Co-management approaches in forestry have frequently failed to fulfil their promise and have generated unexpected conflicts. This is partly because their settings are more socially, institutionally and ecologically differentiated and dynamic than is often assumed. This article outlines and illustrates key dimensions of this dynamic, and hence answers why more adaptive, reflexive processes of forest and natural resource management may be needed. Part I address a some of the socially diverse interests and dynamics existing among forest users and the variability and unpredictability of ecological processes, and hence outlines a dynamic landscape perspective on forests. Part II critically reviews analytical tools for tracking the details of these dynamics, and dealing with key issues of resource access and control in this context, Part III illustrates how institutional dynamics can work out in practice when villagers, governmental, non-governmental, and donor agencies interact in the practice of community forestry. The need to take account of multiple institutions and power relations, to manage pluralism rather than necessarily attempting to achieve consensus, and to appreciate social and ecological uncertainties, suggests that forest management should seek to influence processes rather than to define states, and be adaptive rather than pre-planned.

INTRODUCTION

The last decade has witnessed a worldwide movement towards decentralised and community-based approaches in forestry, as in other areas of natural resource management. While the origins, justifications, and forms vary, governments, donor agencies, and non-governmental organisations (NGOs) are now developing devolved or co-management arrangements between local forest users and the state, whether by giving community groups some official management stake and benefits from hitherto state-controlled resources, or by rendering official, existing local management of forest resources. This paper takes such community-based approaches as a starting point not only because they are now so ubiquitous, but also because they pose unprecedented challenges for forest and natural resource management. Co-management initiatives are to be welcomed, representing, at least in theory, major departures from earlier approaches in which natural resource management was driven by state agendas and resource control, and apparently offering greater potential to meet local priorities and livelihood goals. In practice, however, co-management in forestry - as in other natural resource sectors - has frequently fallen short of expectations. The expected consensus at the community level has frequently not been manifest. Certain elite groups have sometimes benefited while other resource users have been marginalised. Conflicts have emerged over how resources should be managed, and even what the goals of management should be. Thus, expected sustainability or improvement in forest condition has frequently not been achieved. These problems, and others highlighted in a growing body of critical literature on community-based natural resource management (e.g., Pimbert and Pretty 1995; Western et al. 1994) arise, at least in part, because the settings to which community forestry interventions are introduced are more socially, institutionally, and ecologically differentiated and dynamic than their proponents tend to assume.

The examples in this paper lay out and illustrate some dimensions of this plurality and dynamism, and their consequences for community forestry interventions. It hence both addresses the contexts in which new approaches (such as adaptive management) must operate, and indicates some reasons why they may be needed. In doing so, this paper covers much diverse ground, inevitably in a rather schematic fashion. Part I addresses aspects of the socially and ecologically dynamic setting for community forestry. First, it addresses the plurality of interests in and perspectives on forests which exist among forest users, local and non-local, and the socially dynamic relationships between them. Second, it outlines how current thinking in ecology emphasises the differentiated and dynamic nature of forest environments. Forest landscapes, in this context, need to be understood as continually shaped by ongoing, interrelated social and ecological dynamics.

In Part II, the paper introduces and illustrates some analytical tools that can help track the details of these dynamics and their implications for particular people's livelihood. These emphasise the key importance of access and institutions in shaping people's relationships with forests. It is precisely these institutional relationships which tend to be transformed in community forestry interventions. In Part III, then, I draw on
recent case material to illustrate how these institutional dynamics can work in practice when villagers, governmental, non-governmental, and donor agencies interact in the practice of community forestry. Ultimately there are some problematic consequences. Throughout these sections, I draw on examples mainly from West Africa, not to imply any uniqueness or universality in the situations there, but more to provide some continuity between illustrations. The conclusion briefly raises some implications for policy and practice, towards approaches which can embrace plurality and social and ecological dynamics.

PART I. SOCIAL AND ECOLOGICAL DYNAMICS

Differentiated 'Communities' And Plural Perspectives

Approaches to community-based natural resource management and forestry have often been premised on the assumption, implicit or explicit, that a distinct local community of forest users exists. While definitions vary, approaches commonly focus on "the people of a local administrative unit... of a cultural or ethnic group ... or of a local urban or rural area, such as the people of a neighbourhood or valley" (IUCN/WWF/UNEP 1991:57), or those living in or around a particular tract of forest. Such communities are seen as relatively homogeneous, with members' shared characteristics distinguishing them from outsiders. From this image, it is seen as relatively straightforward to establish a group or committee to represent community interests, and for this to engage in consensus building and agreement with outside agencies in establishing forest management plans.

However, much research and practical experience now defy this imagery, showing it to be a badly flawed representation of social 'realities on the ground'. Communities are not, of course, bounded, homogeneous entities, but socially differentiated and diverse social structures. Gender, caste, wealth, age, origins, occupation, and other aspects of social identity divide and cross-cut so-called community boundaries. Now commonplace in social science literature, and long integral to the critique of community development approaches in development studies more generally (e.g., Holdcroft 1984), serious attention to social difference and its implications has been remarkably absent from the recent wave of community concern in environmental policy debates.

Social differences within communities can be linked to sharp differences in which resources are valued and why. Pastoralists or those owning domestic animals may value forestland as a source of grazing, browse, or fodder, for instance, in a way that others do not. Gender divisions of labour and responsibility frequently give women particular interests in fuelwood and wild foods, whether oilseeds, fruit, nuts, or leaves. Herbalists may have particular interests in the forest as a source of medicinal plants, or an environment where these can be selectively preserved or cultivated. Poorer people may depend more than others on gathering forest foods or craft materials to make items for sale and so on.

In some cases, certain trees may offer resources of such overriding priority (or multiple use) for livelihoods that there is community consensus to conserve them. A case in point would be the oil palms, which are encouraged and protected by villagers throughout West African humid and transitional forests. These palms are universally valued for their edible and saleable oils and by specialists for many other social and economic purposes. In other cases, socially-differentiated forest resource uses may be complementary. For instance, in some West African humid savannahs, farmers and herders have developed complementary relationships between starkly different land uses since intense cattle-grazing can, by suppressing fire and importing manure and seeds, pave the way for a transition to forest thicket which farmers then use for agricultural fallow, fuel, and poles (Fairhead and Leach 1996). But in other cases, differentiated uses may conflict. In Sierra Leone, for example, conflicts frequently erupted between husbands and wives when men felled forest canopy trees in order to regulate shade for their cocoa and coffee plantations. These canopy trees were ones from which women had been collecting oilseeds (Leach 1994).

Resource uses which overlap spatially, seasonally, or in terms of the regulations applying to them may all, in particular settings, be a source of conflict. As Babin and Bertrand (1998:20) put it:

"It is extremely unusual for a single area to have only one use or user, or to be used for only one period of the year, and the opposite & more generally the case: a combined plurality of simultaneous and/or successive uses by different users, each of whom is subject to precise rules regarding access and use, and may or may not have management or decision-making power over the resources of the area in question."

While in some circumstances diverse and often conflicting resource priorities may be overtly struggled and bargained over, in other situations implicit conflicts may be kept off the agenda by prevailing social and power relations which shape people's perceptions of their interests. Work on gender has demonstrated particularly
well how institutions - including those for natural resource management - which might appear to be acting for a collective good, actually serve to shape and reproduce relations of unequal power and authority, marginalising the concerns, for instance, of particular groups of women or poorer people (e.g., Kabeer and Subrahmanian 1996; Goetz 1996).

Social difference within communities is also pervasive in knowledge, beliefs, and the wider social meanings which forests bear. In this sense there is a plurality of partial perspectives linked to people’s particular social positions (cf. Haraway 1991). In the Kissidougou area of Guinea, for example, Kissi and Kuranko villagers generally share a perspective on the forest islands around their villages as social places, the product of their own and their ancestors’ enrichment of the previously savannah environment. Some elderly men and women - usually of land-holding lineages - represent the formation of forest patches in a punctuated, intentional way. Leaders descended from the original land owners who claim founder status in a territory, and the political authority associated with this, often emphasise how their ancestors arrived in an empty, relatively inhospitable savannah and initiated the beginnings of a forest island and a settlement there by planting starter trees, especially rings of silk cotton trees to fortify the settlement. One or more of these founding trees becomes a marker of the establishment of a foundational alliance with the land spirits, and remains significant in upholding the family’s social and political status amongst other lineages. In contrast, most village men and women represent forest island development in a more gradual way, as simply the logical extension into the past of present everyday activities such as fire protection, gardening, thatch collection, and cattle grazing. Within this perspective, the rings of cotton trees tend to be interpreted as the overgrown relics of the living fence poles of past garden sites. Particularly common among those with relatively little influence over lineage affairs, whether women or men, these everyday explanations locate forest island origins away from the domain of lineage politics within which they are relatively powerless, and within a domain over which they have relatively more control (Fairhead and Leach 1997).

It is not only within communities that one finds differing resource values and frames of reference for understanding forests. As the recent body of work on pluralism brought together by the Food and Agriculture Organisation (FAO) emphasises, forestry and rural development involve an increasingly wide range of organisations and groups, from government departments to international agencies to private organisations and different types of NGOs (FAO 1999). Forestry must thus engage in:

“Situation when distinct groups are actively autonomous and independent, but often interdependent, with legitimate claims and different positions on critical substantive issues ... based on separate values, perceptions, objectives and knowledge.” (Anderson et al. 1998: 3).

For instance, today it is plausible that the same forest area may be the concern simultaneously of a forestry department interested mainly in sustainable production forestry; Umber-felling and saw-milling firms interested in rapid economic gain from lumber; a wildlife department concerned with protecting animals and biodiversity; government and NGOs concerned with watershed protection; and others promoting recreation, ecotourism, or local livelihoods.

The emphasis on autonomy in FAO’s conception of this plurality of organisations gives a rather static impression, perhaps underlaying the processes, interrelationships; science-policy interactions, funding dynamics and networks through which, over time, organisations may develop the stance they show at any one time. Equally, organisations themselves are far from homogeneous and contain their own internal dynamics and power relations. Personnel may have different backgrounds, knowledge, and work incentive structures; those of an urban-based senior forest official may be very different from those of a front-line extension worker, for example (cf. Joshi 1997). It is through negotiation and struggle both within and among organisations that particular conceptions of forest, values, policy priorities, and associated regulations become established and may change.

While some contributions to the growing policy debate on pluralism in forestry and sustainable development treat communities as one among other groups involved with forestry, pluralistic institutional settings are, in reality, overlaid and intersect with intra-community differences and dynamics. The divide between community and external institution becomes more ambiguous, and even conceptually breaks down, giving way to a picture of diverse actors and interrelationships cross-cutting any such divide. Work taking this kind of perspective to the impacts of development policy shows clearly how planned interventions have unpredictable outcomes as state projects and practices play out in relation to people’s own projects and practices, and the relations of power in which they are structured (Long and Van der Ploeg 1994; Long and Long 1992). As I hope to exemplify in the final part of this paper, such attention to the ‘messy middle ground’ between community and state is essential in order to comprehend - and perhaps improve - practices of co-management in forestry.
'New' Ecology and Dynamic Forest Landscapes

Parallel with changing understandings of social dynamics, recent work in the natural sciences has challenged many of the static, linear, and equilibrium perspectives on ecological system that underlie much community-based natural resource management. This has altered the assumptions that can be made about patterns and determinants of environmental change.

Debates within science have firmly challenged earlier views of ecosystems as characterised by balance, stability, and equilibrium (see Leach et al. 1997). Long-standing theories of vegetation succession, ecosystem functioning, and species-area relationship, for example, each have equilibrium assumptions at the core of their models and, not surprisingly, their findings and applied management recommendations (cf. Botkin 1990; Worster 1990; Zimmerer 1994). Thus, for example, succession theory has emphasised linear vegetation change and the idea of a stable and natural climax as the benchmark against which environmental change is assessed. State forest management in humid West Africa, for instance, has usually been premised on conserving or restoring semi-deciduous forest as the natural climax vegetation of the zone, and on restricting human activities seen to disturb this natural vegetation.

While there have always been disputes within each of these areas of theory, the period since the 1970s has seen a sustained challenge from the emergence of key concepts making up non-equilibrium theory and, more broadly, what has been termed the ‘new ecology’. Among other themes, this emphasises first, an understanding of variability in space and time, including an interest in the relationships between disturbance regimes and spatial patterning from patches to landscapes. Second, non-equilibrium perspectives suggest an exploration of the implications of scaling on dynamic process, leading to work on hierarchies and scale relationships in ecosystems analysis. Third, a recognition of the importance of history on current dynamics has led to work on environmental change at a variety of time-scales, recognising the significance of contingency and path-dependency. In the forestry sphere, ecological science now rejects many of its earlier models. Analysts of North American and European forests now embrace non-equilibrium theory in ecology, considering forest form and composition as subject to constant variability over space and time (Sprugel 1991), and these ideas are an emerging force in tropical forest ecology (eg., Hawthorne 1994; Richards 1996). In particular, in West Africa, theories of original climax vegetation are challenged by evidence of long-term climatic fluctuations, including a deep drought phase from 3,000 years before present, ending perhaps as recently as 600 years ago (Vincens et al. 2000). Ongoing climatic change and its shorter-term legacies must thus be seen as players in people-forest relationships.

These shifts in understanding have important implications for how vegetation form and composition are understood, and hence for management. For example, these new theories recontextualise the key relationship between savannah grasslands and forest areas in many parts of the world. Conventional equilibrial interpretations of succession theory see forests as later successional forms, closer to natural climax vegetation, and the presence of grasslands as evidence of degradation from a once forested state. This linear interpretation of vegetation dynamics has a major influence on the way such landscapes are viewed by policy makers and others (Fairhead and Leach 1996, 1998). But in some areas, forest and savannah may be better seen as alternative vegetation states influenced by multiple factors. Changes in soils, shifts in following systems, manipulation of fire regimes, alterations in grazing patterns and climatic rehumidification have combined to change the relationship between forests and grasslands. This dynamic interaction is thus less the outcome of a predictable pattern of linear succession, but more due to combinations of contingent factors, conditioned by human intervention, sometimes the active out come of management, often the result of unintended consequences.

Environments thus come to be seen as landscapes under constant change, emerging as the outcome of dynamic and variable ecological processes and disturbance events in interaction with human use. The environment in this sense both provides a setting for social action and is clearly also a product of such action. People's actions and practices may serve to conserve or reproduce existing ecological features or processes. But people may also act as agents who transform environments; transformations which may involve precipitating shifts of ecological state which push ecological processes in new directions or along new pathways. While some actions may be intentional, constituting directed management aimed at particular goals or transformations, others may be unintentional, yet still have significant ecological consequences.

Over time, the course of environmental change may be strongly influenced by particular conjunctures, or the coming together of contingent events and actions. Practices and actions carried out at one time may leave a legacy which 'influences the resources available for subsequent actors. For instance, forest cover and quality frequently reflect the legacies of inhabitants' practices, whether historically or recently, in settlement, farming, soil management, or tree planting. As present practices build on the legacies of past ones, so the causality of environmental change may need to be seen as cumulative, sequential, or path-dependent.
There are many cases in West Africa where the complementary effects of local landscape enrichment practices and climate change have contributed to forest advance and the formation of forest patches in savannah. It had earlier been assumed, according to older theories, that existing forest formations were natural relics in an otherwise unspared landscape (Fairhead and Leach 1996, 1998; cf. Spichiger and Blanc-Pamard 1973; Amanor 1994). Such a dynamic landscape perspective in forestry thus provides new frameworks in which local land use knowledge and practices can be understood and appreciated in ways that earlier theorisation had obscured; mainly as frameworks of potentially great value in the development of participatory and co-management approaches, yet which challenge earlier management approaches premised on the idea of ecological stability. It also shows how policies premised on outdated theory and false forest history have frequently impoverished land users, and been detrimental to the capacity of the environment to support sustainable rural livelihoods (Fairhead and Leach 1998).

PART II. ANALYTICAL TOOLS: STAKEHOLDERS, ACCESS, ENTITLEMENTS, AND INSTITUTIONS

A variety of analytical approaches and tools have been developed in recent years to clarify and explore relationships between socially-differentiated people and components of a dynamic environment. Without any attempt to be comprehensive, in this section I briefly review four such approaches. While each in itself has some value in understanding pluralistic, dynamic resource management settings as a basis for developing management approaches, they illuminate different dimensions. Through comparing these, I further develop a perspective which starts from the politics of resource access and control among diverse social actors, and sees patterns of environmental change as the outcome of negotiation, or sometimes contestation, between them.

Stakeholder Analysis, Rights, and Responsibilities

At present, a widely used framework in natural resource management and project appraisal is stakeholder analysis, first developed by management scientists. As defined by Grimble and Chan (1995:14), this is:

"An approach and procedure for gaining an understanding of a system by means of identifying the key actors or stakeholders in the system, and assessing their respective interests in that system." Stakeholders are "groups of people with common objectives and sets of interests with regard to the resource in question and the environment" (Grimble and Chan 1995) who are either materially affected by, or who can materially affect developments designed to bring about a particular transformation. They can be individuals, communities, social groups, or institutions of any size, including sections of government, business, and NGOs. While providing a useful snapshot of the range of people and groups concerned with a given resource issue, the stakeholder approach is essentially a static one which assumes that interests are clear and preformed. It is mainly concerned with identifying trade-offs where these interests conflict, and does not attempt to address the social relationships amongst stakeholders, or the power relations which shape how certain perspectives come to prevail. Nor does it address the relative capacities of different stakeholders to be involved in management, as shaped by their social or institutional positions. Finally, developed as a tool for the appraisal of punctual, externally-designed interventions, stakeholder analysis is relatively unconcerned with the longer-term dynamics of ecological and social systems.

An adaptation of stakeholder analysis which attempts to give more operational clarity to stakeholder's relative roles and capacities is the "4Rs approach" (Vira et al. 1998). This attempts to define stakeholders by their respective Rights, Responsibilities, Returns from a given resource, and Relationships. The focus on rights is particularly significant, drawing attention to tenure issues as crucial in shaping people's differentiated concerns with and capacities to manage land and trees. Discussions around the approach have pointed out the diverse types of property and use rights which frequently co-exist, legitimised by different institutions, and the fluid processes through which these may be negotiated and renegotiated. Responsibility is conceived as emerging from a combination of power, rights, necessary competence, and economic interest (Vira et al. 1998:39). Returns are conceived of as both material and non-material. Relationships among stakeholders comprise various facets: Service, legal/contractual, market, information exchange, and power.

Aside from providing a more systematic basis on which to characterise different stakeholders and their relationships with each other and with the forest, this approach aims explicitly to identify imbalances between the four Rs. For instance, certain women may have strong material interests in a forest resource, but lack secure rights over it, or a community organisation may see itself as having strong responsibility for forest management, yet be hindered in practice by unequal legal and power relationships with state agencies and officials. Potentially, the approach could be used as a tool to track the changes in the 4Rs and their imbalances in the context of a particular planning or management approach.

Both these approaches focus - in a fairly static and time-bound sense - on the plurality of perspectives within a
given natural resource/forest setting, and in the context of a particular intervention, while examining the positions of a wide range of different stakeholders. Neither however, gives any consideration to ecological dynamics and the ways these intersect with socially-differentiated activities. Hence these approaches, like conventional approaches to community-based natural resource management, fail to address a range of key questions, such as which social actors see what components of variable and dynamic ecologies as resources at different times? How do different people gain access to and control over such resources, so as to use them in sustaining their livelihoods, and how do they transform different components of the environment through their resource management or use?

Environmental Entitlements, Capitals, Access, and Institutions

An analytical approach intended specifically to address these questions draws on the notion of 'environmental entitlements' (Leach et al. 1999). Adapted from Sen's 1981 work in the context of famine, the environmental entitlements approach shares Sen's original emphasis on access as well as availability as key in shaping how people experience resource scarcities. Modifying Sen's concepts (see Leach et al. 1999) provides a set of analytical tools which can assist the tracking of particular people's access to, use of, and transformation of environmental goods and services.

The environmental entitlements framework is summarised in Figure 1. The upper ellipse represents an environment disaggregated into particular environmental goods and services. Through processes of mapping, these become endowments for particular people. Endowments refer to the rights and resources that people have. Environmental endowments (such as rights to land and trees) may, in turn, be combined with other endowments (such as labour and skills) and transformed into environmental entitlements which can be defined as alternative sets of benefits derived from environmental goods and services over which people have legitimate effective command and which are instruments in achieving well-being. These benefits may include direct uses in the form of commodities, such as food, water, or fuel; the market value of such resources, or of rights to them; and the benefits derived from environmental services, such as pollution sinks or the properties of the hydrological cycle. Entitlements, in turn, enhance people's capabilities, or what people can do or be with their entitlements. For example, command over fuel resources - derived from rights over trees - gives warmth or the ability to cook and so contributes to well-being.

An emphasis on the effectiveness, or otherwise, of command over resources highlights first, that resource claims are often contested. Within existing power relations some people's claims are likely to prevail over those of others. Second, certain people may not be able to mobilise some endowments (e.g., capital, labour) to make effective use of others (e.g., land). The notion of legitimacy refers not only to command sanctioned by a statutory system such as state land tenure frameworks, but also to command sanctioned by customary rights of access, use, and control, or by social norms. In some cases, these sources of legitimacy might conflict, and different people may hold differing views of the legitimacy of a given activity.

The main value of such an analytical approach in specific situations is not its focus on someone's particular endowments, entitlements, and capabilities at a given moment; these represent only a snapshot in time. Instead, analysis focuses mainly on the dynamic mapping processes that link each set. As indicated in the boxes to the right of Figure 1, it can be useful to consider these processes in relation to the institutions that structure them. Institutions can be defined as regularised patterns of behaviour between individuals and groups in society. This both distinguishes them from organisations and acknowledges that institutional rules are upheld by people's ongoing practices. Both formal institutions (i.e., those that require exogenous enforcement by a third party organisation, such as the rule of law) and informal institutions, upheld by mutual agreement or power relations between the people involved, are important in endowment and entitlement mapping.
A simplified example from Ghana illustrates some of the types of endowment and entitlement mapping processes that are of relevance in forest management situations (Figure 2). In Ghana’s forest zone, the leaves of *Marantaceae* plants are commonly collected by women and used and sold widely for wrapping food, kola nuts, and other products (cf Falconer 1990; Agyemang 1996). The leaves are associated with particular sites and times within dynamic, variable forest and forest-savanna ecology. These include disturbed forest sites, moderately burnt forest, swamps, and abandoned cocoa farms and fallows, especially during the rainy season.
The leaves become endowments - people gain rights over them - in different ways depending on whether they lie inside or outside government-reserved forest. Off-reserve, the leaves are usually the common property of a village, with an actor's endowment mapping depending on village membership. Where they occur on farmland, collection rights are acquired through membership of, or negotiation with, the appropriate land-holding family or farm household. On-reserve, endowment mapping depends on the Forest Department's permit system, with women often using established trading relationships as a source of finance for permits. Without such a permit, leaf gathering is illegitimate from the state's perspective, although it may be sanctioned by customary tenure arrangements grounded in different definitions of reserved land as ancestral farmland.

The set of entitlements derived from Marantaceae leaves may include direct use of the leaves or their sale for cash income. In practice, most women involved in gathering leaves prefer to sell them as an important source of seasonal income. In entitlements mapping, both labour and marketing issues are important. Women may have to negotiate with their husbands and co-wives - in relation to other farm work and domestic duties - for labour time to collect the leaves. They find leaf gathering in groups more effective, so collection depends on membership of a regular group or on impromptu arrangements among kin and friends. There is frequently competition between groups for the best sites, as well as competition for leaves among group members. When disputes arise, whether between individual women, collection groups, or with forestry officials, a 'queen mother
of leaf gatherers' - appointed by each village or neighbourhood's women gatherers - helps to mediate them. Marketing effectively depends on establishing a regular relationship with village-based or visiting traders who will guarantee a reasonable price even at the times of year when the market is flooded. Women frequently invest actively in maintaining such relationships, for instance collecting one type of leaf for one buyer, and another the of leaf for another buyer.

The benefits derived from the cash sale of Marantaceae leaves contribute to a woman's capability to ensure that she and her children are well fed and to satisfy other cash-de- pendent basic needs. In particular, the leaves offer a timely source of rainy season income when money is otherwise scarce. But whether a woman can keep control of the income, and how it is used, depends on intra-household bargaining arrangements, such as negotiations with husbands and co-wives over expenditure priorities and responsibilities for providing food.

This example makes clear that rather than the single, local institution focus, which characterises so many programmes and projects, people's resource access and control, or the mapping processes by which endowments and entitlements are gained, are shaped by many, interacting institutions. These exist at various scale levels from local to international. Internationally, for example, the policies of donor agencies may not only directly shape local approaches to community-based natural resource management, but also influence domestic macroeconomic policy and governance in ways that cascade down to affect local natural resource management. At national or state level, government policies and legislation are of key importance, including land tenure reform policies or approaches to forestry and wildlife conservation and tourism. And institutional dynamics at these level intersect with the local institutions that influence rural livelihood systems, intra-household dynamics, and so on. Indeed in the environmental entitlements framework, with its primary focus on local resource users and ecologies, it is in these multiple institutions that the governmental, policy-making, and donor stakeholders of the stakeholder analysis and 4R approaches are located. It is frequently the interactions between institutions that lead to conflicts over natural resources or to competing bases for claims. Yet it is also in the potential to shape or alter such interactions that some of the most fruitful ways forward for policy and management lie.

The environmental entitlements approach, then, provides a set of analytical tools for tracking the relationships between particular people and particular environments, and the institutional dynamics of these relationships over time. Clearly though, rural people's livelihoods do not depend entirely on a given set of natural resources. Hence, it is worth considering this approach alongside related others which have framed their concern more broadly with 'sustainable rural livelihoods.' The resources and benefits from a given forest area are thus contextualised within a bundle of assets which help comprise people's livelihoods - or "the capabilities, assets (including both material and social resources) and activities required for a means of living" (Scoones 1998:5). People's interactions with forests are set within the broader context of their livelihood options and the factors that influence them. Common to the related frameworks of the Institute for Development Studies (Scoones 1998; Carney 1998; and Bebbington et al. 1998) is a conception of 'livelihood resources' or assets in terms of several types of capital: Natural; produced/economic/financial; human; and social. People build livelihoods from portfolios of type of capital. In particular, these approaches emphasise the importance of social capital - or the social resources, networks, social claims, social relations, affiliations, and associations - upon which people draw when pursuing different livelihood strategies requiring coordinated actions. Both access to livelihood resources, and the ways these are combined, are influenced by a matrix of institutions and organisations. It is into this broader matrix that agencies and planning approaches aimed at co-management of forest resources would slot.

PART III. INSTITUTIONAL INTERACTIONS IN FORESTRY CO-MANAGEMENT: SOME WEST AFRICAN EXPERIENCES

In this final section, I explore further the complex and dynamic institutional processes with which practices of community forestry engage through some illustrative examples from francophone West Africa. Rather than involving any simple devolution of forest rights, responsibilities, returns, and powers from the state to communities, the examples show that community forestry inevitably engages with a complex, historically-embedded, and dynamic set of institutional relationships with legal, financial, political, and even knowledge dimensions.

Historically, in the francophone countries of Burkina Faso, Niger, Mali, Senegal, and Guinea, policies, from colonial times onwards, concentrated forest resource control in the hands of Forest Departments and urban merchants. But from the late 1980s, Forestry Services and donor agencies have launched participatory forestry projects and elaborated new forestry laws. These attempt to decentralise forest management by devolving responsibility to local groups (Ribot 1995). As Ribot emphasises, "control over forests is configured at the
intersection of multiple laws" (1999:26). These include codes and constitutions which set up levels of national, regional, and local government, and divide powers and responsibilities among them; electoral codes; and technical codes, such as land tenure and forestry laws which specify who gets to make which decisions - amongst elected bodies, technical services, corporations, cooperatives, NGOs, or private citizens. The way these intersecting laws and their interpretation in practice have operated means that decentralisation of responsibility for forest management and the labour required for it has rarely been accompanied by the decentralisation of genuine rights and powers of decision to representative local bodies.

In seeking to work with locally-representative institutions, community-based natural resource management approaches have usually either relied on village chiefs or on Rural Councils. But the representativity and local accountability of both are problematic (Ribot 1999:31). Chiefs, throughout the French colonial period, on one hand had powers, legitimacy, and accountability grounded in local culture and structures of territory and descent, yet were also frequently integrated with the colonial administration. To the present, chiefs are chosen by state-sanctioned processes combined with locally-sanctioned inheritance, and their allegiance and accountability are varied. Chiefs may be “not an alternative to the state but rather a particular manifestation of state intervention in the rural arena” (Ribot 1999:37). Rural Councils, comprised of elected representatives and part of political decentralisation efforts, typically re-group five to fifty villages. But in Senegal and Niger, representatives are firmly linked to national political parties since independent candidates are not allowed to stand. Elsewhere, where candidates are elected by villagers, their decisions are not independent of - and are expected to defer to - those of government administration at prefecture and sub-prefecture level. Furthermore, these relatively large-scale institutions are usually in appropriately positioned to manage forests within village territories. Hence projects have also attempted to set up village-level co-operatives or groupements.

In Burkina Faso, Ribot (1995, 1999) describes the institutional arrangements in a project considered cutting edge in participatory forestry, the joint UNDP (United Nations Development Program)/FAO wood-fuel production project in the forest of Nazinon, 30 miles south of Ouagadougou. In each village surrounding the forest, UNDP/FAO staff have organised villagers interested in commercial wood-fuel production into groupements, which have legal corporate standing under the new Law on Decentralisation. The result is a union of co-operatives with a general assembly and administrative council, empowered to make business decisions and with responsibility for surveying the implementation of all laws concerning forest management. Forest management plans, under the new Forestry Code, are required to be developed by the Forest Service, or under its control, so each groupement’s plan must be approved and implemented under the surveillance of the local Technical Office of the Forest Service. Funds generated by the sale of woodfuel are earmarked to finance forest management activities, as credit for co-operative members and to finance public works serving the larger village community.

In practice, village notables and even non-local urban woodcutters have been able to draw on other sources of power and authority to override groupement officials and make claims on the co-operatives' resources. Chiefs and government representatives have also used their powers to claim co-operative funds for projects 'in the public interest', such as schools to be built outside the village. Thus, “the powers of village elites and the authority of state backing combine to shape the use of project resources... earmarked for use by the village as a whole” (Ribot 1999:42). At the same time, the groupements are not representative of entire village populations or communities; rather, they place some powers over wood-fuel management in the hands of a few self-selected economically interested individuals, while calling on other village men and women for labour. And the decisions the groupement makes overproduction and management are ultimately subject to Forest Service approval. Thus, in the matrix of laws and institutions in this setting, community forestry has, in practice, come to mean a very limited degree of control by a few private individuals (Ribot 1999).

The Groupements Forestiers approach now being piloted in Guinea's forest region differs from that in Burkina Faso in its focus on multi-purpose forest management and use, in most cases of the peri-village forest islands that surround so many of the region's settlements. While it is too early to evaluate the experience, here I draw on preliminary findings from recent research (Fairhead and Leach 1999) to show how what may appear at first sight as a single type of initiative actually carries very different meanings for those involved: In this case, the state Forestry Service, foreign donors, local NGOs, and different villagers. These different actors and institutions view the origins and reasons for forest groupements from very different perspectives or frames of reference, in ways which reflect their political and economic positions, their knowledge and perspectives on the area's dynamic forest landscape, and their historically-embedded, dynamic relationships with each other.

Since the early 1990s Guinea's Direction National des Forêts et Faune (DNFF) has been attempting to transform itself from a service of repression to a service which works in collaboration with local populations. Elements of this transformation were incorporated into the new Forestry Code of 1990, which made provision for creating designated forests under the control of Guinea's Rural Councils, the CRDs. By 1996, considerable pressure was brought to bear on the Ministry of Agriculture, Livestock and Forests to alter the code to permit the legal establishment of village and private forests. This was eventually acceded to in a letter of addendum to the forestry code which has been signed by the minister but has yet to be passed by the National Assembly.
In the meantime, the Forest Department has permitted the establishment of Groupements Forestiers on the signature of the National Director of Forestry (or the Minister) to a dossier of request from the groupement concerned. Granting back rights over forest trees to villagers, constituted as groups, heralds a major change in forest policy direction in Guinea. Until now, and since early in the colonial period, the state Forestry Service has claimed rights to decide which trees may be felled, and rights to the revenue, with villagers being paid only compensation for collateral damage. In constituting Groupements Forestiers in villages the state appears to hand over these rights to a village association, and, in theory, allows villagers to own and control the felling of timber trees, with revenues going to village infrastructure projects. The dossier requires a map of the forest, with a basic inventory and which shows a zonation and outline management plan agreed to in conjunction with the sub-prefectural representative of the forest service. Typically this includes priority zones for tree crops, for enrichment planting, for water source protection, and for timber exploitation. It requires that the groupement constitutes a management committee (seven to eight people), which in the case of a village groupement formulates a village development plan into which forest revenues can feed. Before the request is submitted to the national directorate, it needs to be approved and signed by a committee comprising prefectural representatives of four to five sectoral ministries.

A number of projects and donors have been supporting the creation of Groupements Forestiers, and to date the only groupements created have been those supported by these projects. In particular, several projects within the Programme d’Amenagements des Bassins Versants de la Haute Gambie et Haute Niger, coordinated by the Organisation of African Unity (OAU), and funded by assorted donors (European Union, US Agency for International Development, etc.) have promoted the approach within their areas of operation. These projects have contractualised and now operate through local NGOs - there are three in Kissidougou - mainly formed among ex-members of the once large project staff, who bid for contracts with the project and elsewhere. The sub-prefectural forest service representatives have now been allocated dual responsibility and accountability to the project and to the State Forest Service, and act as liaison points between them.

These new NGOs have emerged along with the Groupement Forestier approach and it is central both to their sense of identity and purpose. Many of the youthful members see the approach as having originated in the pioneering participatory work in forest conservation they carried out with villagers while working as project staff, and the mutually supportive relationships they established with key expatriate project leaders who thought up the approach and lobbied for the necessary legal changes. This sense of innovation enables the NGOs to represent themselves as uniquely capable of replicating and training others in the approach; important in a contractualised development world. Indeed, the ongoing creation of Groupements Forestiers is also crucial to NGO survival, since most of their project contracts are limited to the time for surveying, village meetings, and paperwork involved in the preparation of groupement dossiers.

Certain ex-project and forestry extension staff, by contrast, emphasise the origins of the Groupement Forestiers approach within problems they encountered in forestry extension, particularly the virtual theft of timber resources by chain saw operators, which limited villagers’ incentives for sustainable forestry. From this perspective, the main purpose of the approach is to give villagers more force in the face of timber fitters, and the major role of the groupement management committee and their prefectural federation is in negotiating to get a better deal from loggers.

A different perspective again is prevalent among many expatriate forestry advisors, reflecting their cynicism toward the intent of many nationals of the Guinean Forestry Service. Overt messages about sustainable forest management on the part of national, prefectoral, and sub-prefectural forestry agents are seen as a mask for personal and political interests in timber exploitation, or merely to gain access to the personal financial advantages that projects bring. Overt messages about participation are treated with distrust, as rhetorical statements detracting attention from real interests in maintaining state control over forest resources for financial and other reasons. Emerging from these views is a perspective on Groupements Forestiers which sees them as originating in a struggle against the state Forestry Service. As a senior technical advisor put it: "there is a need to protect a lagers and their forests from the state" (interview, Senior Aid Official, Conakry, January 1999). In this struggle donors also see themselves as part of a worldwide movement towards community forestry and participation, a geography in which the state is seen largely as an obstacle.

A different perspective again - voiced by many national and prefectoral forest service staff - gives the central role in the emergence of the Groupement Forestier approach to the state Forestry Service, and its conscious efforts to improve the effectiveness of forest management. Through Groupements Forestiers, the inventories, and the state monitoring of village forestry management plans, there is a sense of management of village forests where there was no management before. The bureaucracy and capacity to monitor tree stocks enables the forestry administration to be more efficient in collecting tax dues from timber felling, and to stifle illegal operators. Participation also means labour mobilisation for replanting, making fire breaks, etc. Where villagers themselves do the work of forest management, it is no longer necessary to send so many foresters. By giving villagers responsibility for carrying out these tasks, monitored by state forestry agents, there is a much greater chance that they are actually done, than when a small number of forestry agents attempt to do them.
themselves. Linked to these efficiency arguments is a coverage argument. More land is classified, albeit to the benefit of the village and not the state. By responsibilising villagers, the forestry code can be applied with rigour in more locations than would otherwise be possible. Third, a sustainability argument links responsibilising villagers to making them fully conscious of the need to preserve forests around their villages (Direction Prefectoral Forestier) through the education, sensibilisation, and technical advice associated with the constitution of Groupements Forestiers. In imaging groupements as an extension of state activity in this way, prefectoral forestry administrators see constituting and monitoring Groupements Forestiers as their role. They do not see either donor funded projects or the NGOs they now fund as indispensable. In short, this perspective presents Groupements Forestiers in terms of transformation and greater effectiveness, not diminution, of state forestry activity.

In several of the discussions in which the perspectives discussed above were voiced, donor, state, or NGO staff did refer to aspects of villagers' practices which might be thought to contribute to a different perspective: of pressure for Groupements Forestiers from below. These included references to the soundness of traditional forestry management techniques, and to villagers' dissatisfaction with state and project forestry approaches, as evidenced, for example, by the burning of tree nurseries. At the same time, many administrators are aware that forest patches in Kissidougou, at least, have anthropogenic origins, and can cite cases where villagers have spontaneously encouraged the formation of forest and protected forest patches both historically and recently. These pieces of evidence are mustered piecemeal in various discussions to provide extra support for the need to responsibilise villagers. But they do not seem to be put together in a way that would either undermine the need for complex project and state procedures in creating and monitoring groupements, or to deny the need for the sensibilisation of villagers to protect forests. In other words, it is not possible to identify a coherent 'official' perspective seeing Groupements Forestiers as a logical outcome of villagers' past and present management of their dynamic forest landscapes.

Indeed, villagers' strong awareness of the anthropogenic histories of their forests and of the effectiveness of their autonomous management creates worries when they are first confronted with the Groupements Forestiers idea, usually in visits from state officials or NGOs. For example members of the management committee of the Trakore groupement said that when the village was first approached by the sub-prefectural forestry agent to discuss the possibility of making a groupement, they were afraid. They hesitated, it was their own forest. They had created it and they feared that it would be classified, and for the state. They feared losing control over resources that they knew to be valuable. Only when they were taken to see a groupement already established in another part of the prefecture and heard members explain that when trees were mature they could cut them and keep the profit, were they convinced.

Fears concerning state classification of forest are prevalent among villagers, reflecting a colonial history in which lands were alienated from them for forestry purposes (interviews, Trakore Comite de Gestion, Trakore village, March 1999; see also Fairhead and Leach 1996). While the groupement approach in law classifies forests for the village, its practices, with boundaries, inventories, management plans, state signatures, and increased state surveillance, are easily taken for state classification. For many villagers, distrustful of the future intent of the Forestry Service, it may appear as a step on the road to alienation. For the village women and men from poorer families, less prominent in village politics, who do not consider themselves as represented by the village management committee and are very unsure of receiving any benefit from timber felling, these fears dominate their perception of the approach all the more.

Each of these diverse perspectives on Groupements Forestiers presents some actors and institutions involved in the approach rather negatively, and others positively. Nevertheless, each group can find a narrative in which the approach is advantageous to them. It is this that partly explains how the Groupement Forestier approach has emerged in a coalition of interests. However, in another sense, the diverse perspectives reveal that the approach is not actually a common project. Groupements Forestiers continue to mean different things to different people, despite the manuals, procedures, and laws which appear to produce it as a unitary phenomenon. In particular as elsewhere in francophone West Africa, there is real tension over whether the approach represents decentralisation or further centralisation of control over forests. While certain people applaud (or regret) Groupements Forestiers as a devolution of state resources, others experience it as a loss in autonomy and an extension of external control easily equated in Guinea's history with the state.

Implications

This paper has aimed to show that neither communities, the state, nor forests - the main entities that co-management approaches in forestry attempt to bring together in new ways are as straightforward, undifferentiated, or stable as many proponents of these approaches might assume. Communities are socially differentiated and diverse, and their members' material and non-material concerns with forests may either complement or conflict with those in a plurality of other organisations, whether state or donor agencies, or private or non-governmental organisations. The environments they interact with are ecologically dynamic,
continually shaped over time by interacting social and ecological processes. Yet knowledge of these processes and perspectives on how particular forests or environments came to acquire their character and may change - is itself differentiated, as the contrasting perspectives of villagers and state officials on the status of Guinea's forest islands illustrates so starkly in this context, management approaches must deal with several sorts of plurality: Of direct concerns with forest values, material and non-material; of concerns over forest status, pasts and futures; and, as the Guinean Groupement Forestier example illustrated, of concerns with what management approaches might themselves mean in terms of their implications for institutional survival, power, or control.

Analytical tools, such as those outlined in Part II, can help in specifying more precisely the connections between diverse people and environments, and, thus, in clarifying the dynamic settings in which management approaches are undertaken and which they transform. In particular, in focusing attention on the mapping processes by which components of heterogeneous environments become endowments and entitlements of particular social actors, the environmental entitlements framework outlined in this paper has attempted to provide a dynamic perspective on the role of institutions in people-environment relations. Diverse institutions, both formal and informal, and often acting in combination, shape the ways in which differentiated people access, use, and derive well-being from environmental resources and services and, in so doing, influence the course of ecological change. As people interact with each other and with the environment in the context of these mapping processes, their actions may, over time, serve to reproduce particular institutions, but they may also serve to alter them, and, thus, to push institutionally influenced ecological dynamics along new pathways.

Seeing people—environment relations in this way raises a number of implications for development planning and practice. First, conventional approaches to community-based natural resource management are frequently centred on community organisations or representatives as the main vehicle for their activities. Yet these may be a very poor reflection of the real institutional matrix within which resources are locally used, managed, and contested. Multiple institutions are involved in resource management, and, amid this multiplicity, different people rely on different institutions to support their claims to environmental goods or services. For most activities they combine sets of claims supported by different institutions; rights to access trees for wood-fuel may be of little use to generate income unless combined with kin-based claims on labour for wood cutting and transport and trading networks for effective marketing. Equally, it is frequently combinations of institutions, acting at particular historical moments, which shape particular trajectories of environmental change. Many of these institutions are informal, and consist more in the regularised practices of particular groups of people than in any fixed set of rules. As such they are also dynamic, changing over time as social actors alter their behaviour to suit new social, political, or ecological circumstances. introduced, formal organisations miss or may reduce this flexibility.

An understanding of social difference and the diverse institutions that support different people’s endowments, environments, and environmental management, points towards possibilities for more strategic specificity in interventions. If certain institutions can be identified as supporting the interests of certain social actors or as contributing to desired courses of ecological change, then they can be targeted by policy in strategies of institution-building or support. This would imply agencies are moving away from generalised community support toward far more explicit partiality, to what Mehta (1997) has termed aggressive partisanship.

The danger, however, is that such targeting becomes, in effect, another form of imposition of formal Organisation on previously informal, dynamic arrangements, analogous to, and open to the same criticisms as, this at a generalised community level. Indeed, design-oriented responses almost inevitably gloss over complexity and dynamism, assuming that steady-states - ecological or social - are achievable and supportable. instead, a more flexible approach may be needed; one which, as Mosse (1997) puts it strategically supports sub-ordinate groups to enhance access to, and control over resources by taking ‘operational clues’ from ongoing struggles, knowledge, and strategies (cf. Li 1996:515).

Given the plurality of perspectives on forest issues, it may be that consensus on the priority and directions which forest management should take is impossible to achieve; it may be partial or temporary at best, while appearances of consensus can mask the very different and conflicting ‘backstage’ opinions of certain groups (cf. Anderson et al. 1998:8). Recognising this, a variety of management approaches are now being developed which do not rely on achieving consensus. Techniques of communication, teaming, negotiation, and mediation are instead employed to manage pluralism and conflict, and even to engage it productively (e.g., see Babin and Bertrand 1998; Ramirez 1998).

However, it would clearly be naive to assume that any negotiation process takes place on a level playing field. Just as power relations pervade the institutional dynamics of everyday resource use, so they pervade negotiation processes. Different people have very different capacities to voice and stake their claims. Empowerment to subordinate groups therefore needs to accompany negotiation through approaches aimed at enhancing their access and claims-making capacity, perhaps including building their social capital and
networked relationships with those sharing similar or related concerns (e.g., Bebbington and Kopp 1998).

At the same time, attention to larger scale institutional transformations cannot be ignored. Participatory approaches and adaptive management at the local level may be unable to be pursued effectively if the broader legal context does not enable this. For instance as Ribot (1999:56) argues from the francophone West African context, reworking rural representation requires the dismantling of those "disabling laws that make both 'customary' and new rural authorities extensions of the central government"

Yet natural resource management confronts questions of uncertainty, both social and ecological. Because institutional arrangements are dynamic and are influenced by the ongoing practices and agency of numerous social actors, as well as by contingent events in the economy and society, no management process can assume predictable outcomes - as the West African cases discussed in Part III would suggest. From this perspective, it is clear that strategic institutional changes - such as alterations of legal frameworks - do not necessarily lead to particular outcomes. Nevertheless, they can provide altered settings in which people can struggle to make their claims realised, perhaps with more chance of success.

Ecological uncertainties compound the problems already inherent in defining desirable courses of environmental change or sustainable development. The notion of environmental sustainability is problematic given the diverse, partial perspectives of different social actors: What is to be sustained and for whom? Furthermore, recent thinking and non-equilibrium perspectives in ecology question the notion that future environmental states can actually be planned. Historical conjunctures of processes and contingent ecological events can bring about quite rapid, unpredictable shifts in landscape ecology. For ecological reasons too, then, forest management may need to seek to influence processes rather than to define states, and to be adaptive rather than pre-planned.

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