, poverty reduction, and development of the western provinces in which the vast majority of China's pastoralists live. In this case, perhaps to an even greater extent than elsewhere, major challenges turn on tailoring policies and investments to the highly diverse ecological, social, and economic conditions prevailing throughout western China, rather than in following a 'one-size-fits-all' approach. For example, the promotion of 'grassland contracting' on an individual household basis is unlikely in all circumstances to meet the stated objectives of enhanced grassland productivity and sustainability, as revealed by a recent Bank-supported grassland management study (Box 16). The challenge, however, is to know when and where it is appropriate to try alternative approaches to pasture land tenure and management. Under some circumstances, such as in large parts of Inner Mongolia, for example, mobile livestock production systems have come under such sustained threat from rising human and animal population densities and from 'land reclamation' that there may now be little alternative but to support investments to intensify livestock production based on some level of household contracting of grassland. On no account should this trend be assumed to be inevitable everywhere, however, nor should it be artificially accelerated where more extensive forms of livestock production can be shown to offer greater promise for livelihood security and sustainability. In many other parts of western China, such as large parts of northern Xinjiang or on much of the Tibetan Plateau, mobile livestock production warrants support in its own right, with particular attention paid to pastoral risk management (Mearns 2001).

Several themes emerge from this review of the Bank's experience in the field of pasture land tenure and policy in Africa and Asia. First, 'natural resource management' per se is rarely identified by pastoralists themselves as a major priority, in spite of the fact that many recent pastoral development interventions have been motivated by a concern for sustainable resource management. At best, pastoralists may go along with certain land-use restrictions in return for a share of other benefits that pastoral

development projects bring, such as water point development or animal health services. At root are often misconceptions concerning the types of 'natural resource management' required to ensure sustainability of the resource base as well as local livelihoods. Often, a variety of indirect or complementary policy or investment approaches is required to provide the enabling conditions for continued mobility and flexibility in livestock production. This broader framing of the problem may be thought of as 'tenure +', where the additional actions could take a range of different forms depending on local circumstances. In some cases, access to alternative or supplementary livelihood sources may be sufficient to reduce the proportion of the population primarily dependent on grazing resources; a goal which could be pursued through promoting access to alternative forms of capital, and social service provision (education, human and animal health care) tailored to mobile populations so as to expand opportunities outside the livestock sector.

Second, the weight of emphasis has shifted from a focus on boundaries towards the empowerment of groups. At a broad level, the two are not incompatible. Land-use zoning needs to be an integral aspect of unified land information systems, so that the boundaries between zones (pastoral/ agro-pastoral, agriculture/ forestry, agriculture/ peri-urban, etc) may be revised periodically, based on transparent criteria and procedures agreed by all concerned stakeholders. Within such 'contractually flexible boundaries', ongoing land allocation and management decisions governing grazing lands should be devolved to groups constituted at the appropriate level. Detailed specification of tenure rules at the level of national policy will in most instances be unnecessary and even counter-productive. Rather, legislation may simply provide for the rights and responsibilities of user groups to regulate resource access in the areas within their jurisdiction. Of utmost importance, however, is the principle that groups should be self-identified. South Africa's Communal Property Associations Act provides a useful example of such enabling legislation from which other countries could learn.

Third, as noted earlier in the case of forestry interventions, actors in multiple layers are involved in community-based approaches to pasture land management. Vesting control of the use of the resource at one level of community does not preclude delegation of actual management of the resource to smaller groups or families under contract. There also remain important roles for national and sub-national levels of government, within

a nested approach to land tenure and resource access that is commonly referred to as 'co-management'. User groups for some activities, such as livestock marketing, may be located at a relatively low level, and may federate upwards for other functions such as periodic land use allocation or conflict management. Lingering suspicion of collective approaches in certain transition economies (e.g. Mongolia, Central Asian republics, and to a growing extent China) may lead Governments to consider an unduly narrow range of institutional and policy options. An appropriate role for the Bank and other donors is to support analytical and advisory work to demonstrate to client countries, through historically informed, international comparative analysis, the full range of policy and investment options that may potentially be available for addressing the challenges of pastoral land tenure and resource access in particular circumstances (Box 17).

4. Lessons learned

- The wide range of forest, dryland, and protected area settings in which the Bank works calls for a diverse ‘menu’ of approaches to land tenure and policy, even within a given country. In many cases, the need is for fair, efficient and equitable rules of resource access rather than titled ownership of land. Common property and negotiated tenure regimes often prove to be viable and capable of co-existing with other areas subject to individual land titling. Community land titling is an important option particularly to protect rights of the poor.
- Sometimes threshold effects operate: beyond a certain point, common property regimes may become very compromised, as a result of certain resources having been privatised, often those of highest value. In such cases, there may be little alternative but to invest in ensuring that this individual appropriation of the resource can work, and to accept that additional interventions will normally be required to deal with the consequences for risk management, equity and sustainability of such ‘second-best’ outcomes. The challenge in this case is in knowing when and where such thresholds are being approached.
- An appropriate strategy for the World Bank and other donors is often to offer parallel support both for the creation of a permissive national-level policy environment, and for local-level pilots in adaptive co-management. Only in a handful of countries does such a permissive policy environment exist for common-pool forests and drylands and, where it does, it is often weak and difficult to implement. Local-level pilots are often essential as a means to test what will work in practice.
- Forests and drylands tend to be characterized by multiple users and uses, including – particularly in the case of protected areas – non-local claimants. Even with multiple layers of actors, vesting control at one level does not preclude the delegation of rights and responsibilities in resource use and management to smaller groups or families under contract. Under such co-management arrangements, there are also important roles for national and local governments.

- The prior existence of adequate institutions for management at a particular level should be a critical determinant in the choice of scale. The principle of subsidiarity should generally be followed to the extent possible, by working with the smallest group consistent with resource- and risk-management attributes. A particular dilemma arises in the case of pastoral land and resource tenure, since groups large enough from the resource standpoint may be too heterogeneous or weak in social capital effectively to manage the resource. In this case, the solution may be to build on other, non-NRM forms of collective action as the glue that could potentially hold such groups together.
- There is frequently an inherent suspicion of group-based approaches in many transition economies, given recent history and associations with forced collectivization. Frequently there will be a need to rebuild social capital that has been eroded or undermined (e.g. Albania forestry, grazing associations in Mongolia and China). This may make especially difficult the choice of the appropriate scale of management.
- It is important to bring together multiple perspectives in the framing of the problem that external intervention sets out to address. Efforts by outsiders to transform property rights in natural resources used in common have all too often been motivated by a concern for sustainability that it is not shared, or is defined very differently, by the resource users themselves. Efforts to address the underlying incentive framework remain important, provided they are framed in ways that match the complexity and diversity of local livelihood systems. Very often, external change agents must understand what else is needed to foster an enabling environment for sustainable resource management ('tenure +'), which may call for supporting interventions to improve access to alternative forms of capital (human, social, physical and financial).
- Natural resource management projects and the land use policies under them must be careful not to exclude or disadvantage women, minorities and other disadvantaged groups. Options for addressing this danger include targeting of women and men as individual beneficiaries (rather than households), design of project sub-components in which user groups of women are beneficiaries, and promotion of governance schemes for community natural resource management that include women in governance, giving them voice and greater involvement in decision making.

- Conflict management is often the critical ingredient of success in land and natural resource tenure. Conflict should be regarded as an intrinsic feature of complex property regimes rather than an anomaly. Attention needs to shift from a focus on boundaries to the empowerment of groups, and towards process-oriented approaches that create platforms for the negotiation of access to and control over key resources. This emerged as a theme in the Colombia Natural Resource Management Program, but is being addressed head-on in various pastoral development initiatives in West Africa, Kenya, and Mongolia. Resource user groups need to be free to choose the manner in which they constitute themselves.
- Bank projects must increasingly engage with local communities on what might be appropriate tenure arrangements. These will need to be increasingly negotiated, and developed in a more participatory mode than in the past. Recent proposals for participatory approaches in Bank policies, such as for protected area projects, reflect this trend.

Box 1. Komuna Forestry in Albania

In Albania, both collective and state farm land were individualized in the most rapid transition seen in Eastern Europe, but the forest lands, 38% of the land area, remain owned by the state. A 1992 forestry law provides for three types of forests: state, communal, and private. Only very modest amounts of private forest exist, but new small private forests are being created given that some state forest land has been allocated to satisfy restitution claims under a 1993 law. There are reports of heavy cutting on some of these new holdings, raising concerns about the "mining" of the resource, but as yet there are no figures available to indicate the extent of the problem.

The Bank's Albania Forestry Project, initiated in 1996, allocates most project resources to the reform of state management of forests, including reforms of pricing and liberalization of trade in forest products, introduction of new management techniques and new forest technologies, and institutional reforms, aimed at the eventual establishment of an autonomous State Forest Corporation. But there is also a Community Forestry component. In the wake of their failed experience with collective production under the former communist regime, Albanians are profoundly suspicious of any communal activity. Questions were raised as to the viability of any form of community forestry in this environment, but nevertheless the Bank earmarked about one-eighth of the project budget for work in this area.

The project's community forestry component is targeted primarily at fuelwood and fodder production in a silvo-pastoral system, as well as increasing production of non-timber forest products. The program involves decentralization of control over state forests to local government, who contract the use and management to user groups. The commune (*komuna*) is the lowest level of local government, new and relatively weak, and usually consists of one to three villages. A 1992 inventory of forest resources near villages identified appropriate areas, many of which were the subject of old claims by villages or had been used for grazing by villagers under state permit prior to transition. In recent years, with a collapse of forest regulation enforcement, they became "open access" resources and many are badly degraded.

A komuna and its user groups are required to create a silvo-pastoral commission to establish a 10-year management plan, as the basis for a 10-year contract between the komuna and one or more user groups. The latter may include the entire village, or a more limited group of residents, or a family. There is joint commitment to an initial 3-year investment plan, including fencing and replanting, to re-establish production and use controls. In addition to initial suspicion of the program, the largest obstacle that it

has faced has been the weakness of the komuna level of government, leading to some contracting to user groups directly by the Forestry Agency.

The approach was initiated in three pilot komunas in Gijinar, Tregan and Kayant in 1994 with FAO technical assistance. The Bank project has broadened this approach to cover 30 komunas. Forty percent of forests, largely excluding the major timber production forests, are to be transferred to komuna control by 2004. The program shows good promise of arresting and even reversing the rapid degradation of this forest land that had taken place in the early 90s. Performance to date has been positively evaluated and the component is being expanded.

Source: Project Documentation and interviews with task team leader and other ECA staff

Box 2. Tightening the focus on poverty alleviation in China

The Bank has been supporting the development of China's forestry sector for over fifteen years, primarily through large national investment projects. This period has seen numerous important shifts in land policy. The breakup of the commune system left considerable areas of forest land, much of it on denuded hills and mountains, in the hands of villages. In China, the villages rather than the State own rural land.

When the household responsibility system emerged in the late 1970s, and most of China returned to family farming under leaseholds from the village to families, the system was extended to forest land in many provinces. Each family received a small forest plot. Not surprisingly, given the distance from homes, lack of tenure and unstable policy environment, much of the standing timber was cut, and most villages retreated to more cautious experiments. These have usually emphasized leases of larger areas to specialized households or partnerships. In some areas villagers pooled their forest land to form forest shareholder associations, with the land either handled under unified management or leased to specialized households, with all shareholders sharing in the revenues. Both approaches appear to be meeting with success.

Terms of tenure have been constantly improved. The watershed Rural Work Document No. 1 of 1994 urged a fifteen-year minimum for use contracts, and called for longer duration for forest land. Leases with a duration of fifty to seventy years are now not uncommon. On the other hand, liberalization of markets in timber and other forest products has been slow in coming. The Provincial Forest Departments, by virtue of their virtual monopoly over credit for hillside development and marketing of timber and other forest products, have maintained considerable control over village forestry. This has been accomplished through production agreements with the villages, which have operated as outgrowers to meet lev-

els of production set by the state. The liberalization of this regime is proceeding, but incrementally, and the situation is quite different from province to province.

The overall development impact of these projects has been substantial, but a recent evaluation by the Bank's OED points out that production concerns have taken precedence over systematic analysis of the price, marketing, regulatory framework, and grassroots impacts. It is not clear that the potential impacts on poverty have been achieved, even where these projects have been targeted on poor areas. Persistent poverty in forest-dependent communities is a phenomenon that is certainly not limited to China, but needs to be addressed explicitly.

The Bank's proposed Sustainable Forestry Development Project seeks to tighten the focus on poverty alleviation through a much more participatory approach to design of local activities. The project is one of a generation of projects that will incorporate a "process framework". The project may affect livelihoods of local people, limiting their access to certain resources through new or revised zoning of land uses in connection with the Protected Areas Component of the Project. The process includes the conduct of PRA surveys to determine community use of natural resources and critical threats, conflicts and community issues; establishment and training of leading groups; selection of co-management demonstration sites; establishment of management forums in the communities; establishment and implementation of a Community Development fund, and monitoring and evaluating implementation. Out of the process would come community resource management plans and proposed projects for funding under the Community-Based Conservation sub-component of the project.

Sources: Rozelle et al. (2000); Bruce et al. (1995); and China Sustainable Forestry Development Project documentation

Box 3. Community Forestry under FOMACOP in Laos

The Laos Forest Management and Conservation Program (FOMACOP) (1996-2000) is supported by the World Bank, the Government of Finland, the Global Environmental Facility, and the Ministry of Agriculture and Forestry. It has launched a pilot program for participatory management of forests in Savannekhet and Khammaoune Provinces, encompassing 60 villages, 19,000 people, and 100,000 ha of natural forest.

Laotian law does not recognize the extensive customary rights of local communities in forests, but the new Forestry Law of 1996 (art. 7) allows the devolution of state-

owned forests to local communities for management according to state-approved management plans, and to compensate them for their management activities. In practice, there is some respect for customary forest rights, though there are also instances of officials granting cutting permits to outsiders against the wishes of local people.

FOMACOP's Forest Management Sub-Program has used the opening provided by the 1996 law to work with the villagers to 1) help them organize themselves into Village Forestry Associations (VFA), involving 5,000 members from 41 villages; 2) support VFA interaction with the Department of Forestry to prepare acceptable forest management plans, and 3) assist the VFAs in concluding 50-year management contracts with the Department of Forestry, to which the management plans are appended. Villagers and Ministry staff have undertaken boundary demarcation, and prepared land use maps, and plans. They have undertaken pre-harvest inventories, tree marking, supervision of log felling and grading, and post-harvest assessments. The management plans are based on low-intensity harvesting, on felling cycles of 5 to 10 years, with only one or two trees cut per hectare.

In terms of the 1998-1999 timber revenues, overall 69 percent went to government, in the form of royalties and other taxes; 19 percent went to logging contractors for felling of trees and transporting of logs, and the remaining 12 percent went to the villages. The villages spent half of their revenues on sustainable forest management, which included wages to villagers for labor, and VFA administration costs, with the remaining half available for development, welfare support, investments and reserves. The latter amount averaged approximately \$1,700/village. The pilot experience has been promising, and evaluations have given it good grades for efficiency and sustainable resource use. The division of income from timber sales remains heavily skewed in favor of government, reflecting government's ownership of the forest and lack of recognition of customary rights. Most critically, the program is based on delegation of state authority by contract rather than secure vesting of rights of management in the VFAs. Nevertheless, this has created an attractive incentive structure for local participation. On the other hand, it remains to be seen whether the contracts will be consistently honored, and cutting by outsiders controlled, especially when the project ends, after ten years.

Source: Williams (2000)

Box 4. Improving livelihoods in the Madhya Pradesh Forestry Project

Many poor rural households depend heavily on natural resource-based activities such as farming for their livelihoods. Improving the management of the resource base can thus have a significant impact on their welfare. In India, the Madhya Pradesh Forestry Project has achieved significant results by strengthening community access to and control over both degraded and dense forests. Project activities, combined with policy reforms have triggered far-reaching progress toward joint forest management state-wide, bringing benefits to a total of 12,100 communities (about 6 million people). Forest regeneration and community investments have improved over 5.5 million hectares (35 percent of the state's forests and 8 percent of India's forests), and have generated significant increases in income (through higher production of bamboo, fodder, and non-timber forest products; increased agricultural production from improved water regimes; increased output prices from better access to markets; and new micro-enterprise development). In total, usufruct rights over forest products estimated as being worth \$280 per household per year have been transferred to local people in perpetuity, equal to a total asset transfer of over US \$3.3 billion to 6 million people.

Source: Project documentation and interviews with project staff.

Box 5. Titling community territories for natural resource management in Columbia

The World Bank Natural Resources Management Program began in 1994. During loan preparation, the concept of titling of indigenous territories was introduced under OD 4.20. There was much uncertainty over who held the authority to use and control land and natural resources in the heavily forested Chocò Region. Consequently, the project could not go forward without addressing the problem.

Land sales by government in the region had displaced some inhabitants and threatened others, resulting in declining security of tenure. The new 1991 Constitution and subsequent laws in 1993 and 1995 provided local communities in historic occupation of the extensive and largely unmanaged public forest lands to register rights in their territories. After consultation with local communities, a loan was designed that included titling and demarcation of indigenous reserves, titling of Afro-Columbian territories, and local participation in decision-making through the establishment of Regional Committees. About a tenth of the budget of the \$39 million project has gone for this component, with the project ending in 2000.

The project worked closely with local communities and with the ACIA-Integral Peasant Association of the Middle Atrato. The first few years of the project concentrated on community capacity building, and awareness raising through workshops and publications. Regional Committees were established and developed the principles and criteria to guide the land titling process. Community Councils were also created. Boundaries between ethnic territories were established through inter-ethnic consultation and agreements, and then demarcated and titled to the communities. When conflict over a territory developed between different groups, Inter-Ethnic Regional Committees proved highly effective sites for conflict resolution. The Bank had not been sufficiently aware of the potential for conflict around these issues at the outset, but the avoidance of future conflict should be one of the lasting contributions of the project.

In total, 83 titles were granted to 404 communities, affecting nearly twenty thousand families and nearly two million hectares. The land has been protected against government land sales, and a basis established for sound natural resource management. In spite of the project's success and the positive local reception of the titling of ethnic territories, the project points up the vulnerability of activities in forested areas to insurrections. It is not possible at the current time for activities under the project to proceed.

Source: Ng'weno (2000)

Box 6. Reforming national law and working at the grassroots in Tanzania

In 1992 the Bank launched a Forest Resources Management Program in Tanzania, and soon found itself involved in land policy and law reform. The intention of the project was to support community-based initiatives in forestry, but the underlying land tenure regime made it difficult for communities to secure their boundaries or rights in the land and trees. A review of land policy was underway, and the Bank supported the translation of the recommendations into a white paper and then a new land law. The Land Act 1998 and the Village Land Act 1998 now provide a legal regime whereby a village council can register village lands, including village forests or other commons areas, in the name of the village, or register them in the name of a user group or association. These Acts have ended a long period of uncertainty about the legal ability of villages to protect and manage their own forest resources. They have provided legal recognition for demarcation of 3,560 village territories already supported by the World Bank in eight regions, including Mwanza.

These clarifications make it possible for villagers to proceed with greater security to undertake grassroots initiatives such as that described by community forestry specialist Liz Wiley:

“ Perhaps the most significant was the development undertaken by a World Bank-funded programme operating in Mwanza Region. Following a visit to Duru-Haitemba, the programme assisted district foresters to help villagers bring residual forest patches under protection and management. The approach linked the Duru-Haitemba process, already described (Wily, 1994), and the experiences of neighbouring Shinyanga Region, where grazing lands, not forests, were being protected through a revitalized traditional mechanism for setting aside *ngitiri* (grassland).

What are locally referred to as *forest ngitiri* have been the result. Today, more than 1,300 *ngitiri* exist in the seven districts of Mwanza Region with another 120 in Tabora Region (Wily and Monela, 1999). Several hundred are in effect village forest reserves, similar to those of Duru-Haitemba and Mgori. Most *ngitiri* are much smaller and under the jurisdiction of parts of the village community—sub-villages, women’s groups or traditional societies. At least 500 *ngitiri* are individually owned. Few are larger than 10 ha and some are less than 1 ha.

The *ngitiri* initiative represents a very important branch of community-based forest management in Tanzania because it extends the approach and the opportunity to conserve resources into areas, not hitherto seriously considered, where the resource is much diminished. Moreover, the principles are brought into play at the household level of decision-making, encouraging individual farmers to reassess their farm resources with a view to protecting rather than clearing their residual woodland patches. This has proved particularly advantageous, in that it is in such small areas that silvicultural management techniques may be profitably applied. A growing number of farmers with very small *ngitiri*, acknowledged and protected by the wider community, now routinely thin and prune to produce only those trees for which they have most use”.

Source: Wily (2000b)

Box 7. Including women and people without power

A major concern raised by both women and men participants was the question of how to include people who have no power, notably women, young men and former slaves, into the decision-making process. The issue is particularly critical since most disempowered people rely disproportionately upon forests for their livelihoods. Given that most local forest management systems do not appear to overtly include women in the decision-making process, it seems unlikely that those systems are likely to be any more effective than the State system at ensuring that women are included in the process. Thus while one could expect that decentralized management would take women's concerns into account insofar as they are also men's concerns, if there is a conflict of interest based on gender, such conflicts are unlikely to be resolved in favor of women. Some participants suggested that one way to address this issue is to promote projects that expand the economic options available to women, thus decreasing their reliance on forest products for survival. Others felt that only efforts by the state to promote political empowerment for women and other disempowered groups would lead to full participation of these groups in forest management decisions.

Source: McLain (1993)

Box 8. Women and community forestry in Nepal

Seven years ago the Women's Development Office (WDO) began literacy classes in Sejuwal Takura. Classes were held in the evening, and those with their husband's permission attended the class. Women learned the Nepali script, and each woman learned to sign her name. Several other activities evolved from this program. The WDO also facilitated training sessions on agricultural and horticultural techniques, livestock raising and cooperative loan systems. The women planted orange and fodder trees on their private land. A cooperative was set up to provide loans, using the group's collateral, for agriculture or livestock development. Most recently the WDO helped form the women's forestry committee, which started to protect and restore the local degraded forest.

Sejuwal Takura's Forestry Committee is comprised of seven women between the ages of thirty-five and sixty. They hold village meetings, organize plantings, and protect the forest. User group meetings are attended by both men and women. From these meetings a management plan was agreed upon. The forest is open for five days a year during November. One person from each household is allowed to cut unlimited amounts of grass during this period. During July they organize plantings, and the Department of Forestry provides seedlings and technical advice. The forest has no fencing, nor any forest guards. Instead, the women watch the area, with most of the responsibility falling on

those living in closest proximity. Owners whose livestock are found grazing in the forest are fined. Problems tend to be from members within the community. Peer pressure takes on an important role in enforcing the plan.

Female committee members felt more at ease working on a committee made up only of women. They were more likely to contribute to discussions and felt a sense of importance, autonomy and identity within their group. While they did not object to the idea of men on the committee, in practice they felt that the presence of men would limit their own participation and control. Some doubted whether they would remain on the committee if men also became members.

Overall, the members of the village were pleased with the presence of the forestry committee. Village women not involved in the WDO activities felt more comfortable having an all-woman committee. According to village men, the committee was a good thing: it was good that the land was being improved. However, each man interviewed thought that it would be better if men also sat on the committee. Similarly, the District Forest Officer said that the committee should be representative of its users, and should therefore include men. Eventually men will have to be accepted as committee members or, the Forestry Office will cease to recognize this committee as legitimate and would provide support to another committee.

The women's forestry committee has been operating for four years. The formation of the committee has greater cultural than environmental implications. The women involved in these activities feel that their attitudes and perceptions have changed. Through the literacy classes and trainings, they have become much more confident in themselves. The women on the committee say that before their "wisdom was hidden": they were "asleep and unaware". Since their interaction with the WDO, they are not afraid to speak in public nor to go to government offices. Without the influence of the literacy classes, the women would not have become involved in the forestry committee.

Despite the great changes and effects that the committee and the WDO activities have had on the women's lives, the forestry committee has very little power, nor is it officially recognised. The women's committee has control of the forest because the land is degraded. At this time, no one contests their claim to manage the land because it has little or no value. In terms of property rights, this "forest" has no benefit stream and thus it is not difficult to enforce rights.

However, the forestry committee is improving the land through planting trees and protection. As the value of the land increases, it is likely that the women will not be able to main-

tain control. As the forest official noted, the forestry committee needs the support of the Forestry Department, and will have to accept men as members, if it is to achieve recognition by the government. In this case, it is likely that the women will not have enough power to maintain the all-woman committee, and their control over the forest land.

Source: Hughes (1993)

Box 9. The Bank's safeguard policies and community forestry

The World Bank has developed a number of "safeguard policies" that attempt to protect affected environments and populations from negative side-effects of World Bank projects. In some cases actions are proscribed, in other mitigation measures required. A number of these policies have important impacts upon community forestry and protected area projects which receive Bank funding. First, the policy on Involuntary Resettlement (OD 4.30) requires that individuals who lose access to land or resources on which their livelihoods depend must be compensated, in monetary terms or by provision of alternative land or other project-generated opportunities. The provisions invite the creation of community forestry components in association with protected area projects. By requiring compensatory measures, these provisions also limit the extent to which protected area projects can exclude local communities. Second, the policy on Indigenous Peoples (OD 4.20) requires projects receiving Bank funding to pay special attention to indigenous land rights and their cultural as well as economic values. Third, the policy on Forestry (OP 4.36), protects forest use by local communities by prohibiting Bank funding of logging in primary moist tropical forest. It also exempts community forestry activities from the formal requirements of this policy. This means that proposals for sustainable forestry programs with such communities can be evaluated on their own merits. The Bank sees the effective enforcement of these policies as critical to its reputation as a development agency, though enforcement can substantially increase its "cost of doing business", slow project development, irritate national governments and cause the abandonment of some projects in some cases. The Bank has created an Inspection Panel to which complaints may be taken by those affected when these policies are not observed. While these policies technically only affect the use of Bank funding, they also have broader influence by communicating higher standards for acceptable treatment of communities using forests to the Bank's client governments.

Source: Bank Operational Policies and communications with Bank Safeguard Policy Advisors.

Box 10. The equilibrial – non-equibrilrial continuum in grazing ecosystems

The 'new' thinking on range ecology highlights the distinction between equilibrial and non-equibrilrial ecological systems (Behnke, Scoones and Kerven 1993). At one extreme, equilibrial systems are those in which the density of grazing livestock explains a significant amount of the variation in vegetation dynamics over time, and in which conventional range management techniques, such as maintaining appropriate average stocking rates, are most suitable for sustainable grassland management. At the other extreme, disequilibrilrial systems are those in which livestock populations and vegetation dynamics are only loosely related, and density-independent factors such as rainfall explain a higher amount of variation in the pattern and evolution of grassland and forage species. Opportunistic means of 'tracking' fodder availability from natural grazing and browse, usually through mobility, are typical pastoral management adaptations to such spatial and temporal variability. Annual rainfall totals and the coefficient of rainfall variation are often taken to be a proxy for the importance of disequilibrium, given that more arid areas tend to experience greater inter-annual rainfall variability. While many of these insights are derived from empirical work in African savanna ecosystems, a steadily growing body of work shows that they are also relevant to pastoral production systems in other regions of the world, such as Inner Asia (Fernandez-Gimenez and Allen-Diaz 1999, Humphrey and Sneath 1999, Dunlop 2000, WRI 2000). This work shows the importance of mobility and flexibility in pastoral land tenure and resource access in dry areas, alongside the need to consider density-dependent grazing pressure in higher rainfall regions.

Box 11 Evolving approaches to pastoral land tenure in Mauritania

During the late 1980s, the Bank-funded **Second Livestock Project** supported the establishment of 39 pastoral cooperative associations (PCAs), with the broad intent to improve natural resource management by Mauritanian herders. They formed a national federation of agro-sylvo-pastoral associations with a total membership of around 20,000, representing over a third of all pastoral households in Mauritania. Although some PCAs undertook small projects or established revolving funds, they were largely unsuccessful in improving land tenure security and resource management objectives, owing to confusion regarding the role of PCAs; their large and heterogeneous membership; misalignment between project goals (NRM) and pastoralists' goals (water and animal health); insufficient institutional capacity building; and continued reliance of PCAs on external financing. The failure of PCAs to press legally recognized claims over bounded parcels of land – a role that the project originally envisaged for them – may have been a blessing in disguise, since it has afforded them greater flexibility to undertake economic activities in areas outside their bounded territories, and at least leaves open the possibility of recognizing the overlapping claims of secondary resource users.

Following this experience, the Bank-supported **Rainfed Natural Resource Management Project** withdrew support for pastoral development and the PCAs, and instead targeted dryland agriculture more broadly, through the adoption of a *gestion des terroirs* approach to natural resource management within defined village territories. This approach, which aims to facilitate community-based resource management plans, has in practice tended to neglect secondary resource claimants residing outside the immediate area, and has done little to reduce conflict between herders and farmers. This approach has led to some resistance from transhumant pastoralists, not least because the project has supported controversial measures, such as the fencing for cereal and vegetable cultivation of wetlands, that had formerly provided important dry season and drought-period grazing.

With support from GTZ via the **GIRNEM** project supporting integrated natural resource management in Eastern Mauritania, efforts have been made to raise awareness of the importance of these wetland resources (known locally as *tamourts*). They constitute the lynchpin for mobile livestock production systems and pastoral livelihoods, and habitats for a rich diversity of flora, fauna and migratory birds. Economic analysis suggests that there are very high opportunity costs of wetland conversion to agriculture through lost livestock production, even without estimating the additional costs of escalating conflict between herders and farmers. The GIRNEM project sought to address the issue through a combination of support for pilot initiatives on the ground and efforts to influence national policy.

Against a background of reforms to deepen administrative decentralization, and with strong support from Mauritanian pastoral associations, GTZ has mobilized a team of local lawyers, clergy, and pastoral leaders to help draft a *Côte Pastorale*. This would give formal legal recognition to customary arrangements regarding pastoral land tenure and resource access, which in turn embody the principles of *Charia* (Islamic law). International conventions (Mauritania is a signatory to the Convention to Combat Desertification and Convention on Biological Diversity) provided a significant additional measure of leverage to legitimize this process of policy reform. The *Côte Pastorale* was passed in June 2000, just three weeks after it was drafted. Certain areas are designated under the law as pastoral zones in which agriculture is prohibited, and limits are placed on public or private investment that constrain mobility unless they are shown to be in the 'national interest' or generate an IRR higher than transhumant pastoralism. Mechanisms for conflict resolution are also specified in the *Côte Pastorale*, integrating traditional authorities and local governments. Information about the law has been widely disseminated through para-legal and literacy campaigns. Challenges remain, however, in ironing out inconsistencies between the new law and existing legislation, and in processes of local negotiation to clarify where necessary what constitute the customary rules. While the simplicity of the new law is its chief merit, it also leaves potential loopholes.

In parallel with these efforts at the policy level, GIRNEM has supported pilot initiatives in conserving wetlands for use by transhumant herders. The approach taken has been to broaden the participatory approach to formulating management plans embodied in *gestion des terroirs* to include resource users at multiple, overlapping levels. Negotiation over resource use and access between villagers and transhumant herders is thereby integrated into the process, and conflict management is no longer regarded as an 'externality'. Basic tenets of the management plans are to protect the viability of transhumant livestock production, diversify livelihoods and preserve the ecological integrity and biodiversity of the wetlands.

Sources: Staff Appraisal Reports, Øygard et al. (1999), Thies et al. (2000), interviews with task team members

Box 12. West Africa Pilot Pastoral Program

Based on lessons learned through various Bank-supported pastoral development projects in West Africa in the 1980s, a new approach was initiated in Chad in two sites in 1994, and later expanded to include pilot areas in Mauritania, Mali, Burkina Faso, Senegal, and Niger. Reasons for past failure included the lack of involvement of pastoralists themselves in the design of grazing schemes, and top-down approaches to formulating blueprints based on questionable ecological and technical principles, such as an over-emphasis on fixed stocking rates that have little relevance under conditions of low and unpredictable rainfall and mobile livestock production systems. The new approach, based on site-specific adaptation of the 'holistic resource management' (HRM) approach, is now poised to be scaled up on a regional basis. The program represents the first application of HRM ideas in West Africa, although HRM has been supported by IFAD in Eastern Morocco for 6-7 years. Each pilot area is around 5,000-12,000 hectares in size, selected according to the presence of different landscape niches.

The West Africa Pilot Pastoral Program (WAPPP) aims to prevent and resolve pastoral conflicts through a strategy that is acceptable to all concerned stakeholders, sustainable over the long-term, and replicable to other pastoral contexts. The process builds on local knowledge, goals and priorities, rather than focusing primarily on the development of new legal regulations or on external technical assistance. A four-pronged approach has been field-tested, initially in Chad, involving: (a) *defining clearly the respective roles of Government and local communities*: agro-pastoral communities, including all stakeholders, have the power and responsibility to determine rules of access to resources and to establish, on a case-by-case basis, the required arrangements on a formal or informal basis. Government's role is limited to providing an overall framework for such arrangements, rather than to extend ownership and access rights without the full agreement of concerned communities; (b) *ensuring herd mobility*: due to the extreme uncertainty of climatic conditions, the sustainability of pastoral livestock production rests on herd mobility. Acceptance of outsiders is a principle widely respected by herders as instrumental for rehabilitation of their own land and as a condition of reciprocal access to others' land when needed; (c) *linking access to resources with sustainable management*: the perverse results of 'the tragedy of the commons' can only be avoided when all users of a given resource agree to manage it according to shared goals; (d) *advance planning for conflict prevention and resolution*: given the prevalence of contested land and resource claims within pastoral systems, customary mechanisms for conflict management have always existed. WAPPP aims to strengthen such arrangements where they continue to exist, or to support their (re-)establishment where necessary through multi-stakeholder forums for consultation, negotiation, and mediation.

Sources: Hall and Le Gall (1997), program documentation, and interviews with task team

Box 13. Collaborative natural resource management and conflict mediation in Burkina Faso

Kishi Beiga is a vast pastoral zone in Oudalan province of northern Burkina Faso, and is home to several ethnic groups living in scattered villages and hamlets. The local population is both sedentary and semi-sedentary, and is joined regularly by transhumant herders from neighboring regions. Environmental degradation in the area and extensive immigration have largely destroyed the complementarity between agriculture and livestock production, and the two systems now compete for land. Local management systems have broken down.

The GTZ-supported Burkina Sahel Programme (PSB) was initiated in 1991 to improve natural resource management and people's livelihoods. The project initially followed a participatory, community-based land use planning approach (*gestion des terroirs*), but found it inadequate to deal with the social and ecological complexities of the region. Transhumant pastoralists were not represented, social relations between groups were affecting project outcomes in a way that project staff were unable to understand and the management of common-pool assets was problematic.

Activities were put 'on hold' for a year while the project approach and methodology were reviewed and a new strategy developed that focused on social groups rather than territorial units. With conflicts and rivalries simmering between almost every ethnic group in Beiga, the challenge was to create a situation in which all stakeholders would not only agree to participate in the consultative process but also to respect each other's rights to voice their needs and feelings. Programme activities shifted towards facilitating consultation and collaboration among the different groups within the community, using participatory methods. A consultative committee emerged, with representation from multiple villages, hamlets and other stakeholder groups. It has been instrumental, for example, in resolving disputes between Mallébé and Bella agro-pastoralists and transhumant Fulani over the management of water pumps, which had soured relationships between the groups and has set up a system for resolving disputes over damage to fields. Negotiating skills are the key to greater autonomy for the committee, and the expertise gained through its dealings with technical and financial partners has enabled it to mobilize resources for micro-projects on socio-economic issues and the protection of natural resources. In its first year, the committee drew up a set of rules for the use of resources such as post-harvest grazing, *bouli* (man-made water holes), salt licks, and for the protection of trees and natural water points. So-called 'outpost committees' and representatives from each hamlet are responsible for following up and enforcing regulations.

The new approach acknowledged the local tensions and rivalries and other historic origins. Successive political regimes, local power structures and land tenure policies have shaped social relationships within the region, frequently exacerbating conflicts and rivalries. The willingness of people to confront the underlying historical, social and cultural factors in current resource use and management practices was an important factor contributing to the success of the consultative process. Other factors include finding appropriate entry points for discussion, changing the role of external change agents, building partnerships and supporting legitimate local leaders and resource people.

The PSB offers an example of good practice in an externally facilitated approach to pastoral and agro-pastoral land tenure and resource access that tries to deal with social diversity and complexity, typical of the Sahel, through establishing platforms for negotiation and consultation. Future challenges lie in strengthening the fragile cohesion between different groups and in legally ratifying the consultative committee and management rules it has devised. At the same time, it is recognized that the success of local pilot initiatives remains critically dependent on stability within the wider socio-political environment.

Source: Banzhaf et al. (2000)

Box 14 Pastoral land tenure and risk management in Kenya

The arid lands of northern Kenya cover 60 per cent of the country and are home to around one million nomadic and semi-nomadic pastoralists, the great majority of whom live below the poverty line. Mobile herders customarily practice opportunistic grazing management to take advantage of the unpredictable and variable ecology, and to spread risk through a variety of strategies involving a high degree of flexibility in resource use. Growing pressures on rangeland resources and the lack of statutory legal recognition of pastoral land rights are undermining customary arrangements for regulating resource access, control and management. Although mobility is the best means of coping with high environmental risk while maintaining livelihood and ecological sustainability, the trend is towards increasing sedentarization by herders. Earlier World Bank and other donor-funded projects supported water point development, the establishment of group ranches and agricultural development which now threaten pastoral livelihoods by contributing to land degradation and the disappearance of dry season grazing areas and trek routes. Community development and service delivery have also encouraged sedentarization. Pasture land has been appropriated for irrigation schemes, national parks and game reserves, refugee camps and commercial agriculture, while physical insecurity further impedes mobility. With increasing competition for land, herders are attempting to

stake territorial claims in a climate of growing speculation about impending land adjudication, thereby exacerbating insecurity and conflict over land and resources.

Most of Kenya's arid lands belong to the State and are held in trust by local county councils, governed by the Trust Lands Act. This act recognizes the rights of tribes, groups, families and individuals to occupy and use trust land, but does not grant long-term, secure tenure and fails to recognize customary arrangements for land and resource access. Pastoral communities are not afforded legal status to enable them to address land issues at a corporate level and county councils have been increasingly prone to allocate trust land to private interests. Once land is adjudicated and registered in the name of an individual or a group of no more than five persons under the Registered Land Act and Land Adjudication Act, all prior rights over that land are extinguished. Pastoral livelihoods in Samburu, Isiolo and Marsabit have recently come under particular threat owing to private land adjudication. Most of the lands customarily held by the Maasai in southern Kenya, and parts of Samburu, have been adjudicated under the Group Representatives Act, which confers 'certificates of incorporation' to representatives of pastoral groups rather than to the group itself. In practice, this effort legally to underwrite 'state-sponsored commons' and establish group ranches has been subject to manipulation by powerful elites and resulted in widespread individualization of land ownership.

Against this background, the Bank-supported **Kenya Arid Lands Resource Management Project** (1995-ongoing) aims to improve food security and reduce poverty in northern Kenya by institutionalizing drought mitigation and management tools, including a drought early warning system, marketing outlets for livestock and livestock products and supporting infrastructure, and community development to promote alternative livelihood strategies. Based on experience gained through the Bank-supported Emergency Drought Recovery Project, and through scaling up earlier efforts to pilot a drought early warning system in Turkana district, supported by The Netherlands, ALRMP aims to create sustainable institutional mechanisms at national level for managing the drought 'cycle', including preparedness, mitigation and recovery.

Pastoral land tenure and resource access were recognized as important dimensions of drought management, and a detailed study of the relevant issues was commissioned as part of the project. Moving from diagnosis to practical action, tenure issues have mainly been addressed through national-level policy dialogue on pastoral land tenure and through efforts to strengthen mechanisms for conflict resolution. Conflict resolution is centered around the notion of 'focal point management', usually focusing on higher-value, better-watered areas within arid lands that are customarily used for dry season grazing and browse but which are also in high demand as potential areas for conversion

to irrigated crop agriculture. During periods of drought, pastoral risk coping strategies include movement into semi-arid zones, resulting in intense resource competition with agropastoral and other pastoral groups. Customary institutions for mediating conflicts have been fractured by the overlay of government administration in land and conflict issues. Political factors have resulted in inequitable treatment of various pastoral groups by the state, proving incentives for some to operate outside traditional forums, thereby weakening their legitimacy.

In this context, the project attempts to support conflict management by creating platforms for the negotiation of overlapping and contested claims to key resources. The Bank works with a number of organizations in pursuing this agenda. NGOs including Oxfam International and ActionAid have been involved on the ground in educating government on the importance of conflict resolution in sustainable natural resource management. The Bank's role has been to serve as an umbrella, by providing NGO projects a legitimate 'home' within government. With Bank leverage, NGOs are increasingly getting government involved in mediating inter-tribal conflicts.

Two key findings emerge from this experience to date. First, efforts to address tenure have focused mainly on policy, but have so far met with little practical progress. An active dialogue has been maintained with Government, albeit a cautious one given the delicate political balance concerning pastoral groups. In spite of the project's lobbying efforts to enhance the security of pastoral land rights within the existing legislative framework, the Government decided in 2000 to overhaul the Constitution, with profound and potentially adverse implications for pastoral land tenure. The fact that the project management unit and the Presidential Commission assigned to review land issues both operate from the Office of the President gives some grounds for optimism concerning opportunities for collaboration and coordination. Second, the ALRMP has had little direct impact on land and resource tenure to date. Project activities have deliberately steered clear of water point development so as to avoid contributing to sedentarization and land degradation. At the same time, few practical successes have so far resulted from efforts to diffuse inter-tribal conflict over key resources, largely owing to political favoritism afforded to certain tribes by Government. Although sound in concept, multi-stakeholder platforms for negotiation of rights to use key resources are unlikely to succeed in such a context.

Sources: Kenya ALRMP Staff Appraisal Report (1995), 'Study on Land Tenure and Resource Management in Kenya' (1999), and Mid-Term Review; Rutten (1992), Lane (1998), interviews with task team

Box 15 Vulnerability to *dzud* in Mongolia

For two years in a row, Mongolia has suffered winters so harsh that the livelihoods of up to a third of the population have been placed in jeopardy through the loss of the livestock on which they depend. Such events are known in Mongolian as '*dzud*': a range of winter weather-related conditions, typically involving heavy accumulation of snow or ice crusts covering pasture, that prevent animals from getting enough to eat. *Dzud* conditions are exacerbated in cases of drought the preceding summer, a conjunction of events which occurred both in 1999 and 2000, since less forage is then available for animals over the winter. It is tempting to view recent *dzud* events simply as 'natural disasters', but this would be inaccurate; their severe consequences owe as much to institutional failures as to Mongolia's harsh environment. Mongolia's economic transition to a market economy in the 1990s has so far resulted in a higher proportion of the overall population being exposed to *dzud* risk, and a higher level of vulnerability. Since changing patterns of pastoral land use and land tenure are associated with increasing vulnerability to *dzud*, the Bank is assisting Government of Mongolia to address the issue as part of its broader poverty reduction strategy.

The share of Mongolia's total population of 2.3 million engaged in livestock production doubled from around 17% in 1989 to around 35% by the mid-1990s, largely owing to the lack of alternative employment opportunities for those who lost public-sector jobs in the early stages of economic transition. The livestock sector effectively acted as an economy-wide safety net in absorbing many of those who would otherwise have been unemployed. The incidence of poverty increased sharply over the same period, from virtually no officially recorded poverty at the end of the 1980s to around 36% of the population by 1995. Meanwhile, formal marketing systems collapsed, so that urban dwellers relied mainly on their rural relatives as a source of animal food products. Herders preferred to increase their herd size rather than sell animals in the market on unfavorable terms. Annual off-take rates declined sharply so that many more animals were carried over the harsh winter/spring season. While herd size steadily grew (from 25 million head in the mid-1990s to 33 million head by 1999) and the number of herding families increased, available feed supplies dwindled with the near-collapse of formerly subsidized crop production.

Economic transition also brought new pressures within the pastoral livestock sector itself, which were manifested in reduced pastoral mobility. This in turn contributed to overgrazing around settlements and close to major transport routes, thereby threatening the sustainability of pastoral livestock production overall. Some of the most important factors included:

- the removal of subsidies in the provision of health and education services, leading to a decline in their spatial coverage;

- rising inequality in flock and herd sizes among herding households following privatization, owing to differences in labor endowments, levels of skill and experience in herding, and access to social networks (particularly with local officials) that could bring privileged access to inputs and good grazing;
- constraints faced by poorer herders in gaining access to vehicles or draught animals with which to move camp; reluctance of more established herders to move camp for fear that their customary pastures might be grazed by others in their absence; and
- a general decline in the observance and effectiveness of customary norms regarding common grazing, such as respecting others' customary claims on winter camp sites and associated pastures.

This has led to a decline in seasonal separation of pasture use, and a corresponding rise in year-round grazing of particular pastures. The result has been rising congestion, overlapping and contested claims over pastures, leading to open conflict in areas of higher population density.

Pasture privatization is prohibited under Mongolia's 1992 Constitution, and the 1995 Land Law upholds the principle that all pasture land (80% of national territory) should continue to remain in public ownership and held in 'common', while customary patterns of seasonal pasture rotation should be observed. Although in principle the legislative framework permits continued mobility, implementation is lax (Fernandez-Gimenez and Batbuyan 2000). In part this is due to ambiguities in the law itself (e.g. it is not clear whether designation of pasture land as 'commons' is intended to suggest open access, controlled-access collective grazing lands held by particular herding communities), and in part to the new pressures within the pastoral livestock sector identified above.

The Bank's Country Assistance Strategy for Mongolia outlines a selective approach, focusing on the conditions needed to foster private sector-led growth (macro-economic policy, banking and enterprise reform, energy and transport), and supporting a National Poverty Alleviation Program (NPAP, 1996-2000). NPAP, a type of social fund, has aimed to improve the provision of health and education services in rural and urban communities and has promoted income generation for the poor through micro-credit and labor-intensive public works. Over 1999/2000, the Bank undertook several activities intended to re-focus its program of poverty-targeted intervention in Mongolia. First, an evaluation of NPAP supported by Government, UNDP and World Bank in 1999 concluded that while much had been achieved under the program, its impact in reaching the rural poor had fallen short of expectations. Second, the Bank supported analytical and advisory work to assist the Government Working Group on Land Reform in identifying key constraints in land tenure policy, including constraints in access to grazing that worsen vulnerability for poorer herding households. Third, the Bank (with co-financing from DFID) supported a

Participatory Living Standards Assessment (PLSA) in 2000 as an input to preparation of Mongolia's Poverty Reduction Strategy. The PLSA has deepened understanding of vulnerability and other dimensions of poverty in Mongolia and documented the perceptions and experiences of around 2,000 rural and urban community members with respect to changing living standards and livelihood strategies in the 1990s. These activities have helped re-focus the Bank's strategy in Mongolia and to shape a follow-on program currently being prepared for possible Bank support.

The proposed Sustainable Livelihoods Project (SLP), intended as the first phase of a 12-year Adaptable Program Loan, would provide support in three, inter-related areas: pastoral risk management, rural micro-finance services and community-driven investments in small-scale infrastructure. The proposed SLP will assist Mongolia to restore institutional capacity to manage risk in pastoral livestock production, with a primary focus on risk preparedness. A wide range of measures are being considered, several of which concern pasture land tenure and management:

- early-warning systems for predicting drought and *dzud* incidence;
- clarification of institutional roles and responsibilities in *dzud* response;
- marketing arrangements for livestock and livestock products, in part to permit rapid destocking at assured prices prior to *dzud* and drought;
- emergency grazing reserves and fodder banks;
- community-based pasture land tenure and management arrangements to ensure the equitable implementation of key provisions of the existing land law;
- capacity-building for multi-purpose grazing associations and for negotiated dispute and conflict resolution;
- financially and institutionally sustainable mechanisms for restocking eligible households;
- piloting sustainable approaches to livestock insurance based on district-level indexing of trigger events using weather and/or livestock mortality data.

In addition to these efforts to support pastoral risk management, the SLP aims to broaden the capital assets of the rural poor so as to expand opportunities for livelihood diversification beyond livestock production. Lessons learned point to the importance of ways to make micro-finance services, including savings and insurance products as well as credit, available to the rural poor; and support to enable rural communities themselves to prioritize and manage needed investments in small-scale infrastructure such as wells, rural access roads and facilities for health and education services. The PLSA confirmed that rural communities in Mongolia place high priority on ensuring that patterns of investment remain compatible with mobile livestock production on pasture land, held and managed as controlled-access commons, which is widely recognized as the key to sustainability.

Sources: Mearns (1996); GoM, UNDP and World Bank (1999); Fernandez-Gimenez and Batbuyan (2000); Hanstad and Duncan (2001); Skees and Enkh-Amgalan (2001); NSO and World Bank (2001); project documentation

Box 16 The case for differentiated approaches to grassland management in western China

China has been remarkably successful in reducing the incidence of poverty overall since it began to embark on market-orientated reforms. The number of people living below the official poverty line has fallen from 260 million in 1978 to 42 million (5% of the rural population) in 1998. Rural poverty is now concentrated in isolated geographical pockets, many of which coincide with the grasslands of western China. They include some of the most degraded grasslands in China: an overlap of around 80% has been observed between ecologically sensitive areas and regions experiencing the greatest poverty with poverty rates in grassland provinces well above the national average of 6.3% (e.g. Xinjiang 27%, Gansu 23%, Yunnan 23%, Tibet 10%, Inner Mongolia 9%, and Sichuan 7%). The challenge to reducing poverty still further in rural China depends critically on being able to sustain and enhance the livelihoods of livestock keepers in these grassland provinces, while at the same time ensuring the sustainable management of the grasslands on which they rely for a living. This twin challenge is to be tackled through China's recently announced 'Great Western Development Plan'.

Mobile pastoral production systems have come under increasing threat in China. True pastoral systems may still be found, such as those in northern Xinjiang or on parts of the Tibetan Plateau, and are usually practiced by ethnic minorities such as Kazakhs, Tibetans and Mongols, but the trend over the last 15-20 years has been towards semi-pastoral and mixed farming systems. This has been largely policy induced. In earlier decades, policies were heavily geared towards land 'reclamation', involving the conversion of natural grassland to arable cropland, with the common result that large areas were left salinized or vulnerable to wind erosion. Inevitably the higher quality, better-watered grasslands were the first to be converted, which had a disproportionately adverse effect on the sustainability of pastoral production overall. This policy-induced process was commonly accompanied by substantial in-migration, particularly of agriculturalists, which squeezed and fragmented the area available for open grazing yet further. Grassland ecosystems in Inner Mongolia were particularly severely affected.

More recently, considerable investment is being made in technical packages to intensify livestock production in western China through the so-called 'Four-Way Plan' of building winter shelters, improving water supply (by drilling wells or through gravity-flow irrigation), growing fodder crops and fencing of pastures allocated to individual households. Known as the *cao kulun* system in Inner Mongolia, this has other regional variants. In principle such investments permit higher output per unit area, but the implications for sustainable grassland management – particularly of grassland enclosure – remain far from clear: the approach does little to ensure the inclusion of poor livestock keepers who are unable to access capital to make the required investments; and it could increase rather than reduce production risk. In spite of some regional adaptation of the technical

package, the same general approach is being promoted more or less uniformly throughout formerly pastoral areas of western China, regardless of the wide diversity in underlying ecological conditions, livelihood opportunities and socio-cultural systems.

In spite of this uniformity of approach at the national level, significant and often creative forms of local adaptation are observed in the ways centrally planned policies are implemented within particular provinces. This helps explain greater continuity in grassland management practices than might be imagined from official accounts. A recent Bank-supported study of grassland management in Inner Mongolia, Xinjiang and Gansu provinces, conducted as part of the identification of a proposed integrated sheep development project, revealed a wide range of institutional innovations around grassland tenure and management, often building on customary antecedents. Important lessons can be learned from such examples, which suggest that an immediate priority is for provincial and local governments to pilot new projects and tailor interventions to encourage sustainable grassland management to fit local ecological, social and economic conditions.

Pasture privatization and enclosure is encouraged under the 1985 Grassland Law. A gradual approach was envisaged under this law, beginning with the allocation of pastures to individual households under the Household Responsibility System, followed by the assignment of pasture carrying capacities and, finally, the introduction of incentives and sanctions to enforce compliance with these assessed stocking limits. Grassland contracts have a term of 50 years and fees are assessed according to estimated grassland productivity. Around 80 per cent of natural pastures were said to have been contracted in Inner Mongolia by 1990, and as much as 95 per cent in Xinjiang by 1998, although in practice group tenure remains the norm in many areas. Where individual grassland allocation with enclosures has been strictly implemented on the ground, particularly in drier areas, it has typically increased conflict within communities over grazing rights and reduced the possibility of responding to risk through mobility and flexibility of access to grazing resources, with considerable cost to long-term sustainability.

Significant ambiguities exist in China's Grasslands Law, notably in defining state versus collective ownership. The law also conflicts with other statutes on the question of the sub-contracting or sale of grassland use rights, which the Grassland Law prohibits but the 1983 Agriculture Law and 1991 Land Management Law both allow. Evidence from Gansu and elsewhere demonstrates that sub-contracting or leasing of grazing rights can be an important means of ensuring greater equity under grassland contracting, allowing poorer, labor-scarce households to lease out spare pasture to households with larger herds/flocks, and thereby offering livelihood options to a wider range of households while maintaining sustainable stocking rates on natural grasslands.

Sources: Banks (1999), (Banks and Sheehy 2000), Brandenburg (2000), Dunlop (2000), Ho (2000), Williams (1996), World Bank (2000, 2001), Mearns (2001)

Box 17 Appropriate roles for donors in support of pasture land tenure and policy

Issues and levels	Policy formulation and adoption	Applied research	Adaptive approaches
International and regional	Networking among donors on pastoral development Influencing international negotiations to benefit pastoralists	Demystifying links between livestock and the environment Comparative analysis of the evolution of pastoral land tenure systems	Disseminating information on 'good practice' case studies
National	National-level policy dialogue on land policy Support for drafting and implementation of appropriate tenure policies Technical assistance and financial support for pastoral development administration	Analyzing policy and evaluating past experiences Encouraging integration of lessons learned in national research programs on livestock and pastoral development	Support for pastoral organizations in lobbying and advocacy Promotion of procedural approaches in law making Technical assistance in preparation of teaching and professional training materials
Local	Incorporating principles of mobility and reciprocity in strategies for decentralized rural development Supporting appropriate tenure frameworks and management institutions where they are shown to be effective Supporting pastoral groups in negotiation and advocacy	Selection of pilot areas for action-research following setting of broad policy directions Identifying minimum conditions for strengthening of existing common property regimes	Facilitating learning through roundtables and participatory approaches Concentrating on 'focal point management' and rights of access to key resources Support to ensure economic viability of pastoral institutions

Source: adapted from Grell and Kirk (2000)

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Notes



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Drylands Programme

The Drylands Programme aims to contribute towards more effective and equitable management of natural resources in semi-arid Africa. It has a particular focus on decentralised management of natural resources, pastoral development, land tenure and resource access. Key objectives of the programme are to strengthen local capacity for sustainable resource management, by building effective and accountable local institutions; identify and promote national policies that legitimise and enable local-level decision making and authority; argue and lobby for global policies and institutions that support the development needs and priorities of dryland peoples.

It does this through four main activities: collaborative research with a range of partners in dryland African countries, training in participatory methods, policy advice to donor organisations, and information networking promoting links and learning between French and English-speaking Africa.

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