4 The Political Ecologies of Bright Spots

Kim Geheb[1]* and Everisto Mapedza[2]**

[1]*International Water Management Institute, PO Box 5689, Addis Ababa, Ethiopia;*
[2]*International Water Management Institute, Private Bag X813, Silverton 0127,*
*Pretoria, South Africa; e-mails: *k.geheb@cgiar.org; **e.mapedza@cgiar.org*

If power can be bought, then sell your mother to get it; you can always buy her back later –
Ghanian proverb.

Introduction

There are many debates in political ecology, ranging from the ways in which we 'construct resources' by attributing value to them, through to assigning cultural impressions upon the resource landscape. This chapter, intended to introduce the concept of political ecology and its relationship to how land is used and managed, will deal with the ways in which politics shapes resource use along a 'chain of explanation'. The variable we shall focus on is politics as a means of gaining, increasing and maintaining access to resources. In addition, this chapter will focus on ideas of 'institutions' growing up around resource use, and will contemplate their relevance to this debate. Finally, the chapter will explore what politics means for the formation of bright spots, and how politics might be manipulated to see these occur.

What is Political Ecology?

In 1988, Thomas Bassett published a paper (Bassett, 1988) in which he described conflicts between migrating Fulani pastoralists and sedentary Senufo agriculturalists. Bassett was aware that much literature at this time suggested that conflicts arose between resource users because of resource declines. But in north-eastern Côte d'Ivoire, where these conflicts were taking place, there was little evidence of resource decline. So what was driving these conflicts? Bassett settled for resource access as the key difficulty, and argued that it was political systems between competing interest groups that, in the end, resulted in particular ways of using the resource. Bassett also recognized that the Fulani were lent a helping hand – the Côte d'Ivorian Government was keen for them to come to their country and bolster local beef markets so as to service their foreign debt, and, in this way, the Fulani in effect 'borrowed' political weight in order to fortify localized claims to the resource base.

Political ecology:

> combines the concerns of ecology and broadly defined political economy. Together this encompasses the constantly shift-ing dialectic between society and land-based resources, and also within classes and groups within society itself.

> (Blakie and Brookfield, 1987, p. 3)

The subject matter of political ecology is, therefore, mercurial. Central to political ecology is power and the way in which it is used, articulated and how it manifests itself across an ecological

landscape. All power is 'relational', in the sense that one cannot be powerful if one does not have others over which to assert it. Political ecology emphasizes the importance of asymmetries of power – the unequal relations between different actors – in explaining the interaction of society and environment (Bryant and Bailey, 1997). Power arises by virtue of controlling access to a resource, and using this as a means of maintaining such access. It is important to understand that these are not only natural resources – economists, indeed, define many different types, be these labour, social (see Chapter 12, this volume) or market resources. Whatever the case, sources of power surround us. But there is a catch: society imposes certain 'rules' upon us. As a consequence, there is a continuous tension between individual (self-interested) aspirations and the demands of society, with the latter tending to dampen the former.

> In prehistoric times, simple survival was dependent both on the aggressive pursuit of self-interest and on collective action to achieve cooperation in defence, food acquisition, and child rearing … Our evolutionary heritage has hardwired us to be boundedly self-seeking at the same time that we are capable of learning heuristics and norms, such as reciprocity, that help achieve successful collective action.
>
> (Ostrom, 1997, p. 4)

The key markers that regulate our self-interested behaviour are called 'institutions'.

Institutions

Institutions are '… the rules of the game in a society or, more formally … the humanly devised constraints that shape human interaction' (North, 1990, p. 1). Institutions are extremely important in resource management, and in effect represent a best bet for influencing the way in which resources are exploited. They may form around a wide diversity of foci that, in one way or another, attract common interest. This can range from a shared passion for netball, to some commonly perceived threat or dilemma. In the latter case, Wilson (1982) argues that institutions will form once three conditions are met.

1. That the dilemma is encountered repeatedly under more or less similar circumstances in which individualistic opportunistic behaviour is seen to destroy the possibilities for collective gain (i.e. it must be seen that the benefits to be gained from acting alone will be less than the benefits to be gained from acting together).
2. An information network – arising from trading, competition and other interactions – exists which can form the basis for identifying and negotiating possible rules.
3. There exists a collective basis for the enforcement of these rules (i.e. the rules must not only be designed in such a way that they can be enforced collectively, but also that there is a collective available to do the enforcing).

The point to note here is that institutions are a basis for collective decision making. Individuals cannot be institutions by themselves, but they can be profoundly influenced by them, and hence the reason why they can serve to articulate the spectrum between right and wrong, and why it is that people use resources in particular ways. Institutions comprise, in other words, the socio-political context within which decisions are made. How people perceive a problem and the tools they use to respond to it are in large measure determined by their sense of power, the social capital that they can bring to bear, the resource access they can collectively claim and so on.

Entitlements

In 1981, Amartya Sen (Sen, 1981) invoked the influential concept of 'entitlements'. These do not necessarily refer to the rights that people *should* have but rather to the rights that people *can* have (Leach *et al.*, 1997). Sen phrased this distinction in resource terms – that it is not a condition of there not being enough of a resource (in his case, food) but, rather, a problem of people not having enough of that resource. The point is that while resources may be plentiful, people may still not have enough of them. This is part of the reason why simply producing more food globally may not solve problems of hunger.

Basically, entitlements refer to the combined physical, personal and social resources that a person can bring to bear in order to improve his or her access to a resource. At the individual level,

this may represent a wide spectrum of things such as ethnic relationships, parentage, amount of land held, strength, intelligence and so on, any combination of which may enable a person to contest another's claim over a resource base.

Much of the literature on entitlements has considered their functioning amongst the powerless, but the powerful have entitlements too, and while these might not seem too important in the livelihoods discussion, they are in the political ecology discussion – the success of entitlements has a great deal to do with where a community is placed along the chain of explanation.

The Chain of Explanation

The 'chain of explanation'

> … starts with the land managers and their direct relations with the land (crop rotations, fuelwood use, stocking densities, capital investment and so on). The next link concerns their relations with each other, other land users, and groups in the wider society who affect them in any way, which in turn determines land management. The state and the world economy constitute the last links of the chain. Clearly then, explanations will be highly conjectural, although relying on theoretical bases drawn from natural and social science.
>
> (Blaikie and Brookfield, 1987, p. 27).

Each part of the chain allows us to perceive not only local context but also relationships between different power groupings. Importantly, we can also trace these all the way back to the ecosystem in question, and, in addition, perceive how each power grouping is embedded in increasingly larger scales. Figure 4.1 draws on Blaikie and Brookfield's (1987) rendering of the chain. In this, we may identify four sets of communities ('A' to 'D'). Each level in the chain relates to the size of the claim that a community of agents can lay to a given resource 'patch'. In this sense, such claims are also commensurate with the size of a community's entitlements. As the scale increases, the number of actors may not. Hence, at very local levels, the number of people making a claim to a resource is large, relative to the size of the resource they have access to. The degree of access to the resource that they can command is a reflection of their relative powerlessness. At, say, global levels, the size of the

resource claim is vast, the number of individuals making a claim is relatively small, but each individual is extremely powerful. This reflects the increasing levels of power that occur as scales increase, as well as increasingly more successful entitlements. Hence, levels are defined by the size of the claim, but also, importantly, the commensurate level of impact on the resource as a consequence of this claim. Each set of agents has a two-way interaction, both with other scale levels (vertically), but also between individual agents within the community, and between other groups of actors at the same level (horizontally). In this section, we illustrate the kinds of political contest that might occur at each level for a particular resource, which, in keeping with this volume, shall be land and its uses (such as agriculture, livestock and forestry). In addition, we consider the relationships that exist between different levels of the chain.

Level A: the contested household

Local communities have only the power to lay small, restricted claims, in part because they compete against other, similar communities, but also because they do not have the power to compete with more powerful groups above them in the chain. The resources involved here are the sum of those needed to secure food, in other
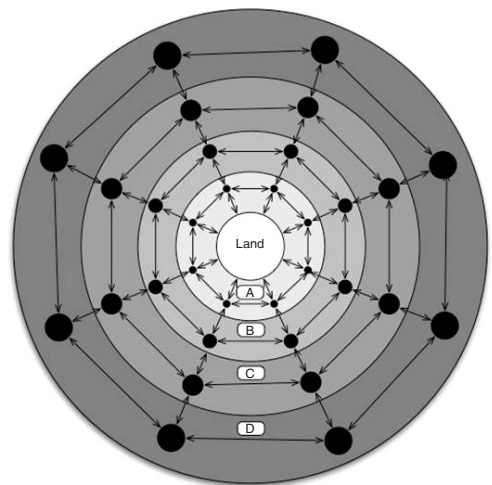

Fig. 4.1. The 'chain of explanation' in political ecology (drawing on Adams, 2001).

words, entitlements that comprise social networks, local-level alliances, individual traits and so on. How does this game play out at a communal level? One example is the asymmetry of power between men and women.

In many developing-country agricultural landscapes, men hold a disproportionate amount of power over the land, what is grown upon it, and what becomes of sales proceeds. Women, on the other hand, may be allocated part of a man's land to grow food crops for the household. A case study on wood fuel scarcity from Kenya found that, while it is traditionally the woman's responsibility to gather household fuel, it is men who control local wood lots. While women struggle to find enough wood fuel for the household, men grow trees as a cash crop. This resource allocation strategy deprives women of access to valuable labour-saving natural resources, and places the profits from these resources squarely in the hands of men (Mearns, 1995). In this example, a woman's entitlement is substantially smaller than a man's.

The household is perhaps the most visible political unit at this level. The term 'household' is a contested one, with tremendous variations both across and within societies. While households are typically defined spatially or through family ties, Guyer (1981) defined the household as a political arena constituted by collections of gendered rules, rights and obligations governing relations between men and women, and elders and juniors. In order to understand the importance of access, the household must be conceptualized, with a focus on the gendered micro-politics of negotiation, cooperation and contestation (Hart, 1995).

The underlying bonds that define households are multiple, and include love, social institutions (such as marriage), kinship relations, maternal/paternal relationships and so on. Importantly, households are also economic units. Depending on how they are organized and the relationships between members, households can be both an economic drain on individuals, as well as an economic security blanket. At the very heart of the relationships that define households lie efforts to minimize the former, and maximize the latter. Potentially, household members can pool their resources for the benefit of all members. In many developing countries, however, deep divisions exist within households, particularly

between men and women. At the heart of this problem lies the pre-defined roles that women and men play in these countries. For men, this is a traditional dominance of access over and to resources. For women, these relate to the upkeep of the household (in terms of feeding, maintenance and care) and food production. They relate to raising children, and all associated costs and nutritional requirements. The household is, increasingly, no longer the unit around which a 'family' may be defined, but the arena within which intense competition between men and women is played out. It is the struggle by women to obtain some cut of their husbands' incomes, and the struggle by men to maintain traditional positions of dominance and privileged access to income-generating resources.

> Community norms regarding the appropriate status for women may even be the greatest barriers to women's control over resources, especially independent rights to the resource.
>
> (Meinzen-Dick *et al.*, 1997, p. 18)

The kinds of income-generating niches that women are allowed to exploit are limited and access to resources often curbed by competition with men, the strictures of traditional gender roles and the limited assets available to women to establish businesses.

These interactions manifest themselves in many ways, and numerous attempts have been made to categorize these (cf. Hoodfar, 1988; Campbell *et al.*, 1995). Kalloch (2002) identifies three groups of strategies:

- The 'separate and secret' strategy: here, there is no income pooling or allowances between husbands and wives. Husbands and wives keep their incomes separate and secret from each other. The secret and separate income allocation system springs from deep divides between members of households, and indicates high levels of distrust and disharmony. Men and women typically have very different income levels, spending priorities and needs (in large part arising from their different entitlements), which often results in conflict.
- The 'combined joint/separate' strategy: an allocation system that is neither joint nor separate, but a combination of the two. In other words, some parts of an individual's budget are kept secret, while other parts are

understood to be joint. In many African societies, for example, men may agree to pay for certain household expenses, such as school fees, furniture or medical expenses, but keep information about the rest of their income secret.

- The 'joint allocation' strategy: this strategy may come in two forms. In the first, men and women discuss household budgets together, but the male retains the right to make final decisions on expenditure. In the second, the couple discusses the budget and comes to a mutual agreement on expenditure.

The action of withholding information is profoundly political, and the household clearly demonstrates the way in which knowledge can be power. The dominance of males when it comes to controlling resource access is often thought to underpin widespread malnutrition amongst children on the African continent and in South Asia. Women, in the meantime, are forced to exploit peripheral resources that have not (as yet) been deemed interesting by males – this might be small-scale enterprise, returns on which are so low that they do not draw the attention of men. Often, no single resource is sufficient to cover women's needs and those of their children, so they diversify. It is for this reason that many livelihoods thinkers (cf. Chambers *et al.*, 1981; Ellis, 2000) argue that, for the poor, reliance on a diversity of assets is essential to reduce vulnerability, achieve a livelihood and improve entitlements. But diversification is also a political strategy – any one income-generating component of a diversification strategy is small enough to escape the attention of men; but, cumulatively, such strategies have the potential to generate a reasonable income. Conversely, the powerful can command access to whole resources, and therefore have no need to diversify. This is true also of social resources – the powerful may be reliant on just a few, extremely powerful, contacts, while the powerless invest in the potential usefulness of social relationships across a large spectrum of individuals. Across Africa, women form collectives and 'self-help' groups in an attempt to simplify and streamline their resource collection activities, as well as to ensure that their children are always cared for. Male self-help groups on the continent are exceedingly rare.

Why does this matter? For one, it profoundly affects the way in which land is used – with women tilling the land, they are the principal land users in many developing-country landscapes. But they are constrained, not just in the ways that they are allowed to use the land, but in their ability to reap benefits from it. Because at least half the world's population is female, this matters. It also matters because of the disproportionate role that women play in raising the developing world's children. Some researchers, indeed, specifically target women's status as the variable around which to examine household economies, defining it as their relative power vis-à-vis men (cf. Smith, L.C. *et al.*, 2003). Ironically, if women did have the power to make land-use decisions, African agricultural production could increase. In sub-Saharan Africa, women have less access to education (including agricultural training) and to cash for inputs such as fertilizers than do men. Therefore, unequal assets could have a greater impact on food and nutritional security in this region than in others. In Burkina Faso, men have greater access to fertilizer and to household and non-household labour for their farm plots. Reallocating these resources to women could increase household agricultural output by 10–20% (Alderman *et al.*, 2003). In Kenya, if female farmers had the same levels of education, experience and farm inputs as their male counterparts, their maize, bean and cowpea yields would increase by 22% (Alderman *et al.*, 2003).

Because power is relative, it is subtractive, in the sense that power gained by one is power lost by another. In the example above, men will maintain traditional access rights to resources at the expense of women, and the chain of explanation flows from the land and into the household, where this power is debated, contested and reinforced. Men are, therefore, under more or less constant pressure to relinquish at least some part of it. From their position of dominance, they can – and do – reach out to external sources of power so as to reinforce and reproduce their own localized power base. For this, they need to integrate (or ingratiate) themselves with the next level up to mutually reinforce power assets on the same horizontal level. But, as we have explained above, this is a two-way process. Local-level initiatives to seize power from outside

can well be resisted; or, under other circumstances, where guile comes into play, local power elites can negotiate such 'power loans', as we shall see in the next section.

Level B: caught between a rock and a hard place: local-level initiatives and a greater other

Level B contains local administrations and intermediate-level marketing interests. While no less important than administrative agencies, this section will not deal with marketing interests. Local administrations anywhere play a profound role in resource management, be this through extension services, controls on exploitation or the movement of livestock and so on. They have, in other words, a remarkable degree of control over what resources are used where and when. The nature of this power is almost completely externally derived. Even agents elected by local constituencies are, in effect, being elected to wield a large amount of externally sourced power, and to use this in the interests of the local population. Resource access, then, becomes negotiated between would-be users and powerful interests who might otherwise curtail their access. These controls are a discretionary power, which gives such administrations tremendous leverage that can be – and often is – used nefariously. Would-be resource users, then, will draw on their entitlements to try and influence resource access decisions, and such actions are typically manifested in bribery, patronage, nepotism and other sources of social capital. In some cases, however, such actions do not always work, and would-be resource users are faced with some local-level problem that dominant powers can see no merit in rectifying, with or without inducements. A good example of this is that of 'sungusungu' initiatives in north-western Tanzania.

The Sukuma and Nyamwezi are pastoralists occupying land in Tanzania's north-west. In the early 1980s, they began to form vigilante groups called 'sungusungu' in an effort to control the theft of their cattle.

> [T]he development of the Sungusungu can be read as an indication that people are not satisfied with fundamental aspects of the supply side of their relationship with the state.
>
> (Abrahams, 1989, p. 367)

The initiative grew to cover other forms of theft and local-level violence, and the late president of the country, Julius Nyerere, was supposed to have regarded the *sungusungu* as a 'revolutionary force' to be encouraged, and to have said that they were in a better position to know who criminals were than the police or the courts (Abrahams, 1987). Their formation, Abrahams (1987) argues, was a result of the state's failure to capture rural areas both politically and economically. Friction, naturally enough, began to occur between the *sungusungu* groups and local administrations in Nyamwezi and Sukuma. The *sungusungu* continue to operate in this part of the world.

> The long standing presence of such groups . . . and the sometimes uneasy division of labour between them and the state in one form or another, seems to be a major persistent feature of the Nyamwezi and Sukuma political scene. It can be seen to form part of a continuously monitored and negotiated equilibrium between public service from the centre and freedom and autonomy at the local level.
>
> (Abrahams, 1987, p. 193)

For the *sungusungu*, these tensions existed mainly between themselves and the district authorities.

> The police and the judiciary … are unhappy with and opposed to Sungusungu taking the law in their own hands and providing an additional and/or alternative means of social control. Officials of these institutions argue that Sungusungu members are attempting to turn the clock back to primitive punitive measures … *The competition between the two suggests that that Tanzanian state institutions are more concerned with the protection of the legality of monopoly of their powers than with the actual problem of crime.*
>
> (Bukurara, 1996, p. 264. Emphasis added.)

This point is important. Why, one might ask, were the formal Tanzanian authorities concerned about protecting the legal monopoly of their powers? The *sungusungu* were clearly filling a void in law enforcement, after all. In 1979, Terrance McGee (McGee, 1979) argued the political structure of many developing countries was one of 'conservation–dissolution' – a process characterized by undermining, eroding or destroying former power structures (like traditional

political systems – such as the *sungusungu* – of governance and belief). The process is portrayed as selective – enough of former socio-political systems (such as ethnicity) are retained, but these are neutered so as not to challenge dominant power structures. The overall architecture of the system is allowed to remain but its power content is removed. Local-level initiatives designed to protect a resource are challenged because they undermine the leverage of the state and its local-level representation. Although the *sungusungu* were eventually allowed to function following central government intervention, the case is illustrative of problems that confound the African continent, and prompts the question as to what, in fact, the resource management requirement actually is? Is it the maintenance of administrative bureaucracies for the sake of their members? In the absence of any transfer of powers to small-scale communities, community-level powers do not exist to counterbalance excesses in centralized powers. Where resource-use regulations are ambiguous, then room exists for the powers associated with these regulations to be abused, and utilized for ends for which they were not designed. In many cases, to lesser or greater degrees, the state apparatus has been turned into a resource in and of itself: a ready-made source of tremendous power that can be used as a profound method of gaining kleptocratic influence.

Much of the time, however, Level A communities might not necessarily clash with Level B authorities. In their efforts to negotiate access to a resource, they may resort to any manner of methods to gain access, such as sex, social networks, friendship, guilt, bribery, nepotism, ethnicity or mild threats. Because Level A people tend to be powerless, it is often then the case that they require an extra ingredient to expedite improved access, and cash is often an exemplar in this respect. Hence, for many powerless men and women, bribery is a profound way of realizing improved access to a resource. What must be remembered, however, is that cash is but one ingredient amongst many others in the successful negotiation of resource access. Paul Robbins (2000) provides an example from an Indian forest, in which forest guards might allow an old woman to harvest forest products for no bribe at all, perhaps because she is old, a woman, part of the same community as the guards themselves

or because the resources she seeks are not highly valuable. A middle-aged man keen to fell a common tree species may be charged a high bribe because he is not from the guards' community, stands to earn a lot of money from the escapade, or because the task of felling is noisy, and hence more likely to be noticed by others. Finally, an influential man bent on felling valuable ironwood trees might be asked for a small bribe because the guards are keen to ingratiate themselves and earn his favour. Bribes, like power, are relational – it depends on the relationship between the bribe taker and the bribe giver, and the individual entitlements that they respectively command. Corruption is, therefore, a remarkably good way of following power plays between individuals in their efforts to lay claim to a resource base. In the next section, we maintain this theme, albeit at a higher scale.

Level C: corruption, power and difference

Corruption, says Paul Robbins (2000, p. 424) '… is quite often the predominant organized system governing the use of nature'. It is often defined as the abuse of public office for private gain, and bribery may be understood as an insurance policy taken out to avoid paying penalties for illegal activities. The size of a bribe is said to be equal to the cost of the penalty multiplied by the probability of being caught and punished (Cohen, 1999, cited in Smith, J. *et al.*, 2003). This is, in part, true, but the concept is broader than this. Corruption is the cost of political negotiation, between one more powerful than the other, whether this is a government official and a small-scale farmer, two families debating bride price, or a woman who skilfully obtains cash from her husband in return for sex. As Olivier de Sardan (1999, p. 35) comments, '[t]here is a continuum rather than a gulf between bribing someone and thanking someone for services rendered.' In any case,

> … the price of open conflicts is too high. It is unthinkable to denounce to the police a relative, a neighbour, the relative of a friend, that is, someone with whom one has a personal tie, even a weak one: social disapproval would be too heavy.
>
> (Olivier de Sardan, 1999, p. 30)

At national levels, governments have command over a resource area the size of a country. This includes the country's administrative apparatus, which, as we argued above, is a resource in itself as a system that generates the leverage required to demand bribes, while at the same time a system through which income can be sent as unaccounted-for income streams that have both vertical and horizontal inputs. In the example given above of Indian forest guards accepting bribes, some part – if not the greater – is frittered up the chain of command. The position occupied by the guard is valuable, and there are, therefore, attendant costs. Even the corrupt, it seems, are taxed. These, then, represent vertical income streams. Horizontal ones refer to those income streams derived from other actors, at similar level, such as bribes paid for mining or forestry concessions, fishing rights or land. Governments have a singular advantage when it comes to protecting their access to resources: they can bring to bear the full might of their military and other security forces if ever the claim is contested.

Smith, J. *et al.* (2003) argue that levels and degrees of corruption are directly attributable to the weakness or strength of the state. In their example, Indonesia under Suharto, the state, bent on corruption as a means to financing both the president and his clique, as well as off-budget expenditure, centralized the exercise and used the state's apparatus in order to make it happen; after Suharto, however, a weaker state emerged, and corruption become considerably more anarchic. Where the state apparatus is weak, fragmented or interrupted, actors can simply ignore it and seize access to a resource regardless of it – such as diamonds in Sierra Leone, minerals in eastern Congo, or diamonds in Angola. This reveals how entitlements can change, and where states disintegrate fast, the pace of change is extremely rapid.

In the case of Liberia under Charles Taylor, Johnston (2004) argues that the state collapsed as a consequence of four factors: (i) demands for political and economic liberalization made by Western international finance institutions; (ii) the refusal of the UN to place sanctions on Liberia's timber exports; (iii) a clandestine network of 'predatory' foreign timber firms; and (iv) corrupt, 'rent-seeking' elites. As support from competing Western and Eastern blocs dwindled after the collapse of the Berlin Wall,

Liberian elites had to find alternative sources of income to defend themselves, and these appeared in the form of international timber interests. In this way, Johnston argues, Liberia in effect became a 'state without people', because Taylor had no obligations to his people, given that he and his repression were being funded by (external) private timber interests. This is an excellent example of 'borrowed' power. Western nations were complicit in this arrangement because to resist Liberia's trade in timber would have run counter to neo-liberal arguments for free trade. Rulers of weak states, Johnston argues (as do others; see Reno, 1998) fear that strong internal institutions – such as those that might provide services to the public – will acquire their own interests if given the opportunity. As such, strengthening institutions poses a threat to informal sources of patronage that are deeply rooted in official corruption and clandestine economies. The rulers of many weak states will, therefore, reduce spending on the civil service and cut or discontinue salary payments – strategies well within keeping with structural adjustment policies and other similar reforms sought by Western financing institutions. Many such rulers then allow internal governance structures to collapse and rule by other (military) means, because such rulers can prosper politically and economically in the shadows of state sovereignty (Johnston, 2004, p. 444). These systems of deliberate state collapse may seem extreme but are not uncommon, particularly in Africa (cf. Richards, 1996; Chabal and Daloz, 1999; Le Billon 2001, 2002). In most developing countries, happily, such degrees of violence do not occur; but more peaceful variants of such structures do occur commonly. For Olivier de Sardan (1999), indeed, they are institutional – they are ingrained into the fabric of African society (if not elsewhere), and insofar as institutions represent decision making between extremes of right and wrong, corruption is understood as an acceptable way of securing, increasing and maintaining access to a resource.

Level D: big men and little people

The concern with the world system is nothing new. Between invasion, colonialism, Coca-Cola© and popular radio … rural areas have long been

part of a global system of flows, exchanges and extractions. Indeed, some of the first political ecological critiques emerged to make just these points. This writing drew attention to the ways in which marginality, environmental degradation, poverty and hunger had been produced in the process of the progressive, and often violent, incorporation of peasantries into capitalist systems of production and exchange.

(Bebbington and Batterbury, 2001, p. 372)

The world, Griffin (2003) argues, is becoming a borderless marketplace without the institutions necessary for a global policy,

… placing poor people in poor countries at a disadvantage, especially as regards the free movement of low-skilled labour and the creation of intellectual property rights.

(Griffin, 2003, p. 789)

Arguably, all of the developing world is enmeshed in global processes, and these processes are represented by a compendium of political interests of immense and far-reaching power. The latter floods down the chain of explanation, and in so doing alters the ways in which entitlements are developed and access to resources is secured. Many (usually dominant) interests consider this interaction between global, national, intermediate and localized interests to be immensely beneficial: it brings salaries to local communities, coordinated trade to regions, motives to develop and maintain infrastructure across countries, and feeds a dynamic and expanding global economy. For others, the disparity in power between global and local interests is too great to be acceptable, as is the difference between staggering wealth and staggering poverty.

At Level D, the interaction between state and enterprise is considerable, whether it be the American State Department trying to secure construction contracts for US firms in Iraq, or the Chinese seeking mining rights for their companies in Africa. As mentioned above, firms may operate (at least nominally) independently and prop up weak states and gain access to their natural resources. Irrespective, the power and investment that the global economy can bring to bear can be felt up and down the chain of explanation and influence access to resources profoundly. In the main, the global economy is portrayed as rapacious, and hence Nile perch stocks on Lake Victoria would not be collapsing if it were not for insatiable European and Japanese markets. Conversely, a minority of firms seek to implement 'fair trade' policies that also affect how resources are used and the directions in which profit margins flow.

The point to understand here is that the global economy represents staggering power that alters political systems at national, intermediate and local scales, and transforms the way in which resources are used and managed.

Summary

In the discussion so far, we have used the chain of explanation to try to develop an understanding of what political ecology is and how it works. Broadly speaking, political ecology argues that all ecologies are embedded within multiple layers of socio-political interaction. In it we have defined four such levels, which correspond to different levels of command over access to resources. We have mainly looked at land. At the local level, we have described the intense political interactions between men and women over access to land and its resources as one example of Level A interactions. We suggested that powerful individuals at this level would seek to maintain, expand or reinforce their local power by developing linkages with the next level up, and so 'borrow' power from outside. In this way, we show how some individuals have the power to turn their endowments into entitlements and to increase the size and utility of these packages.

At Level B, we focused on local-level administrations and, in particular, the kinds of relationships that they might have with Level A members. We showed how local-level initiatives may challenge established socio-political processes at this level, who may respond by implementing repressive measures. Bribery, however, can be used to grease relationships and reinforce relationships between Level A and B actors. We suggested that bribery was a profound variable with which to analyse socio-political systems, drawing on forestry examples, and showed how this could affect the way in which a resource base is used, and how it improved access for some while undermining that for others. In this sense, the political interactions between those who hold power over access to such resources

and those who do not, significantly affect entitlements. They also prompt changes to social and economic institutions, and hence legitimize corrupt behaviour. The result for the resource can be extremely damaging.

At Level C, we described cases of government abuse of office, and used state violence as an extreme example of this. Because these latter systems are overwhelmingly based on patronage, state institutions are rendered meaningless. In more peaceful environments, governments draw on the authority of their own structures to extort bribes, rather than circumventing them altogether. We introduced the theory of conservation–dissolution, which argues that states seek to dissolve local-level power structures to a point where they are powerless but still enable useful socio-political traits to be maintained – such as ethnicity – which can be manipulated to the benefit of a ruling elite. This is a serious problem, for it means that any local-level institutions that can play a role in the sound management of a resource are undermined, and state structures are instead used for purposes that they were not designed.

In many developing countries, the funding and expertise needed to manage resources does not exist. Hence, if resource management is the key objective being sought, then it makes sense to devolve resource management to local levels, with the state playing a mediation role between competing interests, and working to diminish resource access inequities. But such a role serves to undermine the power of the state, and the advantage they require in order to seek bribes.

At Level D, we briefly discussed the global economy, and argued that the relationships between it and Level C are often extremely strong. In this sense, many global actors, whether these are international finance institutions or multinational companies, and unilateral interests collude, whether knowingly or not, to generate spectacular disparities between rich countries and poor countries, and even between the powerful and powerless in developing countries. Such collusion can, we argued, even facilitate war.

Up and down the chain, these interactions serve to influence institutions and associated entitlements in ways that may not be desirable for ecological sustainability in the long run. Much of the literature on institutions and entitle-ments has not considered the roles that such concepts play in areas higher up the chain, away from Level A, but here they are none the less. As the powerful seek to generate, reinforce and maintain their power and income streams (their entitlements), then they must alter institutional structures in order to accomplish this, whether it be simply sidelining state structures or modifying these in ways for which they were not designed.

There are, however, ways in which people can change these relationships, so that while bribes may still have to be paid, resources are used sustainably and inequities to some degree ironed out. These are bright spots, and in the next section we consider how, from a socio-political point of view, the game must be played in order to achieve these outcomes.

Political Ecology and Bright Spots

There are, of course, problems in the definition of what constitutes a bright spot 'success' story. In the realm of political ecology, the success of a local institution in the eyes of a conservation expert may be deemed deplorable by an established political elite. Notions of power transfers and trading are implicit in much of the community-based natural resources management (CBNRM) literature, although rarely stated as such; but CBNRM does represent a profound power shift from established political elites to the powerless. Below, we summarize several case studies where such a shift has evolved, and success is understood in terms of ecological management, investments in land, improved or maintained productivity and improved and/or sustained livelihoods (cf. Mortimore, 2005, Table 1).

The Duru-Haitemba forest lies in Tanzania, and the government had (in the mid-1980s) suddenly declared it a reserve. Village representatives indicated clearly to government foresters that they supported the conservation of the forest but that they resented what they regarded as the loss of 'their' local forest to government to achieve this. It was the deployment of forest guards that changed everything. As soon as they started work, villagers began farming into the forest edge so as to back up their claim for a bigger share of the forest to be left outside the

reserve for community use. Villagers started plundering the forest rapidly so as to get what they could before heavy policing could start.

> [B]y deploying guards against their people, the government had made it clear, once and for all, that the forest was 'no longer [the villagers'] concern'. If the government laid claim to the forest, then it could look after it.
>
> (Wily, 1999, p. 53)

On learning of the demise of local jurisdiction, outsiders began to bring their livestock into Duru-Haitemba forest for watering and grazing, along with several groups of commercial pit-sawers.

In the early 1990s, the local government agreed to allow local communities to try and regulate the forestry, given its own failure to control the forest's use, and serious budgetary constraints. Their only condition was success: that the Duru-Haitemba become and remain uninhabited forest, and that its condition would be gradually restored, and its products used in sustainable, non-damaging ways.

Villagers first responded by demarcating the forest, so that each community knew which part of it they were responsible for. Each village then obtained help to develop a very simple management plan for the forest, at the core of which were who could or could not use the forest, what forest uses the communities would allow themselves to undertake, what uses could be effected only on a village-managed quota and permit system, and which forest uses were to be forbidden immediately. Each community very quickly banned obviously damaging activities, including those they had previously insisted were 'essential forest uses' when the government had control over it. Encroachers were evicted, charcoal manufacture, ring-barking and forest clearing were banned, and mainly 'non-local' loggers encouraged to leave the forest. An increasingly nuanced range of regulations evolved to ensure that pole-wood, fuelwood and other common requirements were sustainably extracted. Grazing was permitted, but only in certain areas and at certain times of the year. Many villages started planting trees to protect their springs, and young men were selected from amongst the villages to start patrols throughout the forests. These were then exempted from other village community activities, such as road clearing and school construc-

tion, and rewarded with the fines they managed to levy (Wily, 1999).

The above is an excellent example of how a transfer of power can yield stunning conservation results. Wily (1999) herself regards this as a trade in power, and the trade in user rights is in itself a trade of power. But such trading is not necessarily easy, particularly to those that have little experience trading in power, or little experience in spotting opportunities to do so. These deficiencies apply to the poor, for theirs is more often than not a poverty of power rather than a lack of cash. Hence, having a leader in whom trust can be invested to guide them through these processes and seize opportunities on their behalf can be very important. Finding such leaders is, however, difficult. Poor leadership plagues much of the developing world's natural resource management systems. If a faithful leader can be found, the results can be spectacular.

The Il Ngwesi community consists mainly of Maasai pastoralists living on the Laikipia Plains of north-central Kenya. The community owns and runs a group ranch that covers 165 km^2, and contains a population of 500 households. Next to the ranch lies the highly successful Lewa Downs Wildlife Conservancy, an established wildlife sanctuary that attracts its income from tourism. Its success has in large measure arisen because of its owner's initiatives, of working up close relationships with conservation-minded donors and NGOs, and of expansive social networks that extend into the Maasai community and far beyond Laikipia. He is, in other words, a man with considerably more power than the neighbouring Maasai.

Over the years, livestock grazing pressure and inter-community conflicts over pasture arose in Il Ngwesi. Competition between wildlife and domestic livestock for the available pasture and water was aggravated by frequent droughts and famine. At the same time, Lewa Downs faced a problem. Its elephant populations were growing so large that the Conservancy's area could no longer support them. The Conservancy's owner needed additional land and safety for these animals, and it was with this in mind that, in the late 1980s, he began negotiating with his neighbours.

The result was a complete reconfiguration of the Il Ngwesi Group Ranch, consisting of two main elements. First, the designation of nearly

half the group ranch – 8000 ha – as a conservation area, in which habitation was banned and livestock grazing was permitted only in times of need; and second, the construction of a 16-bedroom luxury eco-lodge that generated revenue for biodiversity conservation (patrols that guard against poaching, overgrazing and excessive logging) and for investment in community infrastructure and services (Swallow *et al*., 2007).

The lodge is managed and staffed by the local community, who act as guides to visitors both at the lodge and on bush walks. The Il Ngwesi Conservancy and Lodge is run by a board of directors, comprising four elected community members and three external members, who report to the Group Ranch Management Committee. In addition to the lodge manager and staff, a project manager is also employed, primarily with a professional accounting function. Benefits from the Il Ngwesi lodge have been realized on several levels. Revenue currently stands at KShs 3 million/year (c. US$ 47,000), of which approximately one-third is paid out in salaries, one-third covers ecotourism operating expenses and one-third is available as benefits to the community in the form of community projects identified by the Group Ranch Committee and approved by members. The highest priority is the provision of schools (so far, three schools have been improved), followed by school bursaries and the provision of health facilities. Funds are also used for road building and providing transport, as well as building cattle dips (Watkin, 2003). Management of the Group Ranch lies in the hands of the Il Ngwesi Community, although the owner of the Lewa Downs Conservancy maintains his interest as a member of the board.

This example is illustrative of how instrumental ('good') leadership can be in generating positive resource-conserving outcomes, while at the same time yielding dividends to the powerless (another example is provided in Box 13.1 in this volume). While the leader, in this case, seems not to have had to get confrontational with dominant elites, he has been privy to opportunities: a knowledge of tourism trends, of what an eco-lodge might constitute, of conservation management and practice and so on, all assets that the Il Ngwesi community did not have or were unaware of. Such savvy is also important in anticipating and rebutting external

political threats – Il Ngwesi has now become a viable enterprise, certain to attract the attention of local, regional and national administrators.

An understanding of opportunities is not restricted to the (purely) political domain – a willingness to learn about, explore, adopt and adapt new techniques and technologies is also important. Being able to judge what technology is suitable for one's very localized farm plot is in itself a power; being able to recognize a technology's potential, and then adapting it to localized conditions is an even more powerful move. One very famous case study in this respect lies in Machakos, a district lying just south-west of Kenya's capital, Nairobi (Tiffen *et al*., 1994). In the 1930s, Machakos acquired some infamy among conservationists, who thought they saw 'every phase of misuse of the land', leading to soil erosion and deforestation on a large scale, with its inhabitants consequently 'rapidly drifting to a state of hopeless and miserable poverty and their land to a parching desert of rocks, stones and sand' (Maher, 1937, quoted in Tiffen *et al*., 1994, p. 36).

By the 1990s, the district's population had multiplied sixfold, while expanding into previously uninhabited areas (most of them dry and risky). But erosion had been largely brought under control on private farmlands. This was achieved through innumerable small investments in terracing and drainage, advised by the extension services but carried out by voluntary work groups, hired labourers or the farmers themselves (Mortimore, 2005, p. 10–11). On some grazing land, significant improvements in management were also taking place. The value of agricultural production per km^2 increased between 1930 and 1987 by a factor of six and doubled on a per capita basis. At the same time, a rapid change in agricultural technology occurred, with a switch from an emphasis on livestock production to increasingly intensive farming, close integration of crops with livestock production, and increased marketing of higher-value commodities (such as fruit, vegetables and coffee). A social transformation also occurred, with the enthusiastic pursuit of education, giving increased access to employment opportunities outside the district and intensifying rural–urban linkages (Mortimore, 2005, p. 10–11).

Exposure to new ideas is, then, exposure to opportunity. Machakos's inhabitants were also

fortunate that the local administration was benevolent, if not supportive of their activities. This is also a key factor in the success of bright spots. It is probably not feasible to expect local administrations to be supportive in much of the developing world, given the financial constraints that this implies, as well as the political challenge that empowering constituents suggests (although, having said that, if local administrations were to empower their constituents, financial flows into the locality may increase, improving potential bribe takings). A potentially better option is to seek lack of interference.

The Nshara Furrow is a single irrigation canal located in the Hai District on Tanzania's Mount Kilimanjaro. There are some 500 furrows on Mount Kilimanjaro, some 1800 km of main channels, which, together, abstract some 200 million m^3 a year (Gillingham, 1999). The Nshara Furrow draws between 40 and 60 l of water a second from the Makoa River, depending on the volume in the river.

The furrow is 'formally' administered by the furrow chairman, who is usually drawn from the lineage of the person who originally constructed the furrow. He is chairman for life unless he gets too ill to fulfil his duties. Besides convening meetings to discuss water allocations, the chairman is also responsible for organizing work gangs to clean the channel annually. By contributing labour to these work gangs, individuals gain the right to draw water from the furrow. Once a user has drawn water, s/he cannot do so again until all other users have also drawn their share, at which point the cycle repeats itself.

This administrative system is accompanied by a series of rules. Users who fail to contribute to the furrow clean-out are punished. Others who have contributed to the clean-out will then descend on the home of the defaulter and take something, the value of which is deemed to be equivalent to a day's labour. Persistent defaulters may lose their right to water from the furrow. Most punishment in this system relates to people failing to contribute towards furrow maintenance.

The rules are also gendered. Both men and women can irrigate, but it is usually the man's responsibility to apply for water allocations and to irrigate banana and coffee plants, while women irrigate vegetables. It is considered taboo for women to maintain the furrow. Female-headed households are excluded from furrow work, unless she can send a male household member or pay for someone to do the work in her stead.

The corollaries to these formal rules are what Gillingham (1999) refers to as 'working rules'. People's circumstances along the furrow vary, and influence the amount of water that they need. For some, their plots are very small, so they do not need a full 12-hour allocation. There are those who cultivate crops only for subsistence needs, and need less water than those who sell some of their crop and who need to irrigate for more than 12 hours. As such, working rules relate to those rules that represent the manipulation of the formal rules to meet social, cultural and political variations amongst the furrow's irrigators. Those who need greater amounts of water than their allocation allows employ five different ways of securing these. The first is to 'borrow' water – someone who needs more water than their allocation allows may borrow water from someone they know who needs less. The second is to obtain additional water from another nearby furrow. The third is to buy water – here, someone who has used less water than he needs offers to sell the remainder of his allocation to someone he knows who needs more than his allocation. Because water is understood to be a 'gift from god', then it is illegal to sell it. Sellers get around this by selling their labour to the buyer, and then, if questioned, saying that the buyer is borrowing the remainder of his water allocation. It is the seller who shoulders the risk, for, if discovered, he will be punished and not the buyer. The fourth way of obtaining water is to irrigate at night when there are no water allocations. Finally, the fifth way of gaining additional water is to steal it by, for example, irrigating while it is someone else's allocation day.

> Because of the high population density and open nature of the furrows (the main diversions run parallel with pathways), who is doing what with furrow water is highly visible. This, combined with the fact that who has been allocated water on which day is common knowledge, makes stealing difficult and rare.
>
> (Gillingham, 1999, p. 435)

The option (or package of options) an individual employs to secure extra irrigation water relates to their own personal circumstances, particularly age and gender, and, to some extent, status. Thus, taking water at night is really done by young men. Older men find it easier to negotiate to borrow water because they are respected. People lending water will prioritize female-headed households. What works best when, where and for whom is also true of the bribing systems mentioned above, where bribe prices are set depending on the personal status of the individual wishing to pay the bribe.

The flexibility of these working rules, Gillingham (1999, p. 435) argues,

> is crucial to the allocative efficiency and sustainability of the irrigation system … If all furrow users were restricted to the use of their formal allocation only, the furrow irrigation system would meet the irrigation water needs of only a few furrow users.

Gillingham argues that the system is reliable because stealing is permitted neither under the formal allocation system nor under the working rules – if the system were unreliable, people would not contribute to the furrow's maintenance. Such a dynamic political system takes time to develop – the first furrows were dug on Mount Kilimanjaro in the 18th century. In lowland areas, where settlement is more recent, the climate drier, the population more scattered and social diversity much higher, then the cohesion between formal and working rules is not so great.

The key ingredient in the success of this system, Gillingham argues, is the lack of external interference; it is only in the absence of such interference that the system has been able to evolve, the formal power structure maintained, and working rules developed. Elsewhere, indeed, Njaya (2002) notes how fisheries co-management systems appear to work better in fisheries isolated from broader political systems. The key elements in this success are that local institutions can flourish and yield clear environmental benefits, while at the same time improving livelihood entitlements.

Figure 4.2 (inspired by Yapa's (1996) 'nexus of production relations of poverty') attempts to summarize some of the key variables that, by virtue of their interaction, yield bright spots. In the discussion above, we have implied that the pursuit of individual interests tends to undermine conservation-related group initiatives. Such 'free radicals' are regarded as serious problems in much of the CBNRM literature (cf. Ostrom, 1990); the logical opposite system, however, does not necessarily lend itself to effective resource
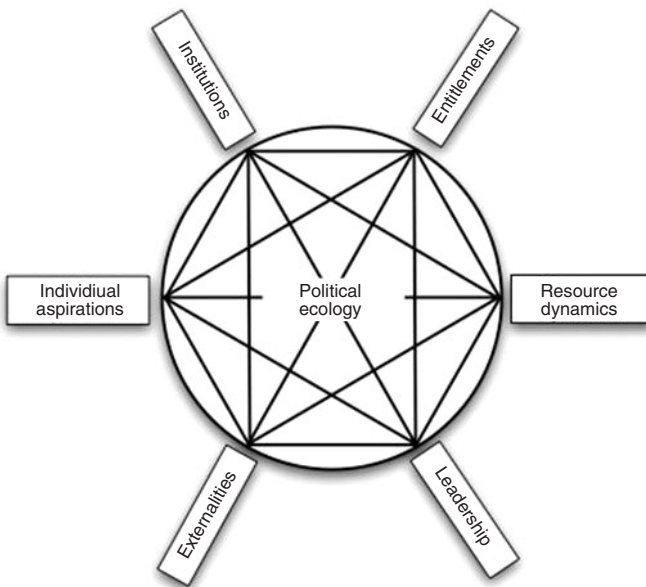

Fig. 4.2. The nexus of variables in political ecology.

management either. Management systems that insist on cooperative good over and above any other individual expression have not proved effective in the former Soviet Union and other Eastern Bloc countries. '[A] central problem of environmental management', write Oye and Maxwell (1995, p. 191), 'is to establish systems of regulation and compensation that brings [sic] about a convergence of narrow self-interest and common good.' The successful bright spot manages to achieve convergence between such narrow self-interest and the common good, in which institutional (common) interests dampen individual ones, but without abolishing them altogether. Within a political ecology framework, institutional interest represents an opportunity for individual interest. The point is that no system benefits from the absence of either of these variables, nor does it benefit from the dominance of one variable over the other. It does, however, benefit if there is a balance between the two, determined by localized conditions, and the ends that the system seeks to gain.

How these variables play out will depend on the relationships with other variables. Hence, the strength of entitlements could, for example, negate the need for an inspirational leader because people are able to perceive opportunity, seize it and adapt it to local conditions; in turn, space might be created for a good leader, simply because external factors intervene to undermine entitlements and/or common initiative. Such a leader may well be better versed in dealing with foreigners, or understand how best to bribe and persuade latitude from local authorities. In many respects, communities will be confronted more or less continuously with pressures external to them. Accomplished leaders can view these kinds of pressures as opportunities for positive change, seeking to improve on a community's ability to respond to these, absorb them and bounce back from negative pressures

This process is one of empowerment. 'Empowerment' refers to

> a process which enhances the ability of disadvantaged ('powerless') individuals or groups to challenge and change (in their favor) existing power relationships that place them in subordinate economic, social, and political positions.
>
> (Meinzen-Dick *et al.*, 1997, p. 11)

This is a very clear definition of empowerment, but in development circles the term has become banalized, and the focus continues to be on investments that generate income-making opportunities rather than the right to exploit these. Such opportunities have no meaning if beneficiaries are too powerless to take advantage of them. In the examples above, we have seen how a local authority, confronted by a lack of options, returned a forest back to its inhabitants with spectacular results; we have considered how exposure to external ideas can help communities to configure these to improve localized problems; we have seen how a local pastoralist community's livelihood has been improved as a consequence of effective guidance and leadership; and, finally, we have seen how local-level institutions have successfully managed an irrigation furrow in the absence of external interference. All of these case studies suggest considerable empowerment, whether *de facto* or *de jure*, and show how small-scale communities in developing countries can flourish provided they are given the political latitude to do so.

Conclusion

This chapter has argued that a convergence is required between the various facets of entitlements that, together, can empower people; key amongst these has been the creation of conditions that not only allow communities to seize socio-political opportunities but also to understand that they have the right to do so. Earlier in this chapter, we showed how external political interests can and often do interfere with localized resource management in such a way that not only keeps communities powerless but also seriously undermines resources bases.

This chapter has paid particular attention to corrupt resource management. This is purposeful, first because it is such a common form of resource management in the developing world; secondly, because it represents a powerful method around which political ecologies can be explored; and finally, because corruption focuses on the administrative structure as a power resource that can be bought and sold rather than on the natural resource itself. Under this scenario, administrative systems designed to manage resources are in fact being used as a means for brokering and trading

power, while resource management is neglected. The challenge then is to discover ways in which individual aspirations up and down the chain of explanation can be modified so that resources-conserving outcomes can be achieved at the same time as the income and political ends to which the management system is being put. Corruption is not good for resources; it is also an extremely common practice. In many respects, therefore, it makes no sense to be dismissive of corruption, to pretend that it does not exist, or to simply attempt to excise it from administrative systems. An analysis of political relationships lays bare how these systems work and how, potentially, they can be turned around into beneficial power relationships and to yield the bright spots that this volume addresses.

In the final section of this chapter, we explored a number of bright spots examples, which typified how their development is very much a political process. The take-home message here is that environments and the resources they contain are more or less completely integrated into social processes (echoing a long-running discussion in political ecology that resources are 'socially created'); their use – and, therefore, conservation – depends on these processes. Societal systems that can withstand resource and external variations, and which can turn these around to their own advantage, are the resilient systems that Gordon and Enfors consider elsewhere in this volume, able to withstand shocks (such as drought, floods or warfare) or stresses (more insidious processes, such as corrupt systems, creeping land degradation or a slow loss of biodiversity). Resource management is not about managing individual resources but about managing people.

References

Abrahams, R. (1987) Sungusungu: village vigilante groups in Tanzania. *African Affairs* 86, 179–196.

Abrahams, R. (1989) Law and order and the state in the Nyamwezi and Sukuma area of Tanzania. *Africa* 59 (3), 356–370.

Adams, W. (2001) *Green Development: Environment and Sustainability in the Third World.* Second Edition. Routledge, London.

Alderman, H., Hoddinott, J., Haddad, L. and Udry, C. (2003) Gender differentials in farm productivity: implications for household efficiency and agricultural policy. In: Quisumbing, A. (ed.) *Household Decisions, Gender, and Development: a Synthesis of Recent Research.* International Food Policy Research Institute, Washington, DC, pp. 61–66.

Bassett, T.J. (1988) The political ecology of peasant-herder conflicts in northern Ivory Coast. *Annals of the Association of American Geographers* 78 (3), 453–472.

Bebbington, A.J. and Batterbury, S.P.J. (2001) Transnational livelihoods and landscapes: political ecologies of globalization. *Ecumene* 8 (4), 369–380.

Blakie, P. and Brookfield, H. (1987) *Land Degradation and Society.* Methuen, London.

Bryant, R.L. and Bailey, S. (1997). *Third World Political Ecology.* Routledge, London.

Bukurura, S.H. (1996) Combating crime among the Sukuma and Nyamwezi of west-central Tanzania. *Crime, Law and Social Change* 24 (3), 257–266.

Campbell, J., Mwami, J. and Ntukula, M. (1995) Urban social organization: an exploration of kinship, social networks, gender relations and household and community in Dar es Salaam. In: Creighton, C. and Omari, C.K. (eds) *Gender, Family and Household in Tanzania.* Avebury Publishing, Aldershot, UK, pp. 221–252.

Chabal, P. and Daloz, J.-P. (1999) *Africa Works: Disorder as Political Instrument.* International African Institute in Association with James Currey, Oxford, UK.

Chambers, R., Longhurst, R. and Pacey, A. (1981) *Seasonal Dimensions to Rural Poverty.* Frances Pinter (Publishers) Ltd., London.

Ellis, F. (2000) *Rural Livelihoods and Diversity in Developing Countries.* Oxford University Press. Oxford, UK.

Gillingham, M.E. (1999) Gaining access to water: formal and working rules of indigenous irrigation management on Mount Kilimanjaro, Tanzania. *Natural Resources Journal* 39 (3), 419–441.

Griffin, K. (2003) Economic globalization and institutions of global governance. *Development and Change* 34 (5), 789–807.

Guyer, J. (1981) Household and community in African studies. *African Studies Review* 24 (2/3), 87–137.

Hart, G. (1995) Gender and household dynamics: recent theories and their implication. In: Quibria, M.G. (ed.) *Critical Issues in Asian Development: Theories, Experiences and Policies*. Oxford University Press, Oxford, UK, pp. 39–74.

Hoodfar, H. (1988) Household budgeting and financial management in a lower-income Cairo neighborhood. In: Dwyer, D. and Bruce, J. (eds) *A Home Divided: Women and Income in the Third World*. Stanford University Press, Stanford, California, pp. 120–142.

Johnston, P. (2004) Timber booms, state busts: the political economy of Liberian timber. *Review of African Political Economy* 101, 441–456.

Kalloch, S. (2002) The fishing industry and household economics on Lake Victoria. In: Geheb, K. (ed.) Report of the LVFRP Nutrition Survey. LVFRP Technical Document No. 18. Socio-economic Data Working Group of the Lake Victoria Fisheries Research Project, Jinja (Uganda), pp. 90–158.

Leach, M., Mearns, R. and Scoones, I. (1997) Challenges to community-based sustainable development: dynamics, entitlements, institutions. *IDS Bulletin* 28 (4), 4–14.

Le Billon, P. (2001) The political ecology of war: natural resources and armed conflicts. *Political Geography* 20, 561–584.

Le Billon, P. (2002) Logging in muddy waters: the politics of forest exploitation in Cambodia *Critical Asian Studies* 34 (4), 563–586.

McGee, T. (1979) The poverty syndrome: making out in a Southeast Asian City. In: Bromley, J. and Gerry, C. (eds) *Casual Work and Poverty in Southeast Asian Cities.* John Wiley and Sons, Chichester, UK, pp. 45–68.

Mearns, R. (1995) Institutions and natural resource management: access to and control over woodfuel in East Africa. In: Binns, T. (ed.) *People and Environment in Africa*. John Wiley and Sons, London, pp. 103–114.

Meinzen-Dick, R., Brown, L.R., Sims Feldstein, H. and Quisumbing, A.R. (1997) Gender, property rights and natural resources. FCND Discussion Paper No. 29. Food Consumption and Nutrition Division, International Food Policy Research Institute, Washington, DC.

Mortimore, M. (2005) Dryland development: success stories from West Africa. *Environment* 47 (1), 8–21.

Njaya, F. (2002) Fisheries co-management programs in Malawi: comparative case study for lakes Malombe, Chilwa and Chiuta. In: Geheb, K. and Sarch, M.-T. (eds) *Africa's Inland Fisheries: the Management Challenge*. Fountain Publishers Ltd, Kampala, Uganda, pp. 9–30.

North, D. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge University Press, Cambridge, UK.

Olivier de Sardan, J.P. (1999) A moral economy of corruption in Africa? *The Journal of Modern African Studies* 37 (1), 25–52.

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

Ostrom, E. (1997) A behavioral approach to the rational-choice theory of collective action. *American Political Science Review* 92 (1), 1–22.

Oye, K.A. and Maxwell, J.H. (1995) Self-interest and environmental management. In: Keohane, R.O. and Ostrom, E. (eds) *Local Commons and Global Interdependence: Heterogeneity and Cooperation in Two Domains*. Sage Publications, London, pp. 191–221.

Reno, W. (1998) *Warlord Politics and African States*. Lynne Rienner, Boulder, Colorado.

Richards, P. (1996) *Fighting for the Rain Forest: War, Youth and Resources in Sierra Leone*. International African Institute in Association with James Currey, Oxford, UK.

Robbins, P. (2000) The rotten institution: corruption in natural resource management. *Political Geography* 19, 423–443.

Sen, A. (1981) *Poverty and Famines: an Essay on Entitlement and Deprivation.* Clarendon Press, Oxford, UK.

Smith, J., Obidzinski, K., Subarudi and Suramenggala, I. (2003) Illegal logging, collusive corruption and fragmented, governments in Kalimantan, Indonesia. *International Forestry Review* 5 (3), 293–302.

Smith, L.C., Ramakrishnan, U., Ndiaye, A., Haddad, L. and Martorell, R. (2003) The importance of women's status for child nutrition in developing countries. In: Quisumbing, A.R. (ed.) *Household Decisions, Gender, and Development: a Synthesis of Recent Research*. International Food Policy Research Institute, Washington, DC, pp. 41–50.

Swallow, B., Leimona, B., Yatich, T., Velarde, S.J. and Puttaswamaiah, S. (2007) The conditions for effective mechanisms of compensation and rewards for environmental services: CES Scoping Study, Issue Paper No. 3. ICRAF Working Paper no. 38. World Agroforestry Centre, Nairobi, Kenya.

Tiffen, M., Mortimore, M. and Gichuki, F. (1994) *More People, Less Erosion: Environmental Recovery in Kenya*. Wiley, London.

Watkin, J.R. (2003) The evolution of eco-tourism in East Africa: from an idea to an industry. Wildlife and Development Series No.15. International Institute for Environment and Development, London.

Wilson, J.A. (1982) The economical management of multispecies fisheries. *Land Economics* 58 (4), 417–434.

Wily, L. (1999) Moving forward in African community forestry: trading power, not use rights. *Society & Natural Resources* 12, 49–61.

Yapa, L. (1996) What causes poverty? A postmodern view. *Annals of the Association of American Geographers* 86 (4), 707–728.