
Resource Conflict in Semi-Arid Africa

An Essay and Annotated Bibliography

Roger Blench



Overseas Development Institute

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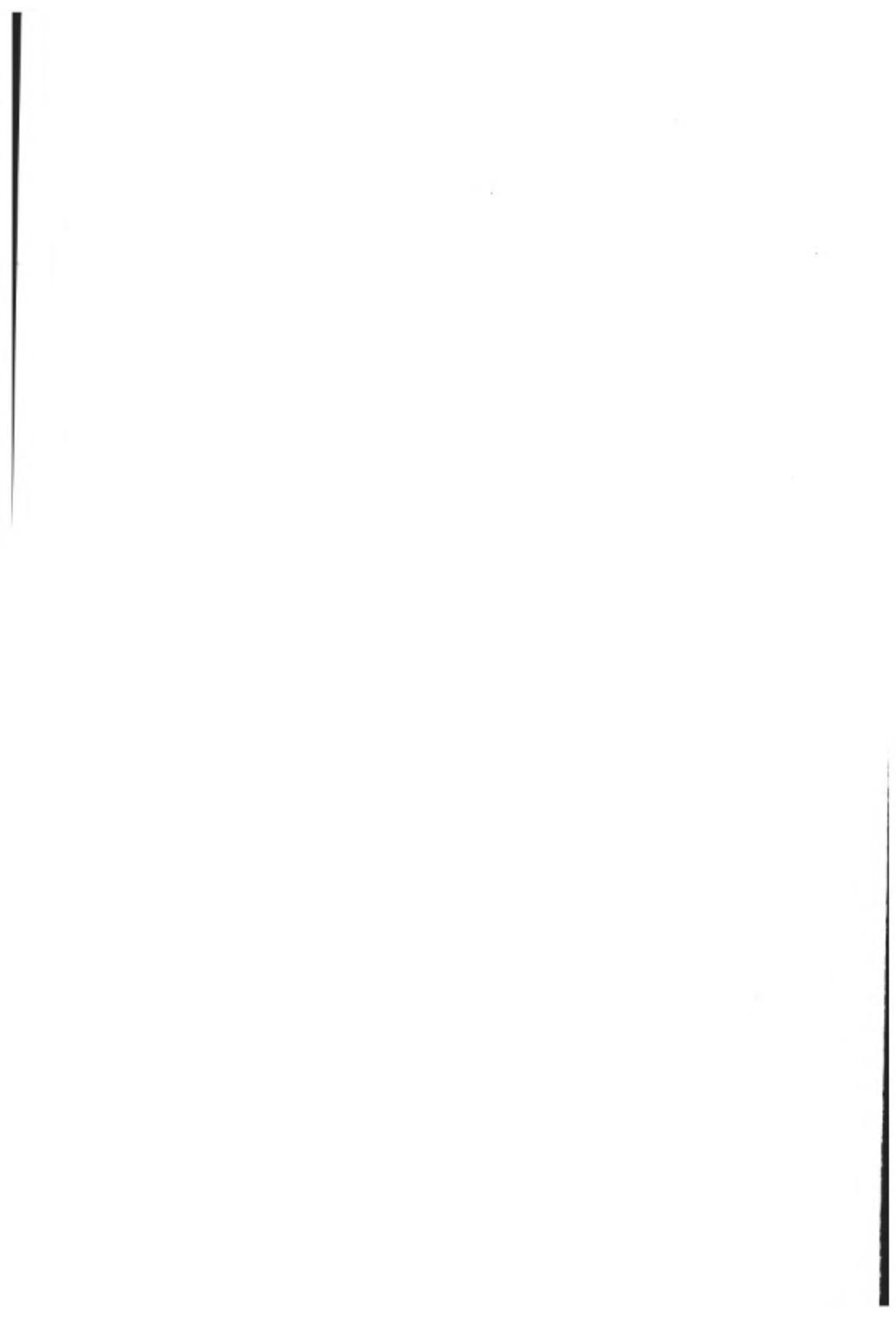
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Roger Blench - Northeast Africa
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ODI Research Study

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Acronyms

| | |
|----------|---|
| ADMADÉ | Administrative Management Design for Game Management Areas |
| AGRITEX | Agriculture and Technical Extension |
| CAMPFIRE | Communal Area Management Programme for Indigenous Resources |
| CABO-DLO | Centre for Agrobiological Research |
| CASS | Centre for Applied Social Sciences |
| CBO | Community-based Organisation |
| CEGET | Centre d'Études de Géographie Tropicale |
| CPR | Common Property Rights |
| CORD | Centre for Community Organisation Research and Development |
| ESPR | Etude Sur Les Systèmes de Productions Rurales |
| FAO | Food and Agriculture Organisation |
| ILCA | International Livestock Centre for Africa |
| ICDP | Integrated Conservation-Development Project |
| IFAD | International Fund for Agricultural Development |
| IGO | Inter-Governmental Organisation |
| ITDG | Intermediate Technology Development Group |
| IUCN | International Union for the Conservation of Nature |
| NGO | Non-Governmental Organisation |
| NCA | Ngorongoro Conservation Area |
| NRI | Natural Resources Institute |
| ODEM | Opération de Développement de l'Élevage dans la région de Mopti |
| ORSTOM | Organisation de Recherches Scientifiques de l'Outremer |
| RDP | Rangelands Development Project |
| RIM | Resource Inventory and Management |
| SADC | Southern African Development Corporation |
| SARDC | Southern African Regional Development Corporation |
| SODEPRA | Société de Développement de la Production Animale |
| SPLA | Sudanese Peoples Liberation Army |
| VIDCO | Village Development Committee |
| WMA | Wildlife Management |

1

Introduction

Development projects that concentrate on particular natural resource sectors (forestry, livestock, water etc.) have frequently had an unhappy history, in part because they have often not taken into account the interests of other sectors. There is no virtue in increasing a water resource if the effect is to attract greater numbers of livestock and thus accelerate erosion. Trying to manage a pasture resource in a zone of agricultural expansion can be like making water flow uphill. Establishing national parks and increasing wildlife numbers often increases crop damage and prevents pastoralists making use of established resources.

Suggesting that developers be aware of inter-sectoral linkages is nothing new. However, highlighting conflict in preparatory documents can sometimes be tactless. Yet to be aware of the nature, causes and potential results of such conflicts must be part of successful development planning. Another aspect of this is cross-border movement: pastoralists and fishermen have a habit of traversing borders in pursuit of fish or pasture, often following pre-colonial patterns. Development projects usually stop at national frontiers and taking into account this type of mobility may excite political objections.

Semi-arid Africa has a poor record of successful development projects in part because of this type of competition. When resources are short and populations live on the edge, as it were, minor deficits in rainfall, pasture etc. can often have major consequences. Appended to this paper is an annotated and descriptive bibliography focusing on some of the more important literature on the subject published in recent years. This essay draws on this body of research and is therefore not referenced in detail.

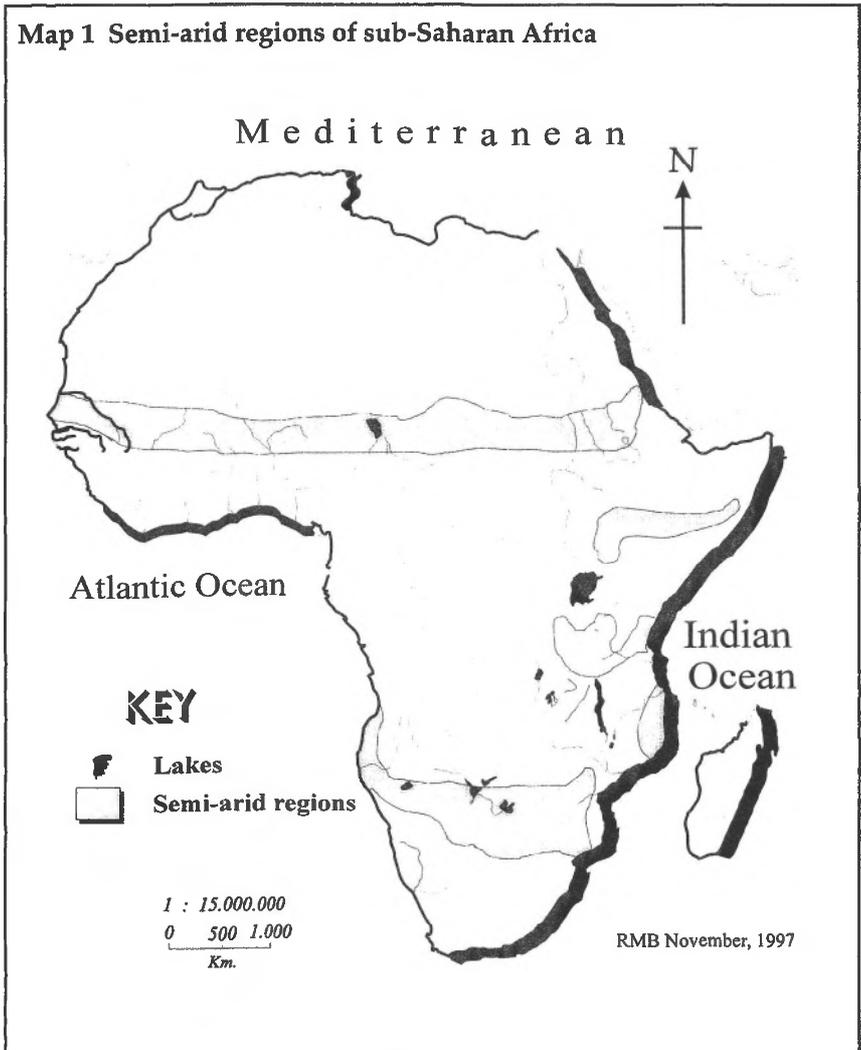
Geographical scope

This paper concerns all of semi-arid sub-Saharan Africa, i.e. regions where the rainfall is between 800mm and 400mm (Map 1).¹ Resource conflicts do not of course fit into neat ecological boxes and references dealing with matters outside this zone have been included where they seem to be germane to the points illustrated. Indeed there is some argument for

1. The definition of semi-arid varies from one text to another. In some NRI documents the upper limit is given as high as 1,200mm.

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supposing that resource conflicts may be more prevalent on the edges of ecozones, where groups with very different expectations come into contact. This is particularly the case in grassy uplands, where the low incidence of disease (both human and animal) and higher rainfall has historic all attracted greater densities of both pastoralists and cultivators.



2

Categories of conflict

A survey of the literature on this topic suggests that the major arenas of conflict are:

- pastoralists/livestock producers against cultivators
- fishing peoples/hunter-gatherers opposed to both pastoralists and cultivators
- large-scale agriculture against traditional land users
- forest/wildlife reserves against traditional land users
- rural populations opposed to industrial enterprises, especially mining
- rural populations opposed to large infrastructural projects such as dams
- rural populations opposed to tourism/wildlife interests
- urban resource users extracting rural resources such as water and woodfuel
- industrial/urban uses of coastal waters versus small-scale marine resource exploitation

Of these, the conflict between livestock producers and cultivators is dominant both geographically and in the literature. This is principally because it occurs throughout the semi-arid zone. Other sources of conflict may be locally important but they are essentially tied to point enterprises, such as mines, game parks or infrastructure projects. Mines are limited in scope and large-scale farms are not common in the semi-arid regions except in Southern Africa. Conflicts between inland fishermen and cultivators seem to be less common, in part because their resource spheres are often not directly in contact. Moreover, some types of agriculture can actually encourage fish populations. However, in coastal waters the situation is often more problematic as semi-industrial fishing conducted via national government licensing is often conducted by outside fleets. The rise of tourism and the growth of the wildlife and ecology lobby in Eastern and Southern Africa has become a very fraught issue in recent times, especially in regions where there is high pressure on arable land.

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A historic conflict that must have been replayed numerous times in the region of Eastern and Southern Africa is that between the indigenous hunting-gathering populations and the incoming pastoral/agricultural populations, both African and later European. The battle was somewhat uneven and Khoisan speakers have simply been physically eliminated from vast swathes of their former territory. Those that remain are either settled or move about in areas so remote that there is little competition for their isolated terrain. Recently, there have been moves by some groups to reclaim hunting rights in some of the game parks of Southern Africa and Tanzania. This may become an issue in the next century, as it already is in North America and parts of Siberia.

In a topic so diverse and all-embracing there are important differences in style between authors, reflecting date, political orientation and purpose of writing. This is fashionably analysed in some more recent references with the vocabulary of post-modern terminology. Narratives, discourse and contesting histories all make their appearance sometimes to the detriment of a clear description of the object being analysed. This is particularly a feature of academic writing and is largely absent from the work of journalists and authors, producing more practical documents such as project preparation reports. It will similarly be eschewed here.

Pastoralists and farmers versus the nation-state

Changing social structure

An aspect of the colonial and post-colonial era that is certainly relevant to conflict in the pastoral areas is changing social structure and a breakdown in the acceptance of former hierarchical relations. Just as in the West, special interest groups increasingly challenge the process whereby the governments of nation-states make decisions for them, so sections of society at the bottom of the social pyramid in Africa have begun similarly to assert their rights.

This is particularly relevant to the slave-based or caste Islamic societies of West-Central Africa. All across the semi-arid zone, pastoralist societies such as the Moors, the Tamachek and some Fulbe groups depended heavily on slave labour in the pre-colonial period. After the colonial conquest, slaves were given their freedom legally, although it was realised that freedom was often a lengthy process. However, as groups such as the Haratin (Moors) and Bella (Tamachek) moved away from their former masters, while retaining both their language and lifestyle, resentment at their former status surfaced.

In more subtle ways, authority systems that depended on farmers being subservient to pastoralists gradually collapsed in the post-colonial era. For example, in Nigeria, many non-Muslim populations were placed under a local juridical system controlled by the Hausa/Fulani during the colonial period. Court cases between herders and farmers tended almost invariably to be decided in favour of herders. However, after independence, farmers began gradually to take control of local authorities and thus judicial systems and their own appointees made decisions in courts. The result has often been a reversal of the previous bias.

In the case of seasonal pastoral migrations, committees were established throughout Anglophone West Africa to ensure that established cattle routes were respected by both farmers and pastoralists. These committees functioned into the early years of independence, but have now been largely disbanded. Many years of seasonal migration of cattle herds have created fertile north-south swathes. Declining soil fertility in many regions has made these attractive places to farm, outweighing the dangers of possible conflict. Farmers have also been emboldened by taking control of the local or regional administration in many areas.

Changing ecozone

Another related aspect of colonialism was the suppression of chronic warfare. In West-Central Africa, chronic raiding, especially from the Muslim states of the savannah, had the effect of driving large populations into refuge areas, especially into hills and inselbergs. One consequence has been the formation of dense populations in regions such as the Atakora mountains in Togo and Benin and the Mandara in Cameroun.¹ Hill agriculture is picturesque and involves considerable labour investment. Montane populations have not generally left their terraces lightly. In the colonial period, the authorities actively encouraged and sometimes forced populations to descend to the plains so that they might be more accessible for taxes and administration and could thus be pressurized into cash-cropping. This strategy met with considerable resistance and was only partially successful. Moreover, the consequent disrepair of montane terracing would now be regarded as a very environmentally unsound policy.

In a terrifying parody of this policy, the Ethiopian government in the 1980s decided that the solution to overpopulation in the highlands was the forcible movement of whole communities to the lowland plains. However, the lowlands surrounding Ethiopia were virtually devoid of farmers for good reason – the intra-annual distribution of rainfall was such that rainfed subsistence farming was nearly impossible. As a result, resistance by the populations affected led to violent conflict and later heavy mortality among those moved to sites almost totally unsuitable for agriculture.

Nonetheless, as a consequence of greater security and rising access to infrastructure, a move to the plains all across West-Central Africa has gradually been stimulated. In the years since the 1960s, many small hill-settlements have been deserted. The result has been a dramatic change in farming systems, usually from intensive cultivation with elaborate soil and water conservation to either shifting cultivation or low-density rainfed cultivation. Such a move inevitably compelled the new plains farmers in developing tenure in an area where they had no rights. In some cases there were farmers already on the plains whereas elsewhere hill-farmers began to farm in rangelands claimed by pastoralists.

1. The historical literature encompasses considerable discussion as to the antiquity of these montane populations. Certainly there has always been a low-density scatter in the mountains. However, it does seem that the intense exploitation of the inselbergs was a response to organised mounted raiders.

Although clear cases of the descent of hill-farmers have been documented historically in West Africa, this process seems to have occurred in Eastern and Southern Africa in the pre-colonial era. In North East Zimbabwe, for example, the Nyanga area is dense with terraces and irrigation channels, suggesting that the population was once more numerous and practised a more intensive agriculture. However, the terraces seem to have been deserted before the coming of Europeans, perhaps in the conflict with Ngoni in the early nineteenth century. Similar irrigation systems have been recorded in rocky outcrops in Kenya and Tanzania, often in disrepair prior to European contact.

This is one rather clear example of a more general principle: that dramatic shifts in economic and security systems can lead to different ecozones becoming more attractive to farmers. For example, the demographic literature on West-Central Africa often refers to the 'underpopulated' Middle Belt, corresponding to the subhumid zone. Demographic syntheses undertaken earlier in the century seem to show this phenomenon, representing concentrations of settlement in the humid and semi-arid zones. Exhaustion of soils elsewhere and the rise of cultivation techniques that can compensate for the low yields in the subhumid zone have attracted farmers, creating competition for a resource that was formerly disdained.

Conflict between pastoralists

An older type of Marxist influenced ethnography assumed that intergroup conflict between pastoralists must have a strictly economic interpretation, cattle-owners competing for pasture. However, it has become clear that conflict between pastoral groups, for example between the Pokot and Turkana in Northern Kenya, can act to close off pastures. The ethnography shows that chronic insecurity from livestock raiding has the effect of deterring herders from exploiting pastures that are not easily defensible. The purpose of raiding seems to be less to do with economics than with the maintenance of group solidarity and mechanisms of prestige. The result, however, is often patchy overgrazing, as pastoralists are compelled to stay within a confined region too small to support their herds.

Large infrastructure projects

A striking change in perspective during the decades since the 1960s is the gradual disillusionment with large infrastructure projects. Projects such as the Aswan and Kariba dams went ahead with scarcely any voices of

dissent. Very little was known about the ecological effects of such projects and the opinions of existing populations were either not taken into account, or if they were considered it was somehow assumed they would be in favour of 'progress'.

Neither of these assumptions, the beneficial effects on agriculture and ecology and the assent of the indigenous populations, have been justified by subsequent history. So much damage has resulted from similar dams worldwide that large multilateral lending organisations have virtually ceased lending on these projects, partly in response to widespread public concern. However, the conviction of Western ecologists is not entirely shared by the governments of developing countries, as the issue of the Three Gorges Dam in China illustrates all too graphically. On a smaller scale, wealthier African governments have not entirely discarded the association of dams and progress, witness the example of the Kafin Zaki dam in Northern Nigeria.

Dams are not the only projects of this type. The Jonglei Canal in Sudan is an example of a large infrastructure project that has remained alluring despite being entirely wrongheaded both ecologically and socially. Fortunately, in this case, insecurity from the war in Southern Sudan has halted almost all progress.

Reserves

The tradition of reserved areas of wild land is not a new concept within African culture. Reserved forests, retained for either hunting or the gathering of non-timber products and usually surrounded by spiritual sanctions, seem to have been common prior to the colonial era. Such 'sacred groves' have sometimes survived into the present, but they are often threatened by arable expansion and a changing socio-economic context that makes the cultural prohibitions ineffective against, say, the advance of charcoal burners or urban hunters with high-powered rifles.

In the colonial era, a policy was established of creating forest reserves, usually reserved areas where the rights of indigenous populations to hunt, cut wood or graze their livestock were severely limited. In most cases these were simply declared through the expedient of putting up notices, but a legal process of gazetting was established, and in both the Anglophone and Francophone territories numerous small reserves were eventually mapped. It is interesting that in the earliest agreements of this type, at least in Ghana, considerable account was taken of the needs of local populations and their rights to non-timber forest products were clearly spelled out. Recast in modern terminology this closely resembles participatory

management. Later in the colonial era, policing strategies came to predominate and all access by adjacent populations was simply excluded.

The modern notion of Game Reserves seems to post-date the Second World War, since prior to that large mammals were perceived to be so abundant that conservation measures were unnecessary. Large game parks with sporadically effective policing are very much a feature of the Eastern and Southern African region. Game parks in West-Central Africa have never been so large, numerous or effective. This results from a much greater density of tourism in Eastern and Southern Africa, even from an early period, matching the higher proportion of true colonists.

Needless to say, in the colonial era, forest and game reserves were established largely without the consent of, or even in discussion with, local people. This may not have been as problematic as it would be today, in part because reserves were usually established where there were few or no settlements, to avoid the financial and administrative costs of moving out whole villages, and because the lack of effective policing meant that hunting, gathering and grazing continued, largely unaffected by wooden signboards.

However, as human populations have increased, these issues have become more fraught. The major reasons are:

- Changing perceptions of conservation now suggest that categories of environment and species other than large mammals deserve protection.
- The globalisation of markets in products such as ivory and rhino horn make poaching an increasingly attractive option.
- Increased arable farming, grazing and charcoal production cause the value of reserved land to rise.
- Communities have become more self-conscious and aware of their rights.

Within nation-states there is often a conflict between the value-system of local communities, who may favour some type of conservation option for reserved areas to protect their future resources, and individuals or sections of the state from beyond their boundaries, who may seek to exploit a resource for immediate gain.

For all these reasons, development projects with a conservation element have begun to try and co-evolve strategies with local communities. It is certainly true that without the co-operation and active involvement of local communities no conservation project has a chance unless the state is willing to expend heavy resources on policing. However, involving local

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communities is also not simple. There is, for example, no guarantee that any type of pre-existing culturally-sanctioned conservation ethos is present. Nomadic pastoralists, for example, who depend on moving once they have used or overused a region of pasture, do not overnight become range managers. Agricultural peoples used to cutting trees freely may not immediately see why they should rein in this activity when the trees appear to still be numerous.

Apart from this, the 'community' can prove to be an elusive entity. This has proved problematic in the long, fraught sagas of returning profits from wildlife reserves back to a community which has agreed to cease hunting or gathering in a reserve. Many reports highlight either long delays in returning revenue, payments to inappropriate interest groups, or the disappearance of funds. Unless systems of more direct revenue return can be devised, this problem effectively sabotages schemes, no matter how well designed, for involving the community in wildlife and environmental management.

Semi-arid regions, because they tend to support patchy resources, also usually have dispersed human populations. Either these move in search of resources that vary annually, such as fish or pasture, or they adapt cultivation to varying conditions of soil fertility and rainfall. Either way, flexibility is a key element in subsistence strategies, often at the expense of coherent communities. In the same way, patchy resources imply intentionally ambiguous tenure systems that allow multiple claims. Wetland areas of West-Central Africa represent a particularly evolved example of such multiple claims on common property resources.

Farmers versus farms

The clearing and persistence of large-scale farms and ranches in West Africa has never created a major problem of resource conflicts, if only because such enterprises have little or no history of long-term sustainability. The absence of true colonies and high population densities, as well as a well-organised traditional agricultural sector, have made these enterprises less than viable.

However, in Eastern and Southern Africa, the process of colonisation was accompanied by a major alienation of land from African smallholders, especially in Kenya, Zimbabwe and South Africa. Subsequent to this process, to which the indigenous populations have adapted, there has been the implementation of large agricultural schemes. In Ethiopia, extensive tractorised farms were established during the period of the civil war to produce food to export in order to pay for arms. In Tanzania, the government established large-scale wheat farms with the assistance of the

Canadian government. These have displaced considerable numbers of pastoralists whose case has been taken up by various international organisations. It may well prove hard for African governments to persist with this type of enterprise in the face of active opposition from local populations. Nonetheless, as the slow process of land reform in Zimbabwe and Namibia has shown, once large farms are established the revenue and benefits from food production often make governments unwilling to dismantle them, despite rhetoric to this effect.

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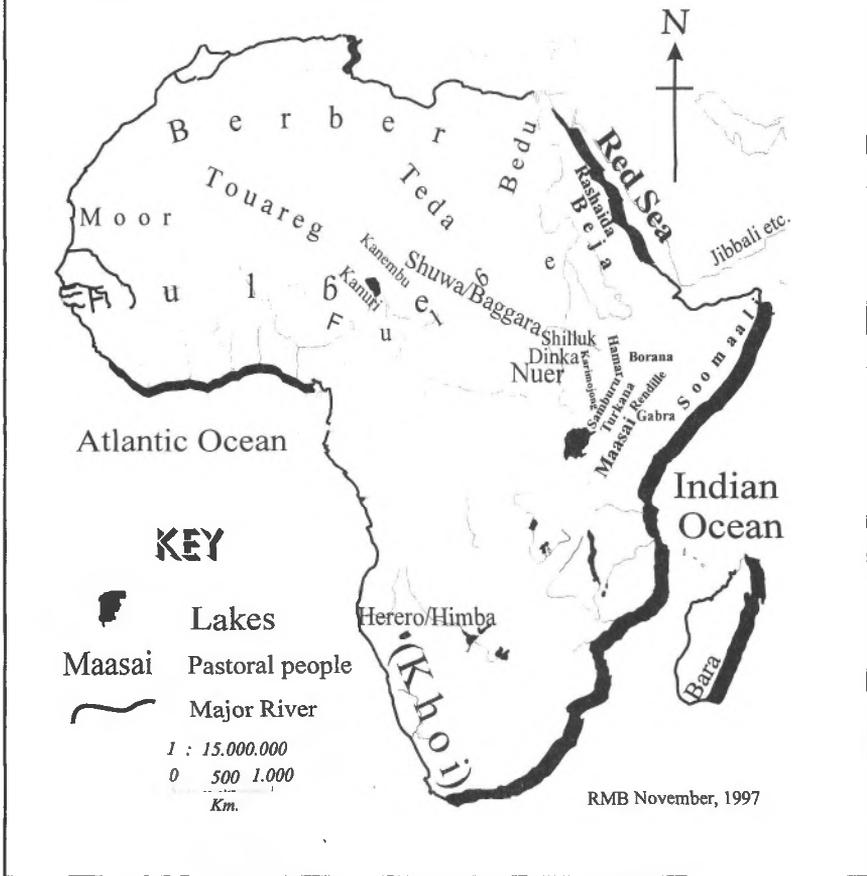
The East–West dichotomy in Africa

Analysing the literature on resource conflict in relation to livestock producers suggests a sharp division between two regions of Africa, corresponding crudely to West/Central and East/South. The source of this division is the distribution of occupationally specialised pastoralists. A pastoral zone stretches from Senegambia to the Horn of Africa and to the borders of Tanzania, occupied by peoples who are usually ethnically distinct and tend to be specialised pastoralists (Map 2). Although there are numerous livestock producers south of this line, often with large herds or flocks, they are almost always cultivators who also keep animals. Non-arable regions such as the Kalahari desert were occupied by hunter-gatherers in pre-colonial times and still are in some cases. Khoi pastoralists formerly ranged across Namibia and the whole of the western side of semi-arid South Africa, but this life-style has now vanished irrecoverably.

Other maps of African pastoralists use a rather more inclusive definition than here. The Bantu-speaking cattle-owners of Southern Africa, such as the Kgalagadi of Botswana, are often marked. However, once cattle-ownership becomes a criterion then most of the peoples of semi-arid Africa might be included.

The map makes clear that apart from the Herero/Himba, there are today no occupationally specialised pastoralists south of central Tanzania, despite a semi-arid ecology and relatively low population densities through much of the region. The consequences of this are significant. Livestock producers are usually of the same ethnic group as the farmers they herd around. They tend to be the richer members of those communities. As a result, they have not developed the specialised sub-forms of pastoralism characteristic of the pastoral zone. There are no camel or sheep herders, for example. In addition, dairying does not form a major element in the culture of Eastern and Southern Africa and herders do not depend on the exchange of dairy products for cereals for subsistence. This acts to defuse two of the major sources of conflict in West–Central region: religious differentiation and contrasting ethnic/cultural attitudes. In West Africa proper, pastoralists tend to be Muslims, like many populations with whom they interact. Even where they are not adherents of a different religion, the pastoral culture of groups such as the Maasai contrasts sharply with the neighbouring farmers.

Map 2 Pastoral peoples of Africa



Summarising the diversity and complexity of the pastoral peoples of Africa is clearly a task for the unwary. Apart from the known diversity of many groups, there is a problem of a weak descriptive literature, especially in the Ethiopia/Sudan borderland. It can be evident from an anthropological monograph that a given people are interested in cattle, but it is often very unclear whether they can be described as pastoralists. With large complex groups, such as the Somali, Kanuri or Fulbe, there is the additional problem of the status of the diverse subgroups. With this in mind Table 1 presents a synoptic classification of Africa's present-day pastoral peoples. They are organised by language for reference purposes, but this

Table 1 Pastoral Peoples of Sub-Saharan Africa

| <i>Phylum</i> | <i>Branch</i> | <i>Language</i> | <i>Group</i> | <i>Location</i> | <i>Main Pastoral Species</i> | |
|---------------------|---------------|-----------------|-------------------|--------------------------|------------------------------|--------------------|
| Afro-asiatic | | | | | | |
| | Omotic | Hamar | Hamar | S.W. Ethiopia | Cattle, sheep, goats | |
| | Cushitic | Bedauye | Beja | E. Sudan | Camels | |
| | | Somaali | Somaali | Somalia | Camels | |
| | | Afar | Afar | Somalia/ Djibouti | Camels | |
| | | Borana | Borana | Ethiopia/ Kenya | Cattle, sheep, goats | |
| | | Rendille | Rendille | Kenya | Camels, sheep, goats | |
| | | Gabra | Gabra | Kenya | Camels | |
| | Chadic | Yedina | Yedina | Lake Chad | Cattle | |
| | Berber | Tama-sheq | Touareg | Central Sahara | Camels | |
| | Semitic | Arabic | Baggara/ Shuwa | N.E. Nigeria to Sudan | Cattle, sheep, goats | |
| | | | Uled Suliman | Lake Chad region | Camels | |
| | | | Moors | Mauretania | Camels | |
| Nilo-Saharan | | | | | | |
| | Saharan | Kanuri | | W. & N. of Lake Chad | Cattle, camels | |
| | | | Kanembu | Kuburi, Sugurti | N.E. Borno/ Niger | Cattle |
| | | | Teda/ Daza | Teda (Tubu) | Nigeria/ Niger/Chad | Camels, donkeys |
| | | | Zaghawa | | Chad/ Sudan | Cattle, camels |

| <i>Phylum</i> | <i>Branch</i> | <i>Language</i> | <i>Group</i> | <i>Location</i> | <i>Main Pastoral Species</i> |
|-----------------------------|-----------------|-----------------|------------------|-----------------------|------------------------------|
| Nilo-Saharan (cont.) | | | | | |
| | E. Sudanic | | | | |
| | Nilotic | Maa | Maasai | Kenya/ Tanzania | Cattle |
| | | il-Camus | Samburu | N. Kenya | Cattle |
| | | Turkana | Turkana | N. Kenya | Cattle |
| | | Karimo- jong | Karimo- jong | N.E. Uganda | Cattle |
| | | Jie | Jie | N.E. Uganda | Cattle |
| | | Shilluk | Shilluk | S. Sudan | Cattle |
| | | Anywak | Anywak | S. Sudan/ Ethiopia | Cattle |
| | | Dinka | Dinka | S. Sudan | Cattle |
| | | Nuer | Nuer | S. Sudan | Cattle |
| | | Atuot | Atuot | S. Sudan | Cattle |
| | Surmic | Didinga | Didinga | S. Sudan | Cattle |
| | | Murle | Murle | S. Sudan | Cattle |
| Niger-Congo | | | | | |
| | Atlantic | Fulfulde | Fulbe | Senegambia -Sudan | Various |
| | Benue- Congo | ociHerero | Herero/ Himba | Namibia | Cattle |
| Khoisan | | | | | |
| | Khoi | Khoi | Khoi | Southern Africa | Cattle |

should not be taken as a hypothesis relating language and subsistence strategy. Another factor is the predominance of maize throughout the east and southern region, which does not represent an attractive fodder for ruminants as it is of poor digestibility and low nutritional content. Herd owners have thus no strong motivation to compete for cereal stover. By contrast, in West Africa, where the more palatable millets and sorghum predominate in crop residues, the exchange of manure for stover (and increasingly cash) is a major part of pastoralists' annual grazing strategies in most regions. This has the effect of creating a network of exchanges in West Africa that are largely without parallel further east.

Table 2 summarises some of the key differences between the two regions:

Table 2 Key contrasts between West-Central and Eastern-Southern Africa

| | <i>West-Central</i> | <i>East & South</i> |
|--|---------------------|-------------------------|
| Occupationally specialised pastoralists | Yes | No |
| Species herded | All | Cattle |
| Long-distance transhumance | Yes | No |
| Ethnic differentiation with farmers | Yes | No |
| Religious differentiation with farmers | Yes | No |
| Resource competition with hunter-gatherers | No | Yes |
| Economic dependence of sales of dairy products | Yes | No |
| Nutritional dependence of herds on cereal stover | Yes | No |

Wetlands: the problem of multiple resource claims

Most of the conflicts described here are simple oppositions: farmers versus herders, wildlife guards versus hunters. However, rich environments, such as wetlands, especially those in semi-arid zones, attract a multiplicity of users. In West Africa, the two most significant regions are the Inland Delta of the Niger in Mali, and Lake Chad, shared between four countries in Central Africa. Further east, the marshlands of the *sudd* in Sudan constitute a classic region of interlocking resource use. Apart from fisheries, these wetlands produce rich pastures as the waters recede, and silt-covered swampy lands that can be used for irrigable crops. In the Inland Delta, farmers have developed varieties of deepwater flood-rice that can be grown even where the waters rise very rapidly. These areas are moreover often important breeding areas for birds and in the case of Lake Chad, a refuge area for now-rare aquatic plants such as the papyrus.

Cattle can trample crops and farmers can disturb fisheries or simply exploit the fish resource themselves. Farmers tend to be less concerned about renewing aquatic resources and often use methods such as poisoning whole areas with vegetable toxins, pesticides or even using dynamite. Since the water does not rise to the same level each year, the pattern of flooding is erratic and conventional tenure and rights of access cannot apply to such a changeable resource. This often leads to conflict within an exploitation system where pastoralists compete with each other for a region of pasture.

If such a flooded environment is managed effectively, it can constitute a sustainable resource with the deficits caused by annual exploitation made good by the seasonal flood. However, the interests of all three groups must be balanced. This was achieved in a remarkable way in the Inland Delta of Mali through the institution of the *Dina*, a management strategy elaborated in the nineteenth century by Sheik Ahmadou. Effectively, managers of the three major resources, fish, pasture and arable land, were to negotiate complementary use. In addition, the pastures were allocated at a broad scale between the different *leydi*, clans of the Fulbe pastoralists, so that grass was likely to be available within the specified area.

This system persisted well into the twentieth century. However, the greater mobility of pastoralists and the continuing droughts of the second half of the century attracted numerous pastoralists from outside the region, both Fulbe and others, such as the Moors and Tuareg, who were desperate for pasture and had no reason to maintain allegiance to the *Dina* code. At the same time, the state began to divert water upstream of the Delta, notably for the Canal du Sahel. This caused significant disruption in the patterns of flooding, making pre-existing claims irrelevant or in need of

major readjustment. The consequence was that newcomers to the system had a chance to assert their claims and the orderly system became the province of opportunistic changes. Much the same has occurred in Lake Chad, with the damming of the Komadugu Yobe and the barrages on the Logone-Chari system.

Attempts to manage wetlands have a particularly poor record largely because the users are unable to prevent water extraction upstream, on a large scale by the State or by small-scale farmers. Despite a recent emphasis on Environmental Impact studies, whether carried out or not, these rarely have the effect of halting an intended infrastructure project, although the effect of such projects on wetlands is almost *a priori* uniformly disastrous. The prognosis for the survival of all such regions must be pessimistic, despite numerous analyses showing they are economically productive if left in place. The same is true of complex zones such as mangroves in more humid regions. The value of an interlocking environment can never be politically balanced against the profit of individuals.

6

The city and the country

Another way of analysing resource conflict is to consider the opposing interests of those locked into the global or urban economy and those whose resource base is a restricted rural environment. Essentially, small communities are often quite effective in devising restraints on over-exploitation of a resource because they can impose sanctions. Moreover, pressure on resources is often technologically limited as small nets don't catch many fish and flintlocks don't kill many animals.

However, in the global economy, high prices for exceptional items such as ivory or rhino horn both attract upscale technology and raise the stakes in terms of the levels of violence. For example, in the Zambezi valley, poachers armed with AK-47s coming from Zambia are quite willing to kill villagers and game-guards in Zimbabwe to gain access to rhino horn.

Governments also override local concern in the interests either of the urban constituency or the larger national interest as they conceive it. Thus city water supplies, oil and mineral extraction and fuelwood abstraction are given priority over the needs of farming communities almost everywhere. In a few cases, as in Nigeria, this has led to violent episodes with unfortunate consequences for the communities affected. In a less visible way, marine resources are often sold to foreign interests as a rapid means of earning income without any capital investment.

The common element here is the intersection of two quite different value systems. Subsistence producers develop coherent models of resource extraction because they take a long term view of the needs of their descendants and because they are involved in an integrated community with shared values. Governments take a short term view of their immediate constituency, usually the vocal urban middle-class, and are anyway only indirectly affected by the consequences of their actions. Where the profits from resource exploitation feed into corrupt accounting systems they may take no responsibility at all. To this extent they are structurally similar to poachers who explicitly ignore community regulation.

Analyses and intellectual history

A striking aspect of reading this body of literature as a whole is the degree to which conflict has been increasingly acknowledged in the period nearer to the present. Although there is some reason to think that resource conflicts have increased during the period since 1900 for simple demographic reasons (see Section 8), historical texts make us clearly aware that they have always been present in this region.

Conflict analyses have also skirted unfashionable analyses for cultural reasons. In the 1960s it would have been extremely declass   to talk about tribal wars in Africa. Embarrassed by violence, researchers tended to attribute it to class or economic conflict. However, the rise of 'ethnic' conflict in Central Asia and increasingly in Europe has somehow validated this terminology and now commentators are unembarrassed to see Rwanda or Somalia in these terms.

Another aspect of this apparent increase is the real and imagined effects of colonialism. Halting warfare, raiding and installing supra-ethnic judicial systems were part of the genuine impact of colonialism as well as its ideology. The effects of this are better seen in West-Central Africa where the establishment of peace had an important impact on the distribution of farmers. The impact of judicial systems has been much debated, as in Islamic areas they tended to strengthen the power of existing court systems over acephalous peoples. In other regions, there is little doubt that a justice system effectively replaced chronic warfare.

The gap between ideology and reality in the judicial system was probably more evident in Eastern and Southern Africa than in West Africa, as it was there that substantial land areas were seized from African farmers for European colonists. The relevance of this is that since ideology suggested that resource conflict was being effectively managed, there was little incentive to write about it. The gradual replacement in the post-1960 period of narrow colonial links with complex, shifting multilateral relations, as well as an increasing number of players made the analysis of resource conflict more ideologically respectable.

8

Is conflict increasing?

A problematic aspect of this literature is to decide whether the impression of increasing conflict is real or is simply an artefact of more research. Much of the ethnography of pre-colonial Africa places emphasis on the almost endemic warfare of this period, and modern-day resource conflicts could be interpreted as an updated version of that. However, there are some striking differences with the pre-colonial era. The most important of these are:

- the increase in human populations
- competition with new types of land-use unknown in the pre-colonial era
- the establishment of national borders
- the availability of modern transport, communications and powerful weaponry

Of these, the increase in human populations has had the most dramatic effects, both directly and indirectly. Apart from more farmers, fishermen and pastoralists trying to make use of the same land area, demands from cities for meat, fish and cereals mean that many producers are also producing for the market and herds are correspondingly larger. Other urban demands, such as water and minerals, as well as attempts to institute large-scale agricultural production, compete for space. Road transport makes production for remote markets possible and places fragile resources under ever greater strain.

At the same time, improved communications and access to a variety of media have meant that communities are more self-conscious. They are aware that their land, water and pasture are valuable to outsiders and shifting whole settlements, a common response in the pre-colonial era, is often no longer possible. Both the establishment of national and internal borders and the higher intensity of human settlement make it worth retaining rights to traditionally-held land.

The classic developer's solution is intensification: 'two blades of grass where was one' in Swift's language. However, this has proved easier to suggest than to implement. Most food production in semi-arid Africa remains resolutely traditional and continues to supply both subsistence needs and the market. Nigeria, the most populous country in Africa, still depends on the traditional sector for 95% of its meat requirements. Since it is likely to have had a human population of 5 million before 1900 and this

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now exceeds 90 million the consequences for pressure on resources are evident.

It is therefore likely that resource conflict is more prevalent than earlier in the century and that this is not merely an illusion generated by the literature. There are more people competing for fewer resources and there are more perceived resource arenas.

Conclusion: acknowledging conflict

Acknowledging conflict is essential to a rational development policy. Glossing over dissonant elements may be a recipe for short-term approval but can never generate sustainable solutions. As Section 7 suggests, sometimes analyses reflect as much the intellectual history of the period when they are written as the situation on the ground. Moreover, conflict situations are dynamic. An apparently stable situation can break down with the death of a key player or an unexpected ecological or economic change.

Conflict has negative overtones in English, but it is clear that resource conflict is often a major stimulus to the evolution of intricate interlocking patterns of exploitation. Without initial conflict, the complex patterns of co-operation that characterise the multiple use of many African wetlands would never have developed.

Policy Elements

Talking about conflict is easier than putting in place policies to resolve it. Governments are affected by ethnic and economic lobbies and these sometimes lead to simplistic and perhaps violent solutions. However, probably more importantly, they are influenced by the dead hand of forgotten policy documents endlessly re-copied, long after their intellectual rationale has been exposed as bogus. Hence, for example, the continuing enthusiasm for settling pastoral nomads, despite numerous demonstrations that this a) does not work and b) is not economically viable. Similarly, attempts to 'resolve' the problems of wetlands through land tenure regulation contrary to the widespread observation that effective use of a patchy resource requires a built-in ambiguity in respect of land rights. The only positive aspect of such projects is that they rarely, if ever, work and their victims revert to their previous subsistence strategies in due course.

This is not necessarily a counsel of despair. Developing an equitable and economically rational policy would be made easier by a judicious bonfire of colonial memoranda and their daughter-documents, but failing that, a more rapid traffic between research insights and policy would be a useful beginning. In particular the realisation that:

- Policing any highly mobile group such as pastoralists or hunters can only ever record short-term successes. Only co-operation with such groups can succeed in the longer-term.

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- Attempts to control, economically or in terms of movement, pastoralists who supply meat and milk to the cities are likely to be always half-hearted. Policies that result in a diminishing supply of these commodities are politically risky.
- There is no empirical evidence that small-scale societies place any value on their environment or its plant and animal resources. Reports to the contrary usually prove to be romanticism.
- Governments are generally unwilling to curb large industrial enterprises, such as mining or oil-drilling, from which they derive significant revenue, no matter what the environmental consequences. Even the increased household incomes of local residents from mineral extraction are seen as politically more attractive than the environmental damage they cause.
- Governments will be persistently attracted by large mechanised farms, no matter what evidence is presented to suggest these do not work. However, it is likely that these farms will collapse after some time and the land revert to the original owners.
- The needs of politically articulate urban dwellers are inevitably placed above those of rural producers and where this is a cause of conflict, such as in firewood or water extraction, regulatory frameworks and infrastructure will favour urban dwellers.
- Schemes which are supposed to either compensate peasants for depriving them of resources or plough back into the community revenues from exploitation of wildlands (such as payments for hunting licenses) rarely do. Conflicts which may appear resolved have a habit of persisting.

Annotated Bibliography

This bibliography attempts to cover the whole of semi-arid Africa in a selective fashion. Needless to say, in the information age, uncovering references is much easier than knowing whether their content makes them worth seeking out. The function of the descriptions is to assist the reader in this.

Since the entries were compiled by four different authors, there are minor differences in style between them. I have tried to make them generally consistent in referencing style and categories of keywords but some idiosyncracies remain. In some cases, the summary reflects the style of the author of the article, especially in terminology and this has been retained. In a few cases, where the author has provided a one-paragraph summary of his or her article, this has been taken over into the text followed by the annotation: (Author).

In some cases, authors have published similar material in a series of articles or in an article and a report. The bibliographic references are given, to these additional articles but no further summary is appended. In a few cases, references have been included without a full abstract, either because it has not been possible to obtain the reference or because it was found through a cross-reference. It is hoped to gradually increase the abstracting process and to make updated versions available on the Internet.

Geographical coverage is of necessity somewhat uneven and limited by the languages searched. The Portuguese literature for Mozambique and Angola has only been dealt with in a summary fashion and material in Arabic relating to the Sudan has not been searched.

Literature on Africa inevitably presents problems of orthography. One of the principal pastoral peoples of West-Central Africa, the Fulbe, are referred to as Fulani, Peul, Fellatah and variants of these in the dispersed literature. I have tried to standardise on Fulbe in the summary texts, but many titles of articles contain these variant ethnonyms. The keywords can be used as a cross-referencing guide to indicate where similar terms refer to a single group of people.

The majority of the references are published books or articles in scholarly journals. Major reports are also included, but short documents and information sheets, pamphlets and the like from the many small agencies now concerned with this area are generally omitted as they are hard to obtain. This area has been the subject of considerable journalistic interest, in part because of the frequent famines. Thus there are a number of trenchant publications from environmental agencies that contain material of considerable interest.

This compilation represents continuing work and any readers who know of other literature that would be appropriate to add to this document should forward the correct reference (and preferably a summary) to Roger Blench at ODI .

1. **Abbink, J.** (1995) 'Disaster, Relief and Political Change in Southern Ethiopia: Developments from within Suri Society', in J. Sørensen (ed.), *Disaster and Development in the Horn of Africa*. Basingstoke: Macmillan Press Ltd.

Keywords: Ethiopia, Suri, drought, ecology, weapons, conflict, social structure

The chapter describes the recent history of the Suri, a group of approximately 24,000 people engaged in transhumant pastoralism, shifting cultivation, and hunting/gathering in southern Ethiopia. The author considers how the Suri recovered from an ecological crisis in the mid-1980s, characterised by drought, crop shortages, cattle diseases, and conflict with neighbouring peoples. Through various strategies, including temporary migration, increased hunting and gathering, and exploitation of gold resources in the Lower Maji-Kibish and Upper Akobo areas, the Suri managed to survive as an autonomous group. However, this 'success' has come at a cost. By investing in cattle and especially guns, the Suri have forcibly reasserted a claim to a resource niche along the Upper Kibish. The use of automatic weapons has acquired a cultural momentum of its own, with important consequences for Suri social structure and especially inter-generational relations. As other groups acquire modern arms, consensual forms of resource division have waned, and inter-group relations have become increasingly violent.

2. See also: **Abbink, J.** (1993) 'Famine, Gold and Guns: The Suri of Southwestern Ethiopia, 1985-91', *Disasters* 17 (3): 218-225.
3. **Abbink, J.** (1993) 'Ethnic Conflict in the "Tribal Zone": The Dizi and Suri in Southern Ethiopia', *Journal of Modern African Studies* 31(4): 675-682.

Keywords: Ethiopia, Suri, Dizi, weapons, conflict resolution, farmer-herder relations, ethnicity

The article focuses on changing relations between the highland farming Dizi and lowland agro-pastoral Suri in southern Ethiopia. Both groups occupy different but partly complementary ecological niches, and in the past formed alliances - or 'rains pacts' - for resource-sharing in times of drought. This inter-ethnic peace has broken down in recent years, however. The Suri have increasingly moved into Dizi areas, leading to violent conflict. Suri encroachment has itself been a product of drought and famine in their home area, as well as the expansion of other agro-pastoralist groups such as the Nyangatom. Use of traditional mechanisms of conflict resolution is declining, especially among the younger generation, exacerbated by the proliferation of automatic weapons. Tensions have been further heightened by Suri accusations that the Dizi invite government forces into the area to settle disputes in their favour. Many Dizi have opted to leave their home areas for fear of Suri attack and are beginning to concentrate in Maji town. The author questions prospects for the new ethnically-based administration of Ethiopia in an area where violence is becoming a regular feature of local political processes.

4. See also: **Abbink, J.** (1994) 'Changing Patterns of "Ethnic" Violence: Peasant-Pastoralist Confrontation in Southern Ethiopia and Its Implications for a Theory of Violence', *Sociologus* 44 (1): 66-78.
5. **Abel, N. and P. Blaikie** (1986) 'Elephants, People, Parks and Development: The Case of the Luangwa Valley, Zambia', *Environmental Management* 10(6): 735-751.

Keywords: Zambia, wildlife, parks, hunting, external influences, politics

A fundamental weakness in much of the literature on wildlife conservation in Africa is that it attempts to be apolitical, but is concerned with conflicts over resources which are inevitably political in their very nature. This literature tends to concentrate on local factors and ignores wider influences (such as international demand for ivory) and is often ahistorical. Furthermore, much of the literature suffers from being grounded in a narrow disciplinary framework that either emphasises biological factors or socio-economic factors but rarely the interplay between them. Using a case study of the Luangwa Valley in Zambia, this paper attempts an analysis that avoids these weaknesses. First, it examines the political economy of the two

national parks in the valley and identifies different social groups who compete for its resources. Just because the area has been labelled a national park does not mean that some groups are not using, or do not want to use, the area for purposes other than conservation and tourism. Secondly, the paper examines the historical origins of present day ecological processes taking place in the area, emphasising both biological inter-relationships and the impact of human interventions such as ivory-hunting. Lastly, the paper suggests possible alternative management strategies for the National Parks, emphasising the fact that their apparent ecological resilience makes it possible to experiment with alternative land uses without undermining conservation priorities.

6. **Adams, W.M. (1984)** 'Irrigation as Hazard: Farmer's Responses to the Introduction of Irrigation in Sokoto, Nigeria', in W.M. Adams and A.T. Grove (eds) *Irrigation in Tropical Africa - Problems and Problem-solving* pp. 121-130. Cambridge: African Studies Centre.

Keywords: Nigeria, Sokoto valley, irrigation schemes, conflict, engineering projects

A 1966 report by FAO suggested the construction of a series of dams and basins in the Sokoto valley, Nigeria, to control the strong seasonal flow of the river and offset aridity. This article examines the consequences of one such irrigation scheme, at Bakolori on the river Sokoto.

The overall situation at Bakolori is that of decreased agricultural productivity and a climate of uncertainty and instability for the local Hausa farmers. The reactions of peasants to the Bakolori project have been similar to those elicited by drought-intensive land use: opportunistic cropping, adoption of more resistant plants and seasonal or permanent abandonment of farming.

The main problems at Bakolori were that farmers were prevented from cultivating their land for several years, and then lost the crops from the small area still left to them. The zone of the Bakolori project - 80 percent of which was already being used for rainfed cultivation - was expropriated during building work, to be handed back to farmers once construction was completed. Farmland remained unavailable for cultivation for three years and the peasants, who had no other source of food or income, were on occasions obliged to go against the ban on cropping. During these years only the *fadama*, or floodplain land, was still technically available for planting. However,

after a large storm in 1980, the drains from a developed terrace above discharged considerable quantities of sandy sediment on the fadama, destroying the crops. This exacerbated the fury of the farmers and led to riots and the death of up to 200 people.

The lessons from the Bakolori project are clear: development projects must start with the people involved, and work back from their needs, rather than try to fit them into a fixed and pre-determined engineering schedule.

7. **Adams, W.M.** (1995) 'Wetlands and Floodplain Development in Dryland Africa', in T. Binns (ed.) *People and Environment in Africa*. Chichester: John Wiley & Sons.

Keywords: Africa, wetlands, fishing, pastoralism, agriculture, dams

After outlining the extent and importance of African wetlands, the chapter shows how the development of dams and irrigation systems have changed the hydrology of these important resources. Furthermore, these developments have often undermined previous management systems that successfully managed the allocation of different resources between agriculturists, pastoralists and fishermen, leading to increased conflict. Large-scale projects can, however, be modified to allow the seasonal discharge of flood water and maintain the flood plains previous hydrological regime. Adams gives examples from West, East and Southern Africa.

8. **Akabwai, D.** (1992) 'Extension and Livestock Development: Experience from among the Turkana Pastoralists of Kenya', *Pastoral Development Network Paper 33b*, London: Overseas Development Institute.

Keywords: Kenya, Turkana, extension services, livestock, security, armed conflict, communication

Extension work among the Turkana is very difficult because of the extensive and nomadic nature of their pastoral system, and because there are few obvious social structures above the level of the family through which extension workers can communicate. Furthermore, the Turkana have been involved in a whole series of violent conflicts with their neighbours over scarce grazing resources. Violent conflicts which make extension workers understandably nervous about travelling

around the area. These conflicts have, however, resulted in the formation of security groups (known as Ngagakarin), under recognisable leaders, who come together during the dry season to organise collective security for their herds. These groups may be able to provide an effective channel of communication for extension workers.

9. **Archer, F., S. Turner and F. Venter** (1996) 'Range Management, Livestock Production and Nature Conservation in Richtersveld National Park', in Centre for Development Co-operation Services, *Successful Natural Resource Management in Southern Africa*, pp. 165–195. Windhoek: Gamsberg Macmillan.

Keywords: South Africa, grazing, national park, local government, compensation, local politics

The successful community opposition to an imposed contract to set up a National Park in the Richtersveld area of the Northern Cape, South Africa, and the subsequent renegotiation of a more equitable contract in 1991, received a good deal of attention from those interested in 'parks and people' issues. This chapter examines how the management structure set-up under the revised contract has fared since 1991. Unfortunately the management structure has been plagued by internal divisions and disagreements over drafting a Management Plan acceptable to all residents of the area. Despite the very small population (5–6,000) there have been internal divisions, especially between the north and south of the area, which have interacted with longer term political arguments. The National Parks Board have been perceived as dragging their feet and their inability to deliver on the provision of promised compensation land has been seen as a sign that they are not working hard for the community. Furthermore, they have attempted to make hard and fast definitions of those herders with rights to grazing inside the park and compensation farms (when they are available) which have not recognised the fluid nature of stock ownership and grazing regimes within the area. One key problem has been the vacuum in local government during a transition to a new political dispensation and the lack of any conflict reconciliation mechanisms within the community. Despite all these problems, the basic idea of the park is workable, but only in the right policy and political climate.

10. **Association for Rural Advancement** (1991) 'Animals versus People: The Tembe Elephant Park', in J. Cock and E. Koch (eds) *Going Green: People, Politics and the Environment in South Africa*, pp. 223–227. Cape Town: Oxford University Press.

Keywords: South Africa, wildlife, forced removals, water, local politics, compensation

In 1983, the Kwa-Zulu Bureau of Natural Resources established a new game reserve on South Africa's border with Mozambique. There were a number of families (35 according to official figures) living within the area that became the park and they were forcibly removed without ever being consulted. The forced removal was just before the harvest season and all that year's crops were lost. The site where they were relocated, just outside the new park fence, has no water supplies and, by 1989, they had not been given any compensation, with the exception of a few poles and thatching material to rebuild their huts. The people forcibly removed are very unhappy about the park being established and their anger was fuelled by rumours that the parks authorities were planning to pump in water to the park for the elephants. Some women have been given permits to collect reeds and thatching material from inside the park fences but these permits are never given to men. Their anger has influenced other people in the area and helped galvanise opposition to the establishment of a new nature reserve at nearby Kosi Bay in 1988.

11. **Association for Rural Advancement** (1990) 'Maputaland: Conservation and Removals', *Special Report No. 6*. Pietermaritzburg: Association for Rural Advancement.

Keywords: South Africa, parks, traditional authorities, compensation, forced removals, local politics

In a 1987 social survey of rural households in the Maputaland area (at that time the KwaZulu 'homeland' of South Africa) the KwaZulu Bureau of Natural Resources was the institution cited most often as having a negative effect on household interests. The banning of local people from the newly proclaimed Kosi Bay and Tembe Elephant Parks was just the most recent event in a long history of forced removals to make way for conservation schemes in the area. The local residents were extremely unhappy about the establishment of parks which deprived them of access to grazing land, water, firewood,

agricultural plots and fishing areas they regarded as their communal property. Though people were promised compensation it was never delivered. A local political organisation had been formed to resist further extensions to the reserved areas and to demand compensation. The KwaZulu Bureau for Natural Resources claimed to be following a participatory community-based programme but the only consultation taking place was with the traditional leaders, discredited in the eyes of many local residents because of their association with the apartheid state.

12. **Awogbade, M.O.** (1983) *Fulani Pastoralism: Jos Case Study*. Zaria: Ahmadu Bello University Press.

Keywords: Nigeria, Jos Plateau, Fulbe, farmer-herder relations, nomadic settlement

This study analyses the ecological factors that influenced the settlement of the nomadic Fulbe on the Jos Plateau (Nigeria) and the subsequent changes in pastoral institutions. The Fulbe began their migration to the Jos Plateau in the early 20th century, encouraged by the British government which had recently brought an end to local conflicts between factions. The Plateau provides good grazing in the wet and in the dry seasons, and whereas traditionally the Fulbe were expected to compensate village chiefs for the use of pastures, in Jos the emergence of British administration gave the Fulbe the opportunity to graze their herds freely. These favourable conditions ultimately led to the settlement of the Fulbe on the Plateau and a decrease in their seasonal movement.

Fulbe herds are still welcomed by the Jos farmers, in part because of their role in manuring fields. Labour is exchanged, and the number of non-Fulbe employed as herders is increasing. Herders keep animals for villagers, who see cattle as a source of reserve investment. Milk, cattle and manure are traded for agricultural produce in marketplaces that appeared in the wake of the development of the mining industry. Social links between the sedentary populations and the herders are also extensive, and farmers are invited to Fulbe ceremonies.

These ties of active socio-economic co-operation, and the location of Fulbe settlements and grazing areas at a distance from farming villages, have prevented serious conflict between the groups. But this cohabitation is under increasing pressure due to fierce competition for resources. Pastoralists of the Jos Plateau are in competition with industrial enterprises – especially mining – as well as agriculturists. At

present all sites amenable to cultivation have been utilised, and interactive and reciprocal relationships between herders and farmers are deteriorating. Conflicts centre on four main issues: crop damage (the most prevalent), obstruction of cattle tracks by farmers, the burning of fallow areas by farmers, and the use by pastoralists of reserve grasslands set aside for village needs.

Although the situation in Jos is not yet critical, rapid action must be taken. Awogbade concludes that the objective of a settled Fulbe population contributing to Nigeria's self-sufficiency can only be attained by an amelioration of the harsh conditions which have, over the centuries, necessitated a transhumant lifestyle.

13. **Balakrishnan, M. and D. Ndhlovu** (1992) 'Wildlife Utilisation and Local People: A Case-study in Upper Lupande Game Management Area, Zambia', *Environmental Conservation* 19(2): 135-144.

Keywords: Zambia, wildlife, parks, poaching, crop damage, communication

This paper presents the results of a household survey carried out in the Upper Lupande Game Management Area in the Luangwa Valley, Zambia. The survey indicated that while most people supported the wildlife culling scheme, very few had ever been able to buy the game meat produced by the scheme. Better distribution of meat is essential if the scheme is to be successful but a larger cull should only be considered with caution because of the problem of pushing the harvest above the wildlife's reproduction capacity. Safari hunting is very unpopular with local residents, who feel that it represents rich outsiders' ability to bypass regulations preventing them from hunting. Very few people were aware of any development activities funded from the receipts from safari hunting licences. Many people had suffered crop damage from wildlife and the Game Management organisation's ability to deal with this problem was thought to be fairly limited. Local hunters, who are often very successful using low cost techniques, should be brought into this system of game control and their skills should be used in the wildlife cull. Greater vigilance and co-operation with local people is needed to prevent commercial poaching.

14. **Barral, H.** (1974) 'Mobilité et Cloisonnement chez les Eleveurs du Nord de la Haute-Volta: les Zones Dites 'd'Endrodomie Pastorale', *Cahiers ORSTOM, Série Sciences Humaines XI* (2): 127-135.

Keywords: Burkina Faso, transhumance, degradation of pastures, sedentarisation

In the Sahelian region of Burkina Faso, Barral noted that the whole area could be divided into zones within which the transhumance of herder groups was contained. Each zone includes watering points, cattle trails and plots of land cultivated by cattle-keepers. The boundaries of each of these zones encompasses the seasonal migration cycle of a relatively constant number of animals and herders of different ethnic groups, both nomadic and semi-sedentary. These zones are traditional and have not been legislated or codified.

These practices are poorly adapted to the recent expansion in population and herd size. Many pastures have become very degraded but the herders have not altered their mode of exploitation. Resuming the practice of migration to winter pasture would be an option, and Barral considers this reprise of nomadic practice both feasible and necessary.

15. **Barrett, C.B. and P. Arcese** (1995) 'Are Integrated Conservation-Development Projects (ICDPs) Sustainable? On the Conservation of Large Mammals in sub-Saharan Africa', *World Development* 23(7): 1073-1084.

Keywords: Africa, wildlife, conservation, parks, tourism, sustainability

Despite their near universal acceptance, integrated conservation-development projects are probably not sustainable and, as presently conceived, inappropriate. The sustainability of harvesting large mammal populations has not been tested, especially in conditions of extreme temporal variation. Even if the present harvest is sustainable, as population increases, possibly accelerated by in-migration attracted to the new project payments, the per capita benefits will necessarily decrease. Benefits from projects only accrue to neighbouring communities, who may well not be the people poaching wildlife inside parks. Demand for resources from parks, such as charcoal, often comes from distant urban areas. Tourism has only been able to deliver relatively small sums in excess of costs and revenue is variable. Parks

tend to be in remote areas and cash payments to local populations may not be readily converted to food, given the poor marketing structure. Even if local markets are developed, the presence of tourists will tend to increase food prices. Integrated conservation and development projects are not a solution to conflicts between local populations and parks, though they may work in the short term. The long-term solution lies in de-linking the two concepts and pursuing sustainable rural development, which will have spillover side effects of reducing pressure on wildlife resources.

16. **Bassett, T.J.** (1988) 'The Political Ecology of Peasant-Herder Conflicts in the Northern Ivory Coast', *Annals of the Association of American Geographers* 78(3): 453-472.

Keywords: Ivory Coast, Senufo, Fulbe, conflict, crop damage

The author applies the theoretical framework of political ecology to an analysis of the conflicts between Senufo peasants and Fulbe pastoralists in the savannah region of Korhogo, Ivory Coast. Tensions centre around the issue of uncompensated crop damage by Fulbe herds. Following the Sahelian drought of the early 1970s, an unprecedented number of Fulbe pastoralists immigrated to the Ivory Coast with their cattle. These were welcomed by the Ivoirian government for their contribution to beef supply, but are the object of widespread xenophobia and hostility from the local farmers. Massive emigration of Fulbe followed a conflict in 1986 when at least eighty pastoralists were killed.

Land tenure laws give the state final authority over land-use, and therefore the indigenous Senufo people, who are the customary land holders, are obliged to grant grazing rights to the newly arrived Fulbe. Repeated interventions by SODEPRA (Société de Développement de la Production Animale), such as an attempt to implement a system of rotation of farming and grazing lands, have been unsuccessful due to lack of participation by both herders and farmers.

A declining resource base for pastoralism is traditionally invoked as a primary cause of land-use conflicts between peasants and herders, but the author asserts that this is an unsatisfactory explanation. It does not tell us why conflicts should exist in the relatively land-abundant Northern Ivory Coast, or why the Fulbe are being welcomed by the Ivoirian government when so many states are intent on their expulsion.

The stress of crop damage alone is not sufficient to explain why Senufo are driven to murder Fulbe and oppose the Ivoirian State. Bassett suggests a political ecology analysis, combining peasant-State relations, the incorporation of peasants into national economies, and the consequences of this integration for land use. This approach leads him to suggest that the hostility of the farmers is linked to a decline in their standard of living through excessive government taxation. Peasant-herder conflict should be viewed as a response within a specific national context.

17. **Bennett, O.** (1991) (ed.) *Greenwar: Environment and Conflict*. London: The Panos Institute.

Keywords: Africa, Sahel, environmental degradation, conflict, politics

This short book describes the history of rivalry and conflict in the Sahel. Contributions from journalists outline the traditional relationship of the Sahelian people with their environment and the effect on it of the emergence of modern states: the competition for resources which is a way of life in the Sahel; the mutually beneficial relationships between farmers and herders, and their breakdown. The authors do not argue that environmental degradation is ever the sole source of conflict in the Sahel, but insist that the environment is an increasingly important factor.

18. **Benoit, M.** (1979) *Le Chemin des Peul du Boobola - Contribution à l'Ecologie du Pastoralisme en Afrique des Savannes*. Paris: ORSTOM.

Keywords: Burkina Faso, Fulbe, Boboola, pastoralists, conflict, environment

The Boobola, in north-west Burkina Faso, is occupied predominantly by agriculturists but is also used by transhumant or sedentary Fulbe pastoralists. The herders have very little power over this area, which they once conquered but perceive as now dominated by agriculturists. The system of land occupancy of the agricultural communities divides the land into a mosaic where a territory is attached to a village. The Fulbe space, on the other hand, is without fixed limits.

In the same way that land will be granted to a foreigner who requests it, access to pasture is free and the Fulbe are allowed to graze their herds wherever they wish. The only condition is that animals

should not be allowed to break into a field and endanger a farmer's livelihood. This freedom of access is still possible in the Boobola, where agricultural occupancy is at only moderate densities and empty land still exists.

Benoit points out that the Boobola is an environment suitable for a number of different subsistence strategies, and that if the Fulbe are pastoralists, and not farmers or fishermen, it is their choice. Pastoralism is not determined by the environment. They accept and have adapted to constraints to this lifestyle, which derive from nature and from neighbouring peoples who exploit the same resources as the herders.

19. **Benoit, M.** (1982) *Nature Peul du Yatenga – Remarques sur le Pastoralisme en Pays Mossi*. Paris: ORSTOM.

Keywords: Burkina Faso, Yatenga, decreasing grazing land, Mossi, agriculture, land tenure, environmental degradation

This book considers the situation of pastoralism in the Yatenga region of Burkina Faso. The problems which the Fulbe are facing in this area are common to many pastoralists: increase in human and animal populations, degradation of the grazing lands, increasing competition for space and enforced migration.

The Mossi peasants represent the largest group in Yatenga. Although a number of families have begun to raise cattle, their traditional occupation is shifting cultivation. No care is taken to preserve the soils or maintain their fertility. Once a plot is exhausted, the Mossi group moves on. Migration rather than management maintains the balance between population and resources.

Land for cultivation is owned by family groups, and the Fulbe are seen as strangers with a right to land which is only implicitly granted. Grazing rights are free: theoretically, any person may graze cattle wherever they wish. However, in practice, cultivation has pre-eminence over grazing. A pastoralist therefore cannot object if a farmer wishes to plant crops on his customary land, or even if the farmer bans Fulbe from using pastures in an attempt to reserve them for his own animals. The colonial administration made some efforts towards protecting the herders by setting aside cattle trails, but these are less and less frequently respected.

The current increase in cattle population in Yatenga is due mainly to the recent interest in cattle-keeping by groups which are traditionally agriculturists. It is these groups, and not themselves or

nature, that the Fulbe blame for increasing environmental degradation. Many Fulbe are leaving the Yatenga, preferring to emigrate rather than abandon their traditional way of life, which would be seen as a personal failure.

20. **Bergeret, A.** (1990) *L'Arbre Nourricier en Pays Sahélien*. Paris: Editions de la Maison des Sciences de l'Homme.

Keywords: Senegal, Fulbe, Wolof, trees, gathering, diet, urban-rural competition

Bergeret suggests that the contribution of gathering to the diet of the people of the Sahel has been underestimated. This book represents an attempt to correct this situation. Bergeret researched the social and nutritional role of fruit and leaves to the people of the area around Kumbija, in the Sine-Saloum area of Senegal. Nomadic as well as sedentary societies are aware of the benefits of tree products, and Bergeret suggests that these represent a valuable complement to the cultivation of traditional crops. But forests are the object of increasing competition. Demographic expansion in Senegal and rural emigration have resulted in a rapid growth of cities and an increasing demand for charcoal.

The Kumbija area is inhabited by settled Fulbe, Socé and Wolof. All three groups cultivate and keep some cattle. In addition, there has been an influx of wood-cutters from Guinea. These are mainly Fulbe forced by drought to give up agriculture and who arrive in Siné-Saloum looking for work.

Bergeret notes that nomadic societies and horticulturist groups will have different perceptions of land. The settled communities of the Sahel traditionally consider that their village has control over a portion of space granted to their founding ancestors. The continued appropriation of the resources of a territory strengthens the claim of a village to it. Nomadic societies, on the other hand, traditionally exploited a territory perceived as open, with no definite limits. Nevertheless, despite these different visions, it is quite possible for these societies to share the same land, says Bergeret. Each group practices its traditional subsistence strategy whilst respecting the views and practices of neighbouring groups.

The Kumbija people resent the attacks on their forests by the Guinean woodcutters but are unable to check the lucrative trade in charcoal. Some villagers said they were willing to pay for seedlings from their own pocket and replant them in the village, but only on

condition that their right to control their territory is recognised and that charcoal extraction should cease.

21. **Bernardet, P.** (1984) *Association Agriculture-Elevage en Afrique: Les Peuls Semi-Transhumants de Cote d'Ivoire*. Paris: L'Harmattan.

Keywords: Côte d'Ivoire, Fulbe, Senufo, SODEPRA, agriculture, pastoralism, conflict

Most Fulbe of Ivory Coast have settled and practise some agriculture. Bernardet devotes a chapter of his study of the Fulbe to an account of the conflicts resulting from their cohabitation with settled Senufo agriculturists. Opposition is always latent, and open conflict, although sporadic, can be violent. On occasions herders or farmers have been severely beaten with rods, and cattle shot or poisoned at waterholes.

The main source of conflict is crop damage. Bernardet gives a detailed account of the number of cases of crop damage reported to the prefectural authorities and the corresponding financial loss to the peasant. He reports that a Fulbe wishing to settle more or less permanently near farming communities will be anxious to maintain friendly relations with his crop-growing neighbours. He will therefore be quite happy to split his herd into more manageable units and construct enclosures in which to keep animals during the night.

Another cause of Senufo-Fulbe conflict is the manure produced by Fulbe herds. Fulbe have sometimes been expelled from lands they had the right to occupy by Senufo wishing to cultivate the fertile soil of the cattle pens. As the Fulbe have no legal recourse, and as agriculturist families assert their right to their lands more and more forcibly, the herders often have no choice but to leave.

Bernardet details recent attempts by SODEPRA to create grazing reserves for the Fulbe in formerly unoccupied areas. All were unsuccessful, as unoccupied areas were deserted for good reasons – infestation by insects or parasites, lack of water resources, impoverished soils etc. Moreover the author points out that the concept of a grazing reserve, which separates herders and agriculturists, has been recognised as an unnecessary interference. Herders and sedentary farmers are necessary and useful to each other, through exchanges of milk, meat, agricultural produce, manure and crop residues. There is a spontaneous tendency for the integration of activities and people and these should be developed and organised. Bernardet envisages the creation of a network of Agro-Pastoral Units comprising peasant villages, centres for the veterinary supervision of

herds, and 'microzones' around Fulbe camps in which cropping is banned.

22. **Bernardet, P.** (1986) 'Elevage et Agriculture dans les Savanes du Nord – Les Mécanismes Sociaux d'un Conflit', *Politique Africaine* 24: 29–40.

Keywords: Côte d'Ivoire, Fulbe, farmer–herder relations, competition, markets

Bernardet examines the detail of farmer–herder conflicts in the North of the Ivory Coast. What are the links between cropping and livestock rearing in a traditional economy? How are conflicts resolved? How do they oblige herder and farmer to alter the organisation of their work? How can these conflicts reach the point of a political confrontation obliging the government to intervene? Bernardet distinguishes three different configurations of cattle-keeping and cropping, each with a different potential for conflict.

The first case is that of village herds. Farmers invest in cattle, group their animals with those of other farmers into a communal herd, and entrust this herd to a Fulbe. Conflicts arise mainly over the herder's salary, especially when the herd is made up of animals belonging to many different cultivators and a consensus is difficult to reach. On occasions, the herder, after months of waiting for his salary, disappears with some of the animals as compensation.

The second case is that of Fulbe agro-pastoralism. Sedentarised Fulbe take up agriculture in the vicinity of traditional farming villages, and develop an original system of rotation of cattle pens and fields to maintain the fertility of their land. Herds are based at the settlement, except when the dry season makes it necessary to send them with a waged herder to find greener pastures. Conflicts in this scenario usually involve damage to village crops or arguments over the appropriation of manure. Fulbe are usually willing to split their herds or displace their pens and fields in order to avoid damage to village fields by his animals, and to avoid paying compensation to unscrupulous cultivators who welcome damage to their fields as a source of easy income.

The third case is that of the transit of herds along main roads from neighbouring countries towards the city markets. The graziers in charge of these animals may be more tempted to commit damages or theft as they are only in the area for one or two days. Rather than blame these transient herders for the damage, local farmers may prefer

to accuse the sedentary Fulbe, as this is more likely to mean cash compensation.

Bernardet concludes that, although competition is always present between herders and farmers, open conflict is sporadic and limited. The most severe confrontations are often the result of politicians using this competition to further their own ends.

23. **Bernus, E.** (1974) 'L'Evolution Récente des Relations entre Eleveurs et Agriculteurs en Afrique Tropicale: l'Exemple du Sahel Nigérien', *Cahiers ORSTOM, Série Sciences Humaines XI* (2): 137-143.

Keywords: Niger, Sahel, Fulbe, farmer-herder interactions, legislation, economic ties

In the Sahel of Niger all cultivators own livestock, and many nomads practice agriculture. Agricultural societies (Kanuri, Hausa, Songhay) are tied to the pastoral groups (Tuareg, Fulbe) by a number of economic links. The interactions between these groups can be described as a combination of complementarity and of antagonism.

Complementarity is manifest in the exchanges of products and labour. Manure, milk, butter and animals are traded for grain, salt, metal goods and textiles. Fulbe or Tuareg herders are hired to keep the village animals. This role has become all the more important since the switch by farmers to cotton-growing, which makes close supervision of the herds crucial.

The anger of the pastoralists is precipitated by the expansion of cultivated areas, especially around waterholes or on cattle trails. Tensions are exacerbated each time new fields further restrict the range of the graziers. 1961 legislation decreed that cropping should not be permitted north of a line running approximately along the fifteenth parallel. Conflicts over crop damage are arbitrated on the basis of a 1959 law that sets a scale of fines for intrusion of animals into fields. The state of agriculture-herding relations in these areas seem to be that of an increasing inter-dependence and inter-penetration of the two groups and lifestyles.

24. Bird, A.C. (1984) 'The Land Use Issue in Large Scale Irrigation Projects: Some Problems from Northern Nigeria', in W.M. Adams and A.T. Grove (eds) *Irrigation in Tropical Africa - Problems and Problem-solving* pp. 75-85. Cambridge: African Studies Centre.

Keywords: Nigeria, large-scale projects, compensation, irrigation, Green Revolution, land tenure

Nigeria's 'Green Revolution' programme aims to dramatically increase national food production in an attempt to cut rapidly growing food importation. This type of large-scale plan is possible according to the provisions of the 1978 Land Use Act, which vests control of the land in the government. However, the Land Use Act also decrees that compensation must be paid to the persons being expropriated. This compensation can be given in cash or an equivalent plot of land.

The authors seeks to draw lessons from a survey of a number of recent irrigation schemes in Nigeria. These were, he claims, fundamentally flawed in that they over-emphasised purely technical engineering aspects of the projects, and socio-economic considerations were seriously undervalued. In some cases plans were drawn up with very little site knowledge or awareness of the way of life of the people to be affected. The result has been a catalogue of mistakes. Health aspects were ignored, and no plans made for the supply of water to villages, leading in some cases to very unhygienic conditions. No provision has been made for livestock, both belonging to the local people and the transhumant Fulbe. Because fields can only be managed in unit sizes, according to a water distribution design, the traditional land tenure pattern must be abandoned completely. In some cases, the area made available for irrigated agriculture was in fact smaller than that of the fields lost under dams or reservoirs.

Another major problem is the impracticality of the reallocation of land. Compensation of expropriated farmers for fields taken over by irrigation schemes is costly and time-consuming. Allocating replacement land that is equivalent is not likely to be viable owing to land occupancy pressures in zones suitable for irrigation. Cash compensation cannot alleviate the long-term problems of deprived livelihoods.

These troubles all stem from a lack of awareness of socio-economic considerations. In some cases, the replacement of traditional agriculture in valley basins by modern irrigation techniques was futile.

25. **Birley, M.** (1982) 'Resource Management in Sukumaland, Tanzania', *Africa*, 52:1-30.

Keywords: Tanzania, Sukumaland, tsetse, ticks, livestock, colonial policy, soil erosion

This paper concentrates on how changes in grazing and farming patterns in Sukumaland affected the ecology of tsetse-flies and ticks in the colonial period. Despite having sections on soil erosion and communal resources it only considers these in respect to entomology.

26. **Blench, R.M.** (1984) 'Conflict and Co-operation: Fulbe Relations with the Mambila and Samba People of Southern Adamawa', *Cambridge Anthropology* 9(2): 42-57

Keywords: Nigeria, Mambila, Samba, farmer-herder relations

The dwindling amount of grazing land available to transhumant cattle in the Adamawa region of Nigeria is causing extensive sedentarisation of the Fulbe people and an increase in conflicts with local farmers. Although tied to the farmers by mutually beneficial exchanges, herding communities find themselves at a disadvantage. As a rule the goods and services offered by the pastoralists are not vital to the farmers, whereas the Fulbe depend on the agriculturists for their supply of cereal staples.

This article compares the relations of the transhumant Fulbe with two groups of local farmers: the Samba and the Mambila. Differences in the pattern of these relations demonstrate that it is never possible to point to one single cause when accounting for pastoralist-farmer relations in a given area. These relations are a result of a combination of factors, the four major ones being:

- Dominance relations, both historical and current, between and within the various groups
- Production systems - what crops are planted, how the land is prepared, how labour is mobilised; how stock is managed, what the terms of co-operation with farmers are
- The allocation of economic rights and responsibilities within the traditional frameworks
- Ideological and religious differences

The Fulbe moved into Samba territory in the beginning of this century to escape the overpopulated highlands of Cameroun and rinderpest epidemics. They obtained permission from local chiefs to graze their herds and, finding conditions favourable, began to settle. Relations with the Samba are generally good. Animals graze crop residues and manure farmers' fields. The Fulbe take on young Samba men as apprentices to care for their herds, and pay them in heads of cattle.

Samba society has highly organised collective farming groups. Labour is co-operative in nature and prevents the extension of farms beyond a certain size. As a result an accumulation of wealth through agricultural surplus is difficult. The Samba greatly value the opportunity to work for the Fulbe, as it allows them to attain prestige through the accumulation of cattle.

Relations between Fulbe and Mambila are not so amiable. The Fulbe first exerted their dominance in about 1900, and retained authority throughout the colonial period. Rulers favoured pastoralists and facilitated their access to large tracts of land. The Mambila feel that the herders, which they see as intruders, have been unfairly favoured for the past ninety years.

These bad feelings are exacerbated by the feeling that the Mambila have little need for the pastoralists' animals. The Mambila agricultural system is such that fields are cropped year-round so there is no time when cattle can graze Mambila fields without causing disaster. Also, the Mambila have no use for the manure from Fulbe herds since they grow *yom*, a *Tephrosia* species that is used as fertiliser.

Thus, relations between the Fulbe and two farmers groups within the same region, with similar levels of resource competition, is radically different. This case illustrates the complex web of factors influencing the state of farmer-herder relations.

27. **Blench, R.M.** (1994) 'The Expansion and Adaptation of Fulbe Pastoralism to Subhumid and Humid Conditions in Nigeria', *Cahiers d'Etudes Africaines* XXXIV 1-3: 197-212.

Keywords: Nigeria, pastoralists, conflict, diversification

The increase in the frequency of violent conflict between farmers and pastoralists in Nigeria over the past fifteen years can be attributed to a number of causes:

- The movement of pastoralists into new land where language, religion, culture and landholding patterns are unfamiliar

- The increased desperation of pastoralists competing for dwindling grazing land
- The control by farmers of local governments
- The collapse of the cattle tracks system
- The availability of weapons and the breakdown of law and order

Because of population increase, the regression of the tsetse challenge in southern regions and the degradation of traditional pastures, Fulbe herders are moving into areas occupied by agricultural communities. These intrusions can be fraught with tension. Some herders, aware of this potential for conflict, attempt to build links with farmers prior to their migration. There are cases of co-operation, even in densely populated areas: for instance, caretaking arrangements are on the increase since cattle represent an attractive investment for farmers.

But the expansion of pastoralists is above all a cause for instability and conflict. Hostility from farmers presents pastoralists with two choices: to adopt mixed farming and thus establish a claim to arable land, or risk being pushed back beyond Nigeria's borders.

28. **Bol Aken, N.** (1991) 'Violence Fuelled by the State', in O. Bennett (ed.) *Greenwar: Environment and Conflict*. London: Panos Institute.

Keywords: Sudan, Darfur, Fur, Baggara, farmer-herder relations, drought, displacement, weapons, warfare

The chapter discusses conflict over land use and land rights between Fur farmers and Baggara pastoralists in Darfur, western Sudan. In the late 1970s, drought led many nomadic pastoralists to push southward in search of grazing and water, into agricultural areas held by the Fur. Localised conflicts escalated into warfare in the 1980s, as a result of drought, increased population pressure, and the acquisition of modern weaponry from Chadian and Libyan rebels and the Sudanese government. In 1987, some 5,000 people were reported as killed, mainly Fur, and over 10,000 people had been displaced to towns and settlements where they mainly relied on food aid. The author notes how, as of 1991, the provision of modern weaponry and military training to the Baggara by the Sudan government, ostensibly to prosecute the civil war, is being used to settle local conflicts over land use.

29. **Bolling, M.** (1990) 'Ethnic Conflicts in North West Kenya: Pokot-Turkana Raiding, 1969-1984', *Zeitschrift für Ethnologie* 115: 73-90.

Keywords: Kenya, Turkana, Pokot, ethnicity, warfare, pastoralism, weapons, livestock

The Pokot and Turkana in northern Kenya experienced a period of violent armed conflict between the late 1960s and 1984. Both sides undertook well organised and armed raids deep into the each other's territories, returning with large numbers of looted livestock. One cause frequently cited for such raids is conflict over scarce grazing resources. This is not the case, however, in Pokot-Turkana raiding as the aim is not to gain access to new territories but to raid large numbers of livestock. Indeed, during periods of warfare the amount of grazing land available for use is significantly reduced as people move away from the more insecure border areas. This depopulation is reflected in ecological changes along the borders, with an increase in bushy species and a decrease in more palatable species as a result of decreased grazing pressure. Guns are necessary both for successful raids and for defence against raids from neighbours, or for more general stock theft. They represent a significant investment and to achieve a return it is rational for individuals to take part in raids. Raiding seems to be especially popular amongst second and third sons who have trouble getting sufficient numbers of cattle for bridewealth through kinship networks. Furthermore successful raiding, especially if it involves killing, brings a great deal of social prestige to the individual.

30. **Bonte, P.** (1983) *L'Herbe ou Le Sol? L'Evolution du Système Foncier Pastoral en Mauritanie du Sud-Ouest*. Paper presented at 1983 Aix Conference. Reference: 5893-RRMG. London: Overseas Development Institute.

Keywords: Mauritania, land tenure, interaction, environmental degradation, tenure

This report analyses land tenure systems in the North of the Senegal valley, southwest Mauritania. Colonisation, drought, and changing economic and political conditions have caused an upheaval in land rights, and two contradictory influences on land tenure have emerged. On the one hand, competition for land has brought on a reaffirmation of collective land rights. At the same time there is an ideology of free

access to land for all in view of ecological and economic necessity and because of the religious idea that the land belongs to no-one but God.

Rights to land are characterised simply by relations of political domination and subservience. These still reflect the complex social system of the emirate society which arose in the Senegal valley in the 17th century. At the time, the Zawaya, members of the leading families of the emirate, were given the management of the ruler's territories.

But dominant groups are now questioning the rights of less powerful groups. For example, the Zawaya respected the Fulbe's right, acquired in the 1940s, to have access to land and wells, and benefited from the milk production of the herds. Recently, however, as milk production decreases, some Zawaya have attempted to impose taxation on cropped fields. The Fulbe find themselves in a situation of increasing dependence. In the same way, the Haratin, who paid tribute in the form of agricultural produce to their cattle-keeping masters in exchange for permission to occupy land, are now seeing their rights reviewed.

The author emphasises that land tenure relations are basically relations of political power; 'En matière de droits fonciers, celui qui a la force a le droit!' (p. 29). Land tenure rights are used to perpetuate situations of political submission, and resolution of land rights conflicts can only be brought on by political - rather than technical - means.

31. **Boonzaier, E.** (1987) 'From Communal Grazing to "Economic" Units: Changing Access to Land in a Namaqualand Reserve', *Development Southern Africa* 4(3): 479-491.

Keywords: South Africa, Namaqualand, livestock, rangeland, privatisation, local government, local politics

Until the early 1980s all the areas reserved for the 'coloured' population in Namaqualand, South Africa, had a system of communal land tenure. During the 1980s the government tried to introduce a system of 'economic units' where the land would be divided into individual plots and allocated on a leasehold basis to individual stock owners. This attempt to change the land tenure system from communal to leasehold tenure was opposed by many residents of the reserves. In some areas this resistance was successful, but elsewhere local politicians agreed to the policy being implemented. The allocation of the 'economic units' was on the basis of the size of

individual herds. Poorer members of the community, with small herds, were not allocated 'economic units' and therefore lost a large portion of their grazing land. There have been a number of instances where they have continued to graze their livestock on the fenced 'economic units' despite the risk of being charged with trespassing.

32. **Boonzaier, E.** (1991) 'People, Parks and Politics', in M. Ramphela and C. McDowell (eds) *Restoring the Land: Environment and Change in Post-apartheid South Africa* pp. 155–162. London: Panos.

Keywords: South Africa, national parks, community organisations, local politics, livestock, conservation

When the South African National Parks Board first planned to proclaim a National Park at Richtersveld in the Northern Cape they failed to consult with the local population. Negotiations for the establishment of the park took place only with the discredited local Management Board, associated by most residents of the area with the hated apartheid state, who had granted the Parks Board a lease. When plans for the park became known, the vast majority of the local population opposed the plan, which would have restricted access to an area long used for grazing livestock. A Community Committee was established to resist the establishment of the park and, after a successful legal challenge from the Committee, the Parks Board were forced to negotiate a new lease. This new lease guaranteed local residents continued access to grazing and other resources within the new park and the right to cancel the lease after 30 years.

33. **Booth, A., J. McCullum, J. Mpinga and M. Mukute** (1994) *State of the Environment in Southern Africa*. Harare: SARDC, IUCN, SADC.

Keywords: Southern Africa, Zimbabwe, South Africa, environment, ecozones, policy, climate, wildlife

This is a comprehensive multi-authored text covering the state of the environment throughout the entire Southern African region (the region encompasses all countries as far north as Angola, Zambia and Tanzania). Chapters include regional overview, history, policy, ecozones, climate, soils, woodlands, wildlife, freshwater and marine resources, pollution, armed conflict, global atmospheric change and likely future scenarios. Many chapters at least touch on resource

conflict and the bibliographies attached to each chapter are a valuable resource summarising unpublished reports and difficult-to-obtain documents.

34. **Boutrais, J.** (1973) *La Colonisation des Plaines par les Montagnards au Nord du Cameroun (Monts Mandara)*. Paris: ORSTOM.

Keywords: Cameroon, Nigeria, Mandara Mountains, social differences, overpopulation

The population of the Mandara, on the border between Cameroon and Nigeria can be roughly divided into two groups separated by religion, language, social and political organisation, and lifestyle. On the one hand the agricultural mountain communities, of different origin but collectively referred to as the Habé, and on the other hand the Muslim inhabitants of the plains, such as Fulbe and Mandara, who are agriculturists and stock-raisers.

This book studies the interaction of these two different groups in the northern zone of the Mandara mountains. This area has acute problems of overpopulation, and the colonisation of the plains by the Habé has resulted in frequent conflicts between groups. This colonisation is encouraged by the government, which hopes to convert the population of the area to cash-cropping of cotton and peanuts, and the last twenty years have been marked by a considerable extension of cultivated surfaces. This has been paralleled by a restriction in grazing areas, and a gradual conversion of traditionally pastoral groups to agriculture.

There is a long history of distrust between the Habé and the Muslim groups, and these cultural frictions are exacerbated by the difference in subsistence strategies between the agriculturist immigrants and the mainly pastoral plains people. Conflicts between herders and cultivators are frequent and most pastoralists have resorted to keeping their herds away from the village nearly year-round. Tensions between livestock owners and cultivators occur mainly in the rainy season, whereas the dry season is marked by more amicable relations.

35. **Boutrais, J.** (1986) 'L'Expansion des Eleveurs Peul dans les Savannes Humides du Cameroun', in M. Adamu and A.H.M. Kirk-Greene (eds) *Pastoralists of the West African Savanna*, pp. 145-161. Manchester: Manchester University Press.

Keywords: Cameroun, pastoralism, farmers, ecology

In their move into the savannahs of Cameroun the Fulbe encounter local agricultural groups, mainly Gbaya people. Boutrais examines the conditions and consequences of the contacts between these populations whose social and religious behaviours differ.

The Gbaya perceive the Fulbe as intruders, and have no interest in stock-raising and no liking for milk. The Gbaya resent the fact that they must now purchase meat at the butcher's, whereas prior to the arrival of Fulbe herds on the savannahs they were able to obtain it through hunting. Trade is very limited between the two groups; the Gbaya do not produce sufficient agricultural surplus for dealing with the Fulbe, so most herders find themselves obliged to take on cultivation. Cattle and dairy products are sold to neighbouring cities or to Hausa and Fulbe villagers of the Adamawa. Certain of these villagers have settled amongst the Gbaya as traders, and a network of commercial links has been created between the dispersed settlements.

The isolation of the Fulbe and their sometimes difficult relations with their Gbaya neighbours are made up for by the availability of large pastures which remain green nearly year-round, a moderate extent of cultivated fields, and the proximity of the city markets. However, these favourable conditions bring with them the danger of environmental degradation through overpopulation and overgrazing.

36. **Boutrais, J.** (1993) 'Les Populations Pastorales de 'CaBBal' en Adamaoua', in J. Boutrais (ed.) *Peuples et Cultures de l'Adamaoua (Cameroun)* pp. 31-49. Paris: ORSTOM, Ngaoundéré-Anthropos.

Keywords: Cameroun, Adamawa, pastoralism, farmers, ecology, farmer-herder relations

CaBBal is a geographic term specific to Adamawa (the high-altitude grasslands of Nigeria and Cameroun) used by the local Fulbe to describe the high plains. Disease-free and unoccupied by agriculturists, this environment is ideally suited for pastoralism. The caBBa are inhabited by a range of pastoral groups with varying

amounts of involvement in agricultural activities. As a rule, the degree of specialisation in pastoral economy increases with altitude.

The high density of herds on the highland pastures makes a dry season transhumance to the plains necessary. At these times, farmers invite the herders to leave their animals on harvested fields, in exchange for which the graziers are housed and fed. This association is not devoid of conflict when transhumant herds, arriving too early from the highlands, cause damage to crops.

Herders regularly consume agricultural produce. But even those who plant some crops rarely attain self-sufficiency, due to a lack of time, interest and labour for agricultural activities. The pastoralist groups therefore depend on farmers for cereals. Some peasants make substantial benefits in this trade, and now have a small herd themselves.

Contacts between farmers and herders have, however, been jeopardised by a recent infestation of tsetse flies. Transhumance to the valleys having become too dangerous for cattle, the herders are forced into sedentarisation on the caBBal. This not only puts an end to relations between agricultural and pastoral communities, but also carries a grave ecological risk. Boutrais warns that the caBBal pasture lands will not be able to sustain this increase in exploitation for any long period of time. He suggests that, should the eradication of the fly invasion not be possible, one step towards the preservation of pastures could be the introduction of a more resistant, leafier species of forage.

37. **Boutrais, J.** (1995) *Hautes Terres d'Élevage au Cameroun*. (2 volumes plus map folder.) Paris: ORSTOM.

Keywords: Cameroun, Adamawa, pastoralism, farmers, ecology, farmer-herder relations

These massive tomes describe the evolution of the relationship between the pastoralists and cultivators in the high-altitude grasslands of Cameroun. The approach is explicitly historical, covering the period of movement into the region during the nineteenth century up to very recent times. The geographical, administrative and livestock elements are described in considerable detail as is the process of incorporation of the herders into the system of the settled agriculturalists.

The second part, *Le face à face éleveurs cultivateurs*, covers conflict between the pastoralists and farmers in greater detail, describing the

consequences of population growth, cash-cropping, local politics both in the colonial and post-colonial eras. The chronicle of local and administrative attempts to overcome what has sometimes been a series of violent clashes is described. The situation in various areas of the Grassfields is described in detail and the book concludes with a regional overview.

38. **Branagan, D.** (1974) 'Conflict between Tourist Interests and Pastoralism in the Ngorongoro Highlands of Tanzania', in *Tourism in Africa and the Management of Related Resources: Proceedings of a Seminar*. Edinburgh: Centre of African Studies.

Keywords: Tanzania, Ngorongoro, pastoralism, tourism

39. **Breukers, G.** (1992) *Rapports entre Agriculteurs et Eleveurs au Nord Benin: Ecologie et Interdépendence Transformée - Bibliographie Annotée*. Amsterdam: Université d'Amsterdam.

Keywords: Africa, resource management, pastoralist productivity, conservation, conflicts, agriculturists

This report consists of a series of ten booklets and, despite its name, covers not only Benin but West Africa as a whole. These booklets were produced at the rate of one a month and form an annotated bibliography relating to political, ecological and social aspects of West African pastoralist systems, including their adaptation to environmental deterioration and increasing competition from crop-growing.

40. **The Centre for Community Organisation Research and Development (CORD)** (1991) 'Regaining Control', in M. Ramphele and C. McDowell (eds) *Restoring the Land: Environment and Change in Post-Apartheid South Africa*, pp. 65-78. London: Panos.

Keywords: South Africa, dams, floodplains, national parks, local politics, rhetoric

During South Africa's apartheid era local residents in Maputaland often came into conflict with local resource management organisations such as the Kwa-Zulu Bureau of Natural Resources. This chapter

provides a case study for two such conflicts over the use of natural resources between local populations and the institutions supposed to manage the resources. The first case concerns the use of water in the Pongola River, and specifically conflict between the Department of Water Management and flood plain farmers over the dates and timings of releases of water from the Jozini Dam. The second concerns conflicts between swamp farmers and fishermen and the Kwa-Zulu Bureau of Natural Resources over the establishment of a new National Park at Kosi Bay. The chapter argues that there is often a large gap between the rhetoric of resource management institutions, which stresses partnerships with local people, and their actions.

41. **Child, G.S.** (1991) 'People's Participation in Wildlife Utilisation in Africa', *Landscape and Urban Planning* 20(1-3): 59-162.

Keywords: Africa, planning, management policy, participation, wildlife, poaching

Current perceptions of wildlife resources are reviewed and institutional matters that influence their management are summarised, with particular reference to legislation. The negative effects of these factors on people's participation in wildlife utilisation is stressed. Various wildlife utilisation options that have been examined in Africa are briefly presented, pointing out that a combination of approaches may enhance economic returns. The limited recognition of the potential of wildlife utilisation to contribute to rural development is mentioned and attention is drawn to the lack of interest in adapting and developing indigenous technologies and traditional management systems. Historically, the emphasis has been on replacing wild animals with domestic livestock. Only recently have attempts been made to make people's participation a reality. It is clear that more resources and effort need to be directed towards improving this situation. However, little progress can be expected without fundamental shifts in attitudes and perceptions, coupled with the removal of institutional constraints. (Author)

42. **Clapham, C.** (1989) 'The Structure of Regional Conflict in Northern Ethiopia', *Cambridge Anthropology* 13(2): 3-16.

Keywords: Ethiopia, warfare, environmental degradation, state policy, wage-labour, armed movements

This article outlines structural and historical aspects of warfare between the (former) government of the Derg and rebel movements in Eritrea and northern Ethiopia. Underlying the political ideologies driving warfare, the author identifies a number of economic and environmental factors contributing to the conflict. Most important of these was the erosion of peasant livelihoods. Environmental degradation of the northern highlands has been progressive, exacerbated by population growth and ill-conceived land reform policies that increased pressure on a small land base. Opportunities for peasants to compensate for declining levels of productivity were systematically removed or disrupted by government programs. These included both the nationalisation of commercial farms at Humera, Awash and coffee-growing areas of the south and south-west where farmers could earn income as seasonal labourers, and the control by government of grain prices, marketing, and distribution. The destitution of subsistence farmers is identified as a key element in growing support for insurgent movements.

43. **Collins, R.O.** (1990) *The Waters of the Nile: Hydropolitics and the Jonglei Canal*. Oxford: Clarendon Press.

Keywords: Sudan, Nile, Jonglei Canal

44. **Cousins, B.** (1987) 'A Survey of Current Grazing Schemes in the Communal Lands of Zimbabwe', *Centre for Applied Social Sciences (CASS) Occasional Paper*. Harare: University of Zimbabwe.

Keywords: Zimbabwe, livestock, communal land, grazing schemes, boundary disputes, internal opposition

After outlining the history of grazing schemes in Zimbabwe from pre-colonial times to the post-Independence period, this research paper presents the results of a comprehensive survey of all current (1986-7) grazing schemes in the country. Questionnaires sent to AGRITEX field officers in charge of the schemes included a section on internal opposition and boundary disputes, as well as baseline data on size, scope and organisation of the schemes.

45. Cousins, B. (1992) 'Room for Dancing On: Grazing Schemes in the Communal Lands of Zimbabwe', *Centre for Applied Social Sciences (CASS) Occasional Paper NRM 4* 1992. Harare: University of Zimbabwe.

Keywords: Zimbabwe, livestock, grazing schemes, community development, key resources, local politics

Five case studies of grazing schemes are described and their relevance to range management policies are discussed. As well as examining the ecological and technical characteristics, the research paper details the institutional arrangements and power relations with each scheme. The schemes were plagued by often highly complex intra-community conflicts over communal grazing land. Furthermore, conflicts over grazing tended to interact with conflicts over other community resources, such as boreholes.

46. Cousins, B. (1993) 'A Political Economy Model of Common Property Regimes and the Case of Grazing Management in Zimbabwe', *Pastoral Development Network Paper 34b*. London: Overseas Development Institute.

Keywords: Zimbabwe, livestock, rangeland, fencing, local politics, key resources

Conceptual models of common property regimes are important as they allow comparisons between different cases and generalisations about diverse circumstances. This paper presents a critique of models of common property regimes and suggests that the 'political economy' model is the most useful analytical tool as it introduces the key issues of power relations within communities and their social and economic structure. This model is applied to a case study of the Chamatamba Grazing Scheme in Mhondoro Communal Land, Zimbabwe. In the late 1980s this scheme received a great deal of positive publicity in the national press and won a number of conservation awards. A detailed analysis of the scheme, however, revealed a number of crucial intra-community conflicts over the Grazing Scheme. It was dominated by a small number of the wealthiest cattle owners and many other members of the community felt excluded from the Scheme. Conflict was expressed mainly through the unwillingness of many residents to take part in 'community' work projects which they saw as a sort of passive resistance. The paper argues that the Chamatamba case study

indicates the need to use models that include sufficiently sensitive analyses of local level power relations.

47. **Cousins, B.** (1996) 'Livestock Production and Common Property Struggles in South Africa's Agrarian Reform', *Journal of Peasant Studies* 23(2,3): 166-208.

Keywords: South Africa, livestock, local politics, land redistribution, government, NGOs

The moves currently taking place in South Africa to redistribute land to the historically dispossessed African population are taking place within a generalised context of conflict over common property resources, producing an exceptionally complex and localised pattern of conflict. The situation is further complicated by the often disparate land tenure and local government structures left over from the (partial) reintegration of former 'homelands' into the new provincial structure. The paper concentrates on disputes over access to communal grazing lands and is based around two case studies, one in KwaZulu-Natal and one in the Eastern Cape. It examines both disputes amongst livestock owners on communally owned land and disputes between livestock owners and commercial farmers. During and after land redistribution there is significant scope for conflict between common property resource users and government and non-governmental organisations managing or advising local organisations over allocation of usufruct rights and obligations.

48. **Critchley, W., L. Mosenene, and S. Turner** (1996) 'The Green Sector: Ncedisizwe Development Organisation and Environmental and Developmental Agency, Matatiele and Mount Fletcher Districts, South Africa', in Centre for Development Co-operation Services *Successful Resource Management in Southern Africa*, pp. 30-52. Windhoek: Gamsberg Macmillan Publishers.

Keywords: South Africa, CBOs, NGOs, woodlots, vegetable gardens, policy environment

The work of one CBO and one NGO in a former 'homeland' district of South Africa is assessed. Their attempts to develop community-owned woodlot and vegetable gardens are judged to have been, by and large, successful. The success is seen to be largely based on the active

community involvement in projects, which has in turn grown out of a history of community resistance to apartheid policies. This community action has not been universal, however, and projects in some areas have failed because of internal village politics: the nature of these conflicts and their relationship to common property resources is not discussed. Despite the success, specific projects are likely to be unsustainable mainly because the likely restructuring of local government and extension services will significantly alter relationships between the CBO and local communities.

49. **Critchley, W.** (1996) 'Grazing Management Demonstrations, Swaziland', in Centre for Development Co-operation Services *Successful Resource Management in Southern Africa*, pp. 147-154. Windhoek: Gamberg Macmillan.

Keywords: Swaziland, livestock, fencing, rangeland, rotational grazing, pilot projects

This chapter provides a case study of three of the nine Grazing Demonstration projects in Swaziland. Grazing Land Management Demonstrations involved the fencing of areas ranging from 20-125 hectares, which are then subdivided into smaller paddocks. Rotational grazing is managed by committees drawn from members of the scheme. Members have to pay a nominal joining fee and a monthly grazing fee to the committee to pay for maintenance of fencing. The herds are managed to ensure maximum beef production. Fourteen of these were established in the early 1980s and nine survived through to the early 1990s with very little external assistance. The reasons for failure of five of the schemes is not stated. The chapter judges the Demonstrations to have been a success despite the fact many non-members have complained that they have lost access to significant portions of the communal rangeland and conflict has resulted in incidents of fence cutting and other sabotage. It advocates the extension of the policy to other areas of the country.

50. **Crousse, B.** (1986) 'Logique Traditionnelle et Logique d'Etat. Conflits de Pratiques et de Stratégies Foncières dans le Projet d'Aménagement de M'Bagne en Mauritanie', in B. Crousse, E. LeBris and E. LeRoy (eds) *Espaces Disputés en Afrique Noire*, pp.199-215. Paris: Karthala.

Keywords: Mauritania, Senegal river valley, land tenure, land reform

This article, written soon after the implementation of a 1983 law vesting ownership of land in Mauritania to the State, describes the current situation in the M'Bagne area and predicts the effects of these modern land tenure regulations.

The fields of the M'Bagne area, on the shores of the river Senegal, are amongst the most fertile in Mauritania. These lands are under floodwater cultivation by Toucouleur peasants, their tenure determined by a complex traditional system begun several centuries ago. The plots belong to lineages which allocate them to their member families, and the delineation of each plot is recognised and respected by all. Disturbance to this Toucouleur land tenure system has been minimal. It was left unmodified by both the colonial authorities and a post-Independence government reluctant to interfere with traditional systems.

The 1983 law represents the first large-scale land-tenure reform in Mauritania and answers the need for the nation to embark in systematic agricultural development of its territory. The M'Bagne area itself is to be turned over to intensive irrigated rice cultivation. The new law has not yet affected land tenure in the valley, and the confrontation of traditional and modern systems will inevitably cause disquiet, but Crousse predicts that modern conceptions will prevail in the end.

51. Cullis, A. (1992) 'Taking the Bull by the Horns: NGOs and Pastoralists in Coalition', *Pastoral Development Network Paper* 33d. London: Overseas Development Institute.

Keywords: Africa, NGOs, pastoralists, development projects, game parks, networking

Development and conservation activities in pastoral areas of sub-Saharan Africa have tended to undermine pastoralists' economic systems and resulted in their increasing economic and political marginalisation. This has led to more conflict between pastoralists and development agencies, in particular state institutions (especially game parks). This paper proposes a number of ways in which NGOs should reform their approaches to pastoral development to ensure they are effectively assisting pastoralists in managing their own futures.

52. **Dambo Research Unit** (M. Bell, R. Faulkner, P.L. Hotchkiss, N. Roberts and A. Windram) (1987) *The Uses of Dambos in Rural Development with Reference to Zimbabwe*. Final Report of ODA Project R3869, File Ref. ENG 505,512,10. London: ODA.

Keywords: Zimbabwe, grazing, vegetables, *dambos*, hydrology, land allocation

This report is mainly concerned with technical aspects of *dambo* hydrology but it does contain a small section on 'local level conflict over *dambo* use'. This section does no more than state that conflicts have occurred over the use of *dambos* as vegetable plots or grazing areas. These conflicts are most acute during the dry season.

53. **Darkoh, M.B.K.** (ed.) (1992) *African River Basins and Dryland Crises*. Uppsala: Research Programme on Environment and International Security, Departments of Human and Physical Geography, Uppsala University.

Keywords: Sudan, Ethiopia, river basins, drylands, ecology, land rights, resettlement, Jonglei, armed movements, warfare

The book presents studies on various dimensions of river basins and river basin development in Sudan, Ethiopia, Chad, and Kenya. The underlying theme is that river basins and surrounding drylands represent complex and complementary ecosystems that are highly responsive to natural and man-made influences. As key production areas, river basins are often the site of competing claims by different production systems. River basins and drylands have the potential of nurturing divergent social and economic interests, which may trigger political conflicts between groups, and between states.

In his introductory chapter, Mohamed Salih notes that competition over river basins is expressed at various levels, including traditional versus modern agriculture, landlord versus tenant relations, and pastoralist versus peasant interests. New migrants to river basins are often confronted by 'oldtimers' with long standing property rights. As development efforts intensify, the crisis of the drylands is likely to be transferred to river basins.

Hassan Abdel Ati shows how the damming of the Atbara river in northern Sudan in 1964, and the resulting reduction in water supply downstream, led to profound changes in tenurial and production systems among farmers and pastoralists. This created sharp

differentiation in income levels, unemployment, and out-migration on a previously unknown scale.

George Tombe Lako considers how the Jonglei Canal Project in southern Sudan was seen as a threat to their way of life by southern Nilotic people, since it would alter the ecology of the Sudd region upon which subsistence practices depend. Opposition to the Canal Project led to riots in Juba in 1974, and repeated military attacks by the SPLA (Sudanese People's Liberation Army). Construction on the Canal was abandoned in 1983 as a result.

Tuomo Melasuo and Amare Worku discuss resettlement in the Gerado river basin in Ethiopia during the 1980s. They argue that planners failed to anticipate the impact of river valley development on adjacent highland areas, which have become marginalised as a result. Population pressure from highland migrants to the river valley, and from settlers, is damaging the fragile ecology of the basin area, with attendant consequences for erosion of livelihoods.

54. Dewees, P. (1995) 'Trees and Farm Boundaries: Farm Forestry, Land Tenure and Reform in Kenya', *Africa* 65(2): 217-235.

Keywords: Kenya, Kikuyu, trees, land, tenure, land reform, boundaries

Under customary law in the Kikuyu areas of Kenya there was a distinction between rights to cultivate land and ownership of non-cultivated produce from that land. Whilst individuals were granted individual rights to cultivate a piece of land, rights over the products of trees (or some products of some trees) rested with the clan. A by-product of the granting of individual title to people with prior rights to cultivate, from the 1960s onwards, has been that other households or individuals have lost their rights to the use of trees on formerly communal land. Greater security of tenure over trees has led to an increase in tree planting by land owners. There is no discussion of conflict over this changing pattern of land and tree tenure.

55. De Bruijn, M. and H. van Dijk (1995) *Arid ways: Cultural Understandings of Insecurity in Fulbe Society, Central Mali*. Amsterdam: Thela.

Keywords: Mali, Fulbe diversification, land tenure, government interventions, environmental degradation

This volume, the result of anthropological fieldwork in the Hayre near Mopti (Mali) examines land use strategies by Fulbe in the face of changing political, economic and ecological circumstances. The bulk of the work describes the situation in Serma, a countryside village composed of Fulbe households and cattle camps.

Most people in Serma practise a combination of stock-keeping and cropping, and the lands around the village are increasingly intensively cultivated. Cattle are kept on the family fields by the village and only travel for a few weeks a year to visit salt licks.

In the past, dispossessed Fulbe of the Hayre turned to cultivation or emigration. They rarely kept non-Fulbe cattle, disliking the idea of being tied to a patron and his village and fields, and the risk of being blamed if animals went missing or died. Now, however, herding on a contract basis for sedentary agriculturists or urban dwellers has become an important source of livelihood. De Bruijn and van Dijk see this as a way of making the best of a situation which allows a herder to provide his family with income and milk, while still working with cattle.

Distribution of water, labour, land and livestock in the Hayre contains elements of pastoral custom, Islamic law and market economy. Commercial deals are the most common way of acquiring land: plots are bought and sold, rather than rented or borrowed. This makes it possible for outsiders to settle permanently. Reservoirs too are privately owned, and can be inherited, sold, leased and borrowed. But even if resources are individually owned, there is co-ordination between herding and cultivating families. Cultivators cannot be allowed to clear bush in a haphazard fashion, or there will not be any grazing land for the animals. Herding and cropping must be kept separate, to avoid damage to crops.

Traditionally, ponds forming in the rainy season were in principle open for everyone, as were pastures, but the villagers had preferential access. At times, it was necessary to exclude outsiders. If access to resources were free to all, chaos would ensue.

The situation in resource management is changing, however, due to interventions by the *Opération de Développement de l'Élevage dans la région de Mopti (ODEM)* acting on behalf of the Malian government to improve the situation of pastoralists. ODEM set aside part of the land around Serma as a grazing reserve, and deepened a natural pond to provide a permanent source of water. As a result, the villagers have no control over who uses their pastures and water reserves, and have been deprived of their autonomy with respect to natural resource management. ODEM forbids the use of the grazing reserve in certain seasons, which, combined with encroachment of

herdsmen from the Inland Delta, has increased pressure on Serma land. An extension of fields is impossible, as risks of damage by wandering animals are too high.

The integration of the Jallube and Riimaybe into a new political hierarchy extending into the international community is forcing the Serma people into a new type of competition - with resource managers, Inner Delta pastoralists, agriculturists, bureaucrats, development agencies and international consultants.

56. **Diarra, M.S.** (1975) 'Les Problèmes de Contact entre les Pasteurs Peul et les Agriculteurs dans le Niger Central', in T. Monod (ed.) *Pastoralism in Tropical Africa* pp. 284-297. London: Oxford University Press.

Keywords: Niger, Sahel, pasture, agriculturist-Fulbe cohabitation, Fulbe diversification

Fulbe communities are having to face sharp competition for land with Hausa villagers in the agricultural zone of the Sahel in Niger. Recent attempts at sedentarisation by Fulbe herders testify to their difficulties of a traditional herding lifestyle in a region of poor soils which oblige farmers to move their fields frequently. Stock-keeping now holds a secondary place in central Niger. Most Fulbe practise agriculture as well as herding, and a number of them, having lost their herds, are settling temporarily in Hausa villages.

A 1961 law banning crop-growing north of a line near the 15th parallel is ignored by farmers, and the semi-nomadic herders are being pushed further and further North. As grazing areas decline, violent conflicts occur between Fulbe and Hausa, especially at the northern reaches of agricultural land. These conflicts hinge around crop damage, for which the herders are made to compensate by the payment of fines.

However, contact does not always imply conflict, and the two groups are closely linked in a network of exchange of goods and services which has been intensified by the monetarisation of the economy. Millet and cattle are traded, cattle-keeping arrangements are concluded, and payments are made to herders to camp their animals on impoverished plots of land.

57. **Drinkwater, M.** (1992) 'Cows Eat Grass, Don't They? Evaluating Conflict over Pastoral Management in Zimbabwe', in E. Croll and D. Parkin (eds) *Bush Base: Forest Farm*, pp. 169–186. London: Routledge.

Keywords: Zimbabwe, ecology, livestock, environment, state, peasants

Since the 1940s the Rhodesian/Zimbabwean government has been involved in conflict with the peasantry over the management of grazing systems on communal lands. In essence, this conflict has been over government attempts to introduce rotational grazing schemes in fenced paddocks. To understand this conflict it is necessary to understand the rationality of the peasant's theory of grazing management. Only when they see this rationality will advocates of rotational grazing schemes consider alternative management schemes. The rationality of peasant grazing schemes has been supported by the work of ecologists who have highlighted the importance of key resources, such as *dambos* or river banks, in grazing strategy. This indicates that the rangelands which constitute land to be paddocked provide only a small percentage of total forage available in a given area. The central issue, still being contested, is the environmental impact of these competing models of range management. If the entrenched position of advocates of fenced grazing schemes is to be shifted there needs to be a greater weight of environmental evaluations supporting the peasant position.

58. **Duffield, M.** (1990) 'From Emergency to Social Security in Sudan – Part 1: The Problem', *Disasters* 14(3): 187–203.

Keywords: Sudan, state policy, food security, warfare, weapons, commercial agriculture, displacement, political economy

This article provides a comprehensive overview of the political economy of food security and conflict in Sudan as of 1990. It argues that, largely as a result of economic development policies of the state, exacerbated by civil war, there has been a profound transformation in the subsistence economy of Sudan. Contrary to the understanding of many aid agencies, the subsistence economy is in a state of chronic – as opposed to temporary – crisis. New categories of poor have emerged that are increasingly unsupported by family or community structures. Short-term emergency relief of the kind traditionally provided by international agencies cannot sufficiently address such structural changes. The author provides several examples of the way

in which broader economic agendas have capitalised on local level conflicts.

Sudan is unusual in Africa for the extent of concentration of agricultural production in the mechanised, commercial sector. As of 1989, the area of land under mechanised cultivation exceeded that under 'traditional' cultivation. This has been a key factor in the growing unprofitability of subsistence production, and in the growth of migrant wage-labourers. The commercialisation of agriculture has also increased pressure on subsistence farmers and pastoralists. In an attempt to maintain viability, these sectors have been forced to intensify production, and to adopt environmentally destructive strategies in order to survive. The crisis in subsistence has also been accompanied by large-scale migration from rural to urban areas.

While the crisis in subsistence was mainly confined to the north, the strength of southern economies, primarily in the form of cattle, increasingly became a target for exploitation by northern interests. The author argues that the civil war in Sudan should be seen not only as a conflict over scarce resources, but as a full-scale assault on the subsistence base of southern peoples.

As a means of pursuing the war, government strategy in Bahr el Ghazal has been to arm militia drawn from Arabic-speaking Baggara tribes. Economic changes and the mechanisation of agriculture had already impoverished Baggara pastoralists prior to the drought and famine of the early 1980s. Although conflict over grazing rights between Dinka and Baggara peoples had been common in the past, disputes between these groups had been settled at periodic tribal conferences. With the spread of automatic weapons, however, dispute resolution has broken down, and conflict between the Dinka and the Baggara, fuelled by growing resource depletion in the north, has become increasingly politicised. In 1985, government arming of Baggara groups began in earnest. Over 200,000 Dinka cattle were raided, and several hundred people killed from November to February of that year alone. This scale of attack has displaced tens of thousands of southerners to the north. A similar process has occurred in the Upper Nile. The author notes that the manner in which the war is being fought has exacerbated locally-based tribal tensions, and polarised ethnic differences. Moreover, whole tribes or tribal sub-sections organised around discreet subsistence economies have ceased to exist.

59. **Dyson-Hudson, R. and J.T. McCabe** (1983) 'Water Resources and Livestock Movements in South Turkana, Kenya', *Nomadic Peoples* 14: 41-46.

Keywords: Kenya, Turkana, pastoralists, grazing conditions, water resources, security, ethnic conflict

The water and grazing resources of South Turkana, Kenya are described and the grazing strategies of a group of Turkana pastoralists are discussed. A major obstacle to the development of the livestock industry is a lack of security caused by raiding from the neighbouring Pokot. If a borehole and improved security was provided in the south west of the area some important new grazing areas would become available, reducing pressure on existing grazing areas.

60. **Enghoff, M.** (1990) 'Wildlife Conservation, Ecological Strategies and Pastoral Communities: A Contribution to the Understanding of Parks and People in East Africa', *Nomadic Peoples* 25,27: 93-107.

Keywords: East Africa, conservation, ecology, pastoralism, colonialism, wildlife

State organised wildlife conservation is one of the major forms of land use in East African semi-arid areas. It is a category of land use that has often had a negative impact on the interests about pastoral people and has, therefore, led to conflict. Not only have pastoralists lost large tracts of land to parks but their livestock have also been adversely affected by the presence of large numbers of wildlife in pastoral areas, especially by the spread of tick-borne diseases carried by wildlife. The exclusion of pastoralists, and the setting aside of large areas for parks, are built on misconceptions of pastoral production systems and the ecological history of East African grasslands. Even in the one area in which joint conservation and pastoral land use has been allowed, in the Ngorongoro Conservation Area, Tanzania, regulations on the activities of pastoralists, such as preventing them taking part in any agricultural activities, are having negative effects on their livelihood. Furthermore, some regulations, such as preventing grass burning may have a negative impact on the ecology. Despite these problems, combining pastoralism and conservation land uses is necessary if both pastoral societies and wildlife are to continue to exist.

61. Ensminger, J. and A. Rutten (1991) 'The Political Economy of Changing Property Rights: Dismantling the Pastoral Commons', *American Ethnologist* 18(4): 683–699.

Keywords: Kenya, Orma, pastoralism, political economy, property rights, cultural change, local politics

Using a model of changing property rights built on 'new institutional economic' theory, this paper considers how pastoralists' property rights have changed under conditions of economic growth. Based on a case study of Orma pastoralists in north-eastern Kenya it shows how the sedentarisation of some pastoralists has led to them instituting new, more exclusive property rights to some grazing areas. To legitimate these changed property rights they developed both ideological justifications and over time innovative enforcement techniques. Sedentary livestock owners were also able to use their access to the state to enforce more restrictive property rights, to the detriment of pastoralists. The state was willing to intervene largely because of the presence of large numbers of Somali pastoralists in the area, especially during drought years. The situation was complicated, however, by the fact that some sedentarised households still had family members working as pastoralists, and retained an economic interest in pastoral herds. Conflicts over property rights are therefore analysed as having economic, political and ideological aspects.

62. Ezeomah, C. (1987) 'The Settlement Problems of Nomadic Fulani in Nigeria', *Rural Africana* 27: 35–45.

Keywords: Nigeria, Fulbe, sedentary-settled conflicts, land competition, education

This paper examines the problem of the settlement of the Fulbe and the implications for educational development. The author describes the evolution of land tenure systems in Nigeria, which concludes with the 1978 Land Use Act, and considers how the nomadic Fulbe fit into this scheme.

In the past land might be loaned to strangers by the owner, for the building of houses and for farming, but it would not be given permanently, and reverted to its owners when the strangers left. Thus the migrating Fulbe created no permanent loss of land, and because of their desire for independence, they did not make any effort to enter landholding systems and acquire territory for grazing and watering.

In the past, relations between pastoralist and farmer were friendly. There was no conflict over grazing land, and as pastures and farms were kept separate, animals did not wander into fields and cause damage. With increasing encroachment of cultivators onto grazing land, the nomads began to offer compensation for land use, such as manuring of farm land, gifts of meat, milk and money. But with a continuing population growth and increasing competition for land it becomes more and more difficult for nomads to graze their herds. Conflicts have become more and more frequent between herders and farmers, and judgements inevitably result in compensation for the farmer.

In response, the nomadic Fulbe have formed the National Livestock Rearers Association (formerly the Miyetti Allah Club), and have requested recognition as an integral part of the Nigerian nation. The author stresses the need to establish grazing reserves to encourage both mixed farming and settlement of nomads, which will facilitate educational development.

63. **Famoriyo, S.** (1987) 'Land Use Based on Need?' *Ceres* 20 (1): 24-28.

Keywords: Nigeria, land use conflict, government appropriation, Land Use Act

This article considers the aftermath of attempts to modernise land use legislation in the state of Kaduna, Nigeria. The Land Use Act of 1978 gives the government the authority to assign and lease land considered to be undeveloped. It was introduced to put an end to 'feudal regulations governing rural land administration and to encourage economic development'.

However the practical application of these laws has created problems revealed by an Investigation Commission. The 1978 Act disadvantaged smallholders and caused a proliferation of landlessness, while compensation to farmers whose lands are compulsorily acquired 'for public purpose' is unsatisfactory. One of the most contentious issues is that of grazing reserves, and the question of compensation for lands taken from farmers to use as pasture has involved pastoral nomads, farmers, and traditional rulers in arguments. The Commission has begun the long task of assessing the 21,000 complaints it has received, in an attempt to resolve these land rights conflicts and reconcile economic and social imperatives.

64. **Ferguson, J.** (1990) *The Anti-Politics Machine: "Development", Depoliticization and Bureaucratic Power in Lesotho*. Cambridge: Cambridge University Press.

Keywords: Lesotho, rural development projects, livestock, bureaucracy, decentralisation, IGOs

Based around a case study of a rural development scheme in Thaba Tseka district, Lesotho, this book examines the unexpected outcomes of development policies. It argues that misconceptions about the economic and political realities of the area have led to policies that increased bureaucratic power and allowed a small elite to increase their control of supposedly communal resources, in particular grazing land. This led to conflict between the majority of small-scale livestock owners and the schemes' administrators, including fieldworkers from the international development organisations backing the project.

65. **Fortmann, Louise** (1995) 'Talking Claims: Discursive Strategies in Contesting Property', *World Development* 23: 1053–1063.

Keywords: Zimbabwe, narratives, land conflict, fencing, commercial farmers, local politics

Disputes between commercial farmers and residents of communal areas over natural resources are common in Zimbabwe. Both villagers and commercial farmers use stories to support their claims to natural resources on commercial farms. Villagers legitimise their claims in terms of past recognition of their rights to access (including recognition by previous commercial farmers). These stories tend to be framed in communal terminology. Farmers, on the other hand, tend to legitimise their property claims in terms of their personal ecological stewardship (and villagers' lack of ecological concern). The state also tells stories about access to resources and is used as a backdrop to villagers' and farmers' stories.

66. Finnegan, G.A. and C.L. Delgado (1981) 'Cachez la Vache: Mossi Cattle, Fulbe Keepers, and the Maintenance of Ethnicity', in M.D. Zamora, V.H. Sutlive, and N. Altshuler (eds) *Image and Reality in African Interethnic Relations: The Fulbe and Their Neighbours*, pp. 31-50. Williamsburg: College of William and Mary Department of Anthropology.

Keywords: Burkina Faso, ethnicity, Mossi, Fulbe

The state of Tenkodogo, central Burkina Faso, presents a mosaic of multi-ethnic groups among which the Mossi claim social and political pre-eminence. Delgado and Finnegan examine the relations between these Mossi, who are peasants, and the Fulbe, who practice some agriculture, but remain semi-nomadic herders.

Those Fulbe who have settled to herd Mossi cattle as well as their own, form a community to which land is allocated for pasture and farming. These Fulbe camps are scattered in bush areas near Mossi villages. In return for their herding services Fulbe receive cash, nuts or millet. Manure from the herds, a commodity in increasing demand, is kept by the grazier. These herding relationships are often hereditary and stable. Fulbe may keep cattle for a Mossi whose father's cattle had been herded by their fathers.

The Tenkodogo Fulbe are highly integrated into the Mossi economy, partly because they are not self-sufficient in grain. Delgado concludes that under these circumstances Fulbe specialisation in livestock maximises economic welfare in Tenkodogo. However, despite their economic and political links there is little social interaction between Mossi and Fulbe. This can be seen as a functional separation. The Mossi require an unambiguous relationship with their 'bankers' the Fulbe, and the lack of social ties avoids clouding the economic nature of the relationship.

67. Fortmann, L. and J. Bruce (1990) 'Tenure and Gender Issues in Forest Policy', in P.N. Bradley and K. McNamara (eds) 'Living with Trees: Policies for Forestry Management in Zimbabwe', *World Bank Technical Paper* No. 120: 199-210. Washington D.C.: World Bank.

Keywords: Zimbabwe, gender, woodland, forest reserves, local government, resettlement

In Zimbabwe tree tenure does not always correspond to land tenure, especially on communally owned land. Different people and

institutions can claim ownership or access to the same, or some of the same, trees on a given piece of land. As the ownership, or rights of access, to land can also be contested there is obviously considerable scope for conflict over these resources. This chapter looks at the different axes of conflict, for example between the Forestry Commission and neighbouring communities, but specifically tries to put them into the context of differing actual or claimed tenure rights determined by gender. It identifies a particular problem for widows and divorcees in that they will often lose access to trees, even those they planted, on the death of, or divorce from, their husband. As it is women who have to secure adequate fuelwood for the family they have a particularly important role to play in local management of trees. At present, however, they are more or less totally excluded from any local resource management structures. If women are to participate in these structures (including conflict resolution structures) there should be a tenure system that gives them far greater security.

68. Frantz, C. (1975) 'Contraction and Expansion in Nigerian Bovine Pastoralism', in T. Monod (ed.) *Pastoralism in Tropical Africa*, pp. 338–351. London: Oxford University Press.

Keywords: Nigeria, economy, ecology, farmer–herder relationships

Frantz focuses his study on man-land relations and suggests that political, economic, demographic, religious, legal and cultural factors are more important than ecological ones in determining relationships between pastoralists and agriculturists. Frantz discusses these factors and the ways in which they have modified cattle-rearing and the organisation of Nigerian society. He details the manner in which the expansion of government intervention in the past century has affected relations between sedentary and pastoral ethnic groups.

In an effort to boost Nigerian meat production, the government is encouraging nomadic and semi-nomadic people to settle permanently and take up cropping as well as cattle-raising. Large zones have been demarcated as grazing areas, and land set aside to encourage settlement.

As a consequence the traditional relationship between farmer and grazier is being profoundly modified. Transhumant and semi-sedentary Fulbe now grow their own crops, so rely less on farmers to provide them with agricultural staples. At the same time, farmers are broadening the range of crops grown, shortening or eliminating fallowing and making grazing on crop residues impracticable. The use

of plants for fertilisation further reduces the usefulness of cattle dung. Pastoralists and farmers are both more self-sufficient in food, and their dependence on each other is decreasing. On the other hand, all become more dependent on town-dwellers.

In the continuous process of sedentarisation the attitudes and behaviour of the Fulbe are, says Frantz, becoming more and more like those of the sedentary communities, and cattle-rearing, once their prerogative, is becoming trans-ethnic.

69. French, D. (1986) 'Confronting an Unsolvable Problem: Deforestation in Malai', *World Development* 14(4): 531-540.

Keywords: Malai, deforestation

70. Galaty, J. (1980) 'The Maasai Group Ranch: Politics and Development in an African Pastoral Society', in P. Salzmänn (ed.) *When Nomads Settle: Processes of Sedentarisation as Adaptation and Response*, pp. 157-172. New York: Praeger.

Keywords: Kenya, pastoralists, privatisation, local politics, traditional authorities, national politics

The development of Group Ranches in Maasai areas of Kenya has been seen by planners as a means of stimulating economic change in a pastoral system. The ranches also have, however, an important political role and it is in this context that many Maasai themselves perceive the importance of Group Ranches. Over the past century the Maasai lost much of their best pasture to European and then African agriculturists, who were granted free or leasehold tenure to the better watered areas. Many Maasai, therefore, saw the formal tenure rights granted to them under the Group Ranches policy as a way of ensuring they retained control of their grazing land. The division of Maasai land into ranches has tended to follow pre-existing divisions in Maasai society. Inter-ranch conflicts over pasture land must be seen in the context of these local institutions and are not simply an aspect of purely economic competition between different ranches.

71. Galaty, J. (1992) 'The Land is Yours: Social and Economic Factors in the Privatisation, Sub-division and Sale of Maasai Ranches', *Nomadic Peoples* 30: 26-40.

Keywords: Kenya, land, pastoralism, privatisation, sub-division, social change

Group ranches, owned under private tenure by a group of registered members and managed by an elected committee, were established in the Narok and Kajiado districts of Kenya in the 1970s. More recently there has been a process whereby these group ranches have been subdivided into individual tenure ranches. Maasai herders have seen the gradual erosion of their territory and see individual tenure as a way of ensuring they retain access to at least some land. Though many Maasai are fearful of the implications of individualisation of formerly communal tenure, they see it as their only political option to prevent further loss of territory. This paper identifies why these subdivided plots have been sold off by the people they were allocated to and analyses the uses of funds raised by the sales. As almost all the land sold has been bought by speculators, Maasai continue to occupy the land they have sold. Given the widespread land hunger in Kenya, however, it is unlikely that this situation will continue for long.

72. Gallais, J. (1972) 'Essai sur la Situation Actuelle des Relations entre Pasteurs et Paysans dans le Sahel Ouest-africain', in *Etudes de Géographie Tropicale Offertes à Pierre Gourou*, pp. 301-313. Paris: Mouton.
73. Gallais, J. (1975) 'Traditions Pastorales et Développement: Problèmes Actuels dans la Région de Mopti (Mali)', in T. Monod (ed.) *Pastoralism in Tropical Africa*, pp. 354-368. London: Oxford University Press.

Keywords: Mali, traditional land use regulations, environmental degradation, government action

Jean Gallais details a traditional text, the 'Code of the Dina', laid down by the Fulbe ruler Sheik Ahmadou over one hundred years ago. The Code of the Dina, which regulates land use and rights in the Niger Delta of Mali, is still referred to today by the local population. The Delta is exploited by fishermen and by cultivators, as well as by

herders who converge to the area with their cattle when the Sudan-Sahel grazing lands dries out.

To avoid villages and cultivated areas, Sheik Ahmadou modified the network of traditional paths and night camping places which cattle must follow in their transhumance. When on the move, the herd is split into groups in the manner of an army, and the leading herder is responsible for any damages to crops or fishing grounds. The Delta itself is divided into plots owned collectively by different herder groups. The administrator of each group levies a tax, the *tolo*, on outsiders for the use of grazing land.

The Code of the Dina is, says Gallais, perfectly adapted to the ecology of the Delta and is inspired with a concern for a fair and peaceful sharing of the local resources by the people of the Delta, and for the settlement of the Fulbe. Because the code of the Dina allowed for a parallel expansion of agricultural land and cattle numbers, it caused a beneficial multiplication of resources and a balanced economy based on the exchange between groups of fish, cereals, meat and milk. But in the light of abuse of land rights and taxation by the local élites, and pressure from foreign herders to use the pastures, the post-colonial government abolished the *tolo* and all traditional rights to land and water.

The situation in the Niger Delta in the 1970s remains problematic. The size of herds – both local and from the hinterland – is increasing, and the grazing lands are in serious danger of degradation. In addition to this, the rice fields are expanding. Competition for resources has become severe, and the usage of land in the Niger Delta urgently needs to be rationalised. This rationalisation must, says Gallais, follow the traditional and prestigious framework of the Code of the Dina, which is ideally suited to the environment. Development efforts can only be made with a thorough knowledge of traditional Fulbe social organisation.

74. Gallais J. (1977) 'Strategies Pastorales et Agricoles des Sahéliens Durant la Secheresse 1969-1974', *Travaux et Documents de Geographies Tropicales* 30. Paris: CEGET.

Keywords: Sahel, drought

75. Gallais, J. (1984) *Hommes du Sahel: Espaces-temps et Pouvoirs. Le Delta Intérieur du Niger 1960–1980*. Paris: Flammarion.

Keywords: Mali, Inland Delta, nature–culture relations, environmental degradation

Gallais revisited the Niger Delta in Mali in the early 1980s and found it considerably changed since the time of his first visits in the 1960s. Drought has exacerbated the impact of increased demographic pressure: pastures are reduced and degraded; urban growth and the smoking of fish have accelerated woodcutting; decreases in flood cycles have diminished fish numbers; and cultivated areas have been extended without providing security from environmental variations. Gallais concludes that the view of a static past marked by a succession of times of harmony and of tension in culture–nature relations is flawed. It is in the nature of people to place stress on their relations with their environment.

Administrative powers and pastoral leaders of the Delta intervene together to limit conflicts between herders over trails and rights of access. But the peasant communities, on the other hand, divided into separate groups based on ethnic identity and antiquity of settlement, seem to be without strategy, input or real power. The Delta could be developed and exploited more efficiently, but only if its inhabitants as a whole are interested in its prosperity.

76. Gamaledinn, M. (1987) 'State Policy and Famine in the Awash Valley of Ethiopia: The Lessons for Conservation', in D. Anderson and R. Grove (eds) *Conservation in Africa: People, Policies and Practice*. Cambridge: Cambridge University Press.

Keywords: Ethiopia, Afar, pastoralists, commercial agriculture, state policy, farmer–herder relations, drought, famine

The chapter considers factors leading to famine among the pastoral Afar people of northeast Ethiopia in 1972–3. The author argues that the expansion of irrigated agriculture in the Awash Valley in the 1960s greatly exacerbated Afar vulnerability to drought, by alienating large sections of wet season grazing land. Traditional patterns of movement in response to seasonal flooding downstream were also disrupted by the construction of three dams, while forage reserves were reduced by timber clearance for construction, and by woodcutting and charcoal production by farmers. Long-standing relations of economic co-

operation between the lowland Afar and peasant farmers living on the highland escarpment also deteriorated, as highlanders restricted the movement of Afar cattle onto the escarpment for dry season grazing. These circumstances, together with worsening terms in the livestock, grain trade, and the failure of rains in 1971, triggered the 'Great Famine' among the Afar. The author argues that state development policies in the Awash are partly responsible for a higher mortality among pastoral groups such as the Afar, as compared with other peoples in northern Ethiopia affected by the famine.

77. See also: **Gamaledinn, M.** (1993) 'The Decline of Afar Pastoralism', in J. Markakis (ed.) *Conflict and the Decline of Pastoralism in the Horn of Africa*. Basingstoke: Macmillan Press Ltd.
78. **Geheb, K.** (1995) 'Exploring People-Environment Relationships: The Changing Nature of the Small-scale Fishery in the Kenyan Sector of Lake Victoria', in T. Binns (ed.) *People and Environment in Africa*, pp. 91-101. Chichester: John Wiley.

Keywords: Kenya, Lake Victoria, fishing, ecological changes, regulations, open-access

Lake Victoria provides something like 85% of Kenya's total fish production, mostly from small-scale fishing activities. This chapter traces changes in the small-scale fishing sector from pre-colonial times, through the colonial period, up to the present day. Increased numbers of fishermen and ecological changes, mainly caused by the introduction of exotic species of fish, have led to decreases in total catches. The government has, therefore, tried to introduce regulations to control the industry. Economic pressures have, however, led most local fishermen to circumvent the regulations, which are described as a failure. The chapter advocates an alternative approach which seeks to increase local community control over the lake resources and to encourage the establishment of local institutions that mirror the pre-colonial regulatory system.

79. **Ghimire, K.** (1994) 'Parks and People: Livelihood Issues in National Parks Management in Thailand and Madagascar', *Development and Change* 25(1): 195-229.

Keywords: Thailand, Madagascar, conservation, forests, national parks, buffer zones, unequal development

Many nation-states have significantly increased the areas set aside for protection of natural resources over the past few decades. Protected areas now constitute significant percentages of the total land area of many Asian and African counties. In the majority of cases the establishment of protected areas has resulted in the displacement of local inhabitants who had previously supplied resources such as fuelwood, additional grazing land, swidden agricultural land and wild foods (animals and fruits).

This paper presents case studies from Thailand and Madagascar. Two major National Parks in Madagascar have attracted considerable international funding, mainly because of the large number of endemic species. Local inhabitants who used to use the forest areas to supply a whole series of resources are now prevented from access. This has caused particular problems for members of the communities without agricultural land (usually held under individual free or leasehold tenure). These poorer farmers used to rely upon swidden agriculture in the communal forest zones, now reserved as National Parks. International funders stress the need for rural development in a buffer zone around the Parks, but it is clear their primary interest is in reducing conflict rather than actually fostering sustainable rural livelihoods. Investment in rural development projects has accounted for very small percentages of the total project budget and has suffered from many of familiar shortcomings of rural development around the world. Where they have benefited rural people it has tended not to be the poorer members of society who have lost most from the establishment of the park.

80. **Gibson, C.C. and S.A. Marks** (1995) 'Transforming Rural Hunters into Conservationists: An Assessment of Community-based Wildlife Management Programmes in Africa', *World Development* 6: 941-957

Keywords: Zambia, conservation, wildlife, community development, poaching, enforcement

Community-based wildlife management programmes have been implemented in a number of southern and eastern African countries as a response to the perceived failures of previous control policies. Using a game theory approach this paper examines the Administrative Management Design for Game Management Areas (ADMADe) in Zambia. Though the policy has successfully reduced the number of large mammals killed by illegal hunters it has not fulfilled its stated ambitions. A key problem has been the policy of working through local chiefs who have manipulated the system to ensure most benefits accrue to them or their close followers. Development income arising from the policy has been negligible. Even where it exists, hunters have received no direct benefits from stopping killing wildlife, as the money has been funnelled into community projects, such as schools and clinics, used by everybody. Hunters can act as 'free riders' and obtain access to the communal good whilst continuing to benefit from hunting. The reduction in large mammal poaching has largely been a result of more effective enforcement due to the programme to appoint (via chiefs) local wildlife scouts. Scouts receive relatively generous bonuses for ensuring enforcement. This has pushed local poachers towards hunting smaller animals using more discreet techniques such as snares, but only a negligible decrease in the total biomass killed.

81. **Good, K.** (1993) 'At the Ends of the Ladder: Radical Inequalities in Botswana', *Journal of Modern Africa Studies* 31(2): 203–230.

Keywords: Botswana, San, poverty, minorities, land, politics

Botswana has one of the most stratified income distributions in the world. The very poorest section of society are called by the Botswana government Remote Area Dwellers. The vast majority of these people belong to San-speaking groups. The San population has been gradually squeezed out of economically lucrative activities over hundreds of years and pushed into the most ecological marginal areas of the country. Their marginalisation has been justified by the myth of their timeless hunter-gather existence in which there are no concepts of ownership of property or political structures. In recent years their access to even the remaining resources has been challenged. The expansion of ranches has denied them access used for the collection of veldt products and hunting restrictions have prevented them from gaining access to wildlife. Their lack of any political representation has made it extremely difficult for them to resist these moves.

82. Grove, A. (1993) 'Water Use by the Chagga on Kilimanjaro', *African Affairs* 92(368): 431–448.

Keywords: Tanzania, Chagga, water, communal labour, irrigation, vegetables, village councils

The paper describes the furrow system of water distribution on the southern slopes of Kilimanjaro. It shows how the pre-colonial furrow system remains an important factor in local agricultural production, especially the potentially lucrative market vegetable gardening sector. The paper describes the local institutions that manage the distribution of water and communal labour to ensure the furrows maintenance. The dispute reconciliation mechanism is seen as being relatively successful largely because pre-existing systems managed to adapt and continue despite the government 'villagisation' programme of the 1970s.

83. Gruenais, M-E. (1986) 'Territoires Autochtones et Mise en Valeur des Terres', in B. Crousse, E. LeBris and E. LeRoy (eds.) *Espaces Disputés en Afrique Noire*, pp. 283–298. Paris: Karthala.

Keywords: West Africa, land tenure, *mise en valeur*

The author cautions against the concept of '*mise en valeur*', land developing, which implies that only exploited lands deserve consideration. These ideas are opposed to the traditional logic which, although it does not deny the importance of labour in the man–soil relationship, does not make it a sufficient determinant of ownership. In traditional land tenure, use of land is dependent on obtaining permission from the group that first established a privileged link with it. A group has a history attesting to its connection with a portion of space, its territory. This connection justifies the group's control over it.

Western land tenure concepts do not recognise the triple relationship on which traditional land tenure is based: space, user, owner. The idea of *mise en valeur* bases the man–space relation on the land itself, rather than on the relation between people. It puts into question the integrity of the groups by eliminating the concept of territory.

84. **Gueye, M.B.** (1994) *Conflicts and Alliances between Farmers and Herders: A Case Study of the Goll of Fandene Village, Senegal*. London: IIED.

Keywords: Senegal, farmers, herders, conflict

85. **Hadejia, I.A.** (1993) *Land Use Conflict in the Guri District of the Jigawa State*. Paper presented at the national policy workshop on utilisation and sustainability of *fadama* in northern Nigeria in Maiduguri, 15-17 February 1993. Reference: 6820 - RRMG. London: Overseas Development Institute.

Keywords: Nigeria, pastoralists, Fulbe, farmer-herder conflict

The large-scale policies implemented by the Nigerian government in the 1970s to encourage agriculture (River Basin Development Authorities, Land Use Act 1978, Green Revolution, etc.) brought more land under cultivation at the expense of pastoralism, thus laying the foundation for land use conflict over the *fadama* lands between cultivators and Fulbe cattle herders in northern Nigeria.

Land ownership and land use acts are held by the sedentary population. Conflicts are especially frequent in the dry season, and two viewpoints were recorded from the disputing parties. The cultivators hold that the Fulbe inflict intentional and deliberate damage to fields, and that the herders move in groups armed with bows and arrows to attack any cultivator who attempts to stop them. The Fulbe, on the other hand, claim that the expansion of cultivation, particularly dry season cropping, has taken much of the upland and *fadama* land that used to be traditional grazing land.

Causes of land use conflict are classed into two broad categories by the author: remote and immediate. Remote factors such as drought, irrigation farming and the preferential treatment of the crop production sector are natural or government-induced. Immediate causes are brought about by direct action of one group against another - crop damage, bush burning, etc.

The effects of land use conflict are disastrous: loss of lives and property, reduced livestock populations, trade boycotts by Fulbe, and the deterioration of what is referred to as the symbiotic relationship between farmers and herders. Peace must be instated and this can only be done through a recognition of the rights of the pastoralists and their sedentarisation within grazing reserves.

86. **Hailu, T.** (1991) 'Resettlement: Kill or Cure?' in O. Bennett (ed.) *Greenwar: Environment and Conflict*. London: Panos Institute.

Keywords: Ethiopia, Wollo, farmers, famine, resettlement, land use, conflict

The chapter considers conflict between resettled farmers from famine-affected areas of the north, and local communities in central and southern Ethiopia. In 1984, the government announced emergency plans to resettle some 500,000 households from Eritrea, Tigray and Wollo to various sites in Wollega, Illubabor, Kaffa, and Gojjam regions. The author describes how some 600 peasants from Wollo were relocated in Metekel, Gojjam, where local political authorities assumed there was excess agricultural land available. This land, however, was an integral part of the local Beja people's farming system, which brings land under production on a rotating basis, and always leaves some plots fallow each season. Granting settlers rights to this land thus created a serious conflict with the host community. In addition, settlements were constructed by clearing forest areas used by various Beja clans as a common resource. Feeling their land and forest under threat, individual Beja began to attack and kill Wollo peasants, many of whom fled resettlement areas and returned to Wollo.

87. **Hamkes, R.K.** (1991) 'Crop and Livestock Losses to Wild Animals in the Bulilimangwe Natural Resources Management Project Area', *Centre for Applied Social Sciences (CASS) Working Paper 1-91*. Harare: University of Zimbabwe.

Keywords: Zimbabwe, CAMPFIRE, livestock, crops, wildlife, administrative areas, scale

This research paper reports preliminary data from a household survey of seven wards in the Bulilimangwe District, Zimbabwe. The survey revealed that there were significant differences in the incidence of crop and livestock losses to wild animals between Village Development Committee (VIDCO) areas. The VIDCOs nearest the unsettled wildlife areas experienced the greatest losses, especially from crop destruction by elephants and livestock predation by hyenas. Households in VIDCOs not bordering the unsettled areas suffered few losses. The paper argues that this pattern indicates a need to rethink the distribution of benefits from CAMPFIRE if the stated principle that

'those who pay the costs of living should reap the benefits' is to be upheld.

88. **Hasler, R.** (1996) *Agriculture, Foraging and Wildlife Resource Use in Africa: Cultural and Political Dynamics in the Zambezi Valley*. London and New York: Kegan Paul International and Columbia University Press.

Keywords: Zimbabwe, Zambezi, crops, wildlife, foraging

89. **Helland, J.** (1994) 'Development Interventions and Pastoral Dynamics in Southern Ethiopia: A Discussion of Natural Resources Management in Borana Pastoralism', *Working Papers in African Studies* No. 186. Boston: African Studies Center, Boston University.

Keywords: Ethiopia, Borana, pastoralists, development projects, resource management

The paper presents an overview of Borana social organisation, and its relationship to natural resource management. Borana social life is linked to access rights to *tulaani salaani*, or deep wells scattered throughout Borana territory. Since access rights to pasture is unlimited in the Borana social system, restricted access to deep wells has historically served to keep herd numbers at sustainable levels. Recently, however, development agencies have supported the construction of shallow ponds, for which access is not limited by traditional social networks. This has served to lift the ceiling on livestock numbers, and created problems of over-grazing. Development agencies have also misunderstood the Borana concept of *madaa*, by assuming it refers to a social unit for natural resource management. *Madaa* to the Borana, however, means a complex cluster of use rights linked to affinal and consanguinal ties which are not territorially based. That these ties have served to limit natural resource exploitation to sustainable levels is a by-product, rather than a function, of Borana social organisation. The organisation of water use for the Borana is not primarily about resource management, but about maintaining peaceful relationships and the Borana way of life.

90. **Hjort af Ornas, A and D. Gudrun** (1991) *Responsible Man: The Atmaan Beja of Northeastern Sudan*. Uppsala: Stockholm Studies in Social Anthropology.

Keywords: Sudan, Beja, pastoralists, political economy, wage-labour, drought, famine

This is a comprehensive study of the Atmaan Beja people of Red Sea Province, Sudan, including the transformation of their pastoral way of life. The Atmaan occupy arid lands. Traditionally they employed a mixture of production strategies, with camel rearing as the most important activity. Since the early 1940s, however, drought, a reduction in access to rangelands, and environmental degradation have squeezed many Atmaan out of their traditional niche of camel rearing. By 1980, wage-labour in urban areas such as Port Sudan had become one of the mainstays of their subsistence economy. Transformations in the larger political economy of the region have also had an impact. Small-scale sorghum production and purchases of sorghum have always been essential to Atmaan economies. A growing monopoly on sorghum flows by a few powerful traders during the 1970s, however, created worsening terms of trade, as sorghum was increasingly directed toward urban markets. The decline in viability of Atmaan pastoralism culminated in the drought and famine of the mid-1980s. The authors note that, while their traditional economy was one of open or submerged conflict, at least all Atmaan were herders devoted to the maintenance of a pastoral way of life. The erosion of this way of life, and the incorporation of the Atmaan into the wider political economy of the region, has created new social divisions, and diverging ideas about how best to maintain a fragile resource base.

91. **Hogg, R.** (1992) 'NGOs, Pastoralists and the Myth of Community: Three Case Studies of Pastoral Development in East Africa', *Nomadic Peoples*, 30: 122-146.

Keywords: Ethiopia, Kenya, rural development, NGOs, pastoralism, institutional change, traditional authorities

Disillusionment with the ability of large-scale rural development projects to alleviate rural poverty has led to an increased emphasis on NGOs. NGOs tend to concentrate on projects with a small-scale community level approach and are particularly keen on institution-building mechanisms. Based on evidence from three case studies of pastoral development projects, one in Ethiopia and two in Kenya, this paper argues that their approach appears to have some serious flaws. Firstly because of a failure to define what is meant by community, it

is unclear exactly which institutions are supposed to be strengthened and what their exact resource management function is. Secondly, because they have tended not to collect baseline information on pastoral systems, they have been unable to monitor how these resource management functions have changed over time, and thereby establish that resource management institutions have indeed been strengthened. Thirdly, the small scale of the projects means that they have not been able to take into account wider problems of pastoral areas, such as the loss of territory to agriculturists, or to engage in active negotiations with the state.

92. **Homewood, K.** (1995) 'Development, Demarcation and Ecological Outcomes in Maasailand', *Africa* 65(3): 331-350.

Keywords: pastoralism, boundaries, ecology, protected areas, rural development

Maasailand, divided by an international boundary, has been subject to two very different development regimes. On both sides of the border there have been development policies designed to increase livestock production, but these have been very different. The Maasai have been affected by the demarcation of substantial areas of land as game reserves from which the pastoralists are either totally excluded or have had their activities severely constrained. This paper uses data collected from sites in both Kenya and Tanzania to determine how the different interventions have affected ecological and economic aspects of pastoralism. Counter-intuitively the data indicates that factors such as levels of off-take, size of herd and human nutrition are similar. Pastoralists have often developed strategies that resemble their past management systems, despite the new interventions. Pastoralists on privatised ranches in Kenya, for example, have negotiated reciprocal arrangements with neighbours to allow seasonal movements of herds in order to track environmental variability. Likewise, Tanzanian herders have moved their herds across the international boundary in order to take advantage of a better marketing structure in Kenya. Demarcation has, however had its costs. Firstly the data gives no indication of the rates at which people have been forced out of pastoralism. Secondly pastoralists' strategies have often brought them into conflict with their (Maasai and non-Maasai) neighbours and especially with Park authorities.

93. **Homewood, K., and W.A. Rodgers** (1991) *Maasailand Ecology: Pastoralists, Development and Wildlife Conservation in Ngorongoro, Tanzania*. Cambridge: Cambridge University Press.

Keywords: Tanzania, pastoralism, tourism, conservation, wildlife, livestock

Sections of this book, especially Chapter 11, consider the relationship between conservation and pastoral development in the Ngorongoro Conservation Area (NCA), Tanzania. The founding principal of the NCA was that pastoralism and wildlife conservation could be complementary. The book argues that, despite conflicts between the conservation authorities and Maasai pastoralists, the two land uses can indeed be complementary. Alternatives to pastoralism, in particular large-scale cultivation, would conflict with conservation priorities to a much greater extent. Tourism, often seen as the most complementary land use for conservation, also has environmental costs and its returns to the economy are lower than often assumed. Furthermore, pastoralism and tourism as land uses do not necessarily conflict. If pastoralism, tourism and conservation are to co-exist, however, the development of pastoralism in the NCA must be ensured, and it should be encouraged rather than just tolerated, as it is at present. The Maasai economy is declining and unless pastoral development takes place, conflict between conservation and pastoralism will increase and pastoralists will inevitably be the losers.

94. **Horowitz, M.M.** (1975) 'Herdsman and Husbandman in Niger: Values and Strategies', in T. Monod (ed.) *Pastoralism in Tropical Africa*, pp. 387-405. London: Oxford University Press.

Keywords: Niger, Fulbe, Manga, ethnic differentiation, land use competition

In contrast to western regions of the Niger Republic, in the east there is no formal delineation of a nomadic and a sedentary zone. Fulbe herders and Manga farmers live in close proximity, and fields and pastures have common boundaries. This article examines the relations between the two groups.

Disputes lead to negotiation between village chiefs and pastoralist leaders and, when these fail, cases are brought before the customary law court which has jurisdiction over civil disputes in rural Niger. The legal position of the Fulbe is insecure as they have made no attempt

to obtain permanent rights to land, often only arranging on a person-to-person basis temporary access to a farmer's land and water resources.

Court cases fall in three major categories:

- Complaints of contract violation by cattle-owning Manga against herders to whom cows had been consigned. Manga, like Fulbe, see cattle as a symbol of prestige and wealth, but since cropping occupies their attention, farmers entrust their animals to Fulbe.
- Encroachment by farmers onto lands traditionally recognised as pasture. Courts will not allow such agricultural expansion unless it can be shown that there is not enough cultivated land to meet the needs of the sedentary population. Even then, corridors must be left to allow the passage of animals. Without such corridors the farmers have no legal recourse should herds enter and damage their fields.
- Damage by cattle to cultivated fields.

In favourable climatic conditions, conflict is relatively rare, and remains an 'unrealised potential'. Pasture is sufficient to keep animals out of fields and farmers take the further precaution of fencing their lands with thorny branches along cattle routes.

Horowitz notes the imbalance between the two groups: there are full-time Fulbe farmers, but no full-time Manga cattle-keepers. The absence of Manga pastoralism cannot be explained by environmental factors but rather by cultural factors. The two groups maintain distinct ethnic identities, despite intensive exchanges of goods and services. For example language, ritual and kinship are not shared. Ethnic differentiation allows each party in a transaction to maximise his or her advantage, without moral qualms.

95. **Howell, P., M. Lock and S. Cobb.** (eds) (1988) *The Jonglei Canal: Impact and Opportunity*. Cambridge: Cambridge University Press.

Keywords: Sudan, Jonglei Canal, pastoralists, environment, wetlands

This book represents a synthesis of studies that have taken place over many years on the actual and potential impact of the Jonglei Canal in southern Sudan. As such only certain chapters are relevant to resource conflict, notably Chapter 10 (Society and Economy in the Jonglei Area), Chapter 11 (Recent Change among the Nuer and Dinka Peoples

of the Jonglei Area) and Chapter 19 (Rural Development 1972–1983: A Decade of Unfulfilled Promise).

The Jonglei Canal represents a typical, extremely large, infrastructural project whose benefits were essentially quantified through modelling and whose progress was driven by engineering considerations. Substantial expenditures on resettlement plans and proposed infrastructure came to nothing time after time, due to the fact that local populations were not consulted. Moreover, failure to pay attention to the political context has meant that much of the work that was done has been without permanent result, due to the chronic insecurity in the region. In particular local populations have complained of failure to pay compensation, of lack of adequate support to government initiated self-help schemes and most spectacularly, an absence of consultation on the alignment of the canal itself.

96. **Hughes, F.** (1987) 'Conflicting Uses for Forest Resources in the Lower Tana River Basin in Kenya', in D. Anderson and R. Grove (eds) *Conservation in Africa: People, Policies and Practice*, pp. 211–228. Cambridge: Cambridge University Press.

Keywords: Kenya, Tana River, forest, irrigation, planning, fuelwood, technology

The Tana is Kenya's only river with the potential to support large-scale irrigation schemes. Most of the catchment area consists of semi-arid rangeland but along the river there is a narrow band of floodplain forest. Even though the existing irrigation schemes have been established away from these forests, some distance back from the river, they still threaten this vital resource. The influx of new settlers, both planned and unplanned, has led to a rapid increase in demand for fuelwood. In the mid-1980s, most of this demand was being met from dry wood nearer to the irrigation schemes but this resource will not last for long and there is already evidence that the harvest rate in the floodplain forest is increasing. The original plan was that irrigated woodlots alongside the irrigation scheme would meet settlers' demands for fuel. However, this scheme was not started by the time the first settlers arrived and even fast-growing tree species will need time to establish themselves. Furthermore, the irrigation system has repeatedly failed, due to technical problems with the pumps, and even if trees are planted they may not survive.

97. **Hurault, J.** (1964) 'Antagonisme de l'Agriculture et d'Élevage sur les Hauts Plateaux de L'Adamaoua Cameroun; Le Lamidat de Banyo', *Etudes Rurales* 15: 22-71.
98. **Hurault, J.** (1969 and 1970) 'Éleveurs et Cultivateurs des Hauts Plateaux du Cameroun; La Population du Lamidat de Banyo', *Population* 24(5): 963-983 and 25(5): 1039-1084.

Keywords: Cameroun, grasslands, pastoralists

99. **International Fund for Agricultural Development** (1995) *Common Property Resources and the Rural Poor in Sub-Saharan Africa*. Rome: IFAD.

Keywords: development, environment, gender, tenure regimes, external aid

This report, prepared to help guide IFAD policy under phase II of its 'Special Programme for Sub-Saharan Countries Affected by Drought', gives a broad overview of common property management regimes in sub-Saharan Africa. The emphasis of the programme has been to target the link between poverty and environmental degradation. A perceived drawback of the first phase of the programme was that it emphasised on-farm activities and ignored off-farm activities, especially the use of common property resources. Two chapters examine current theories of common property regimes and tenure arrangements, while specific common property resources are covered in chapters on rangeland, forestry, water, fisheries, wildlife, women and common property resources, and on institutional developments to support their community management. The general approach is to show how an understanding of common property resources is important to governmental, inter-governmental and non-governmental development organisations, especially as CPRs tend to have the greatest significance for the poorest of the poor. Examples are taken from East, South and West Africa. The report advocates that development organisations take a flexible approach to dealing with common property resources.

100. **Ivy, D. and S. Turner** (1996) 'Range Management Areas and Grazing Associations - Experience at Sehlabathebe, Lesotho', in Centre for

Development Co-operation Services *Successful Natural Resource Management in Southern Africa*, pp. 117–146. Windhoek: Gamsberg Macmillan.

Keywords: Lesotho, livestock, exclusion, rangeland, pilot project, enforcement

This is a case study of the Sehlathebebe Grazing Association in Qacha's Nek District, Lesotho. This pilot project involved the delimitation of a range management area to which only local livestock owners are granted access through the Grazing Association. Within the project area a rotational grazing system has been established. The project is judged to be a limited success. It has managed to more or less enforce the grazing regulations whilst maintaining majority support amongst local livestock owners and the quality of rangeland has improved, as have productivity parameters for local herds. Within the range management area enforcement has been carried out at a local level and without large external interventions. The fact that the project has the strong support of richer and politically powerful local residents is an important element in this respect. Enforcement of regulations has been through impounding and fining rather than community agreement. One of the key elements has been the effective exclusion of livestock owners from surrounding valleys, something that has led to conflict, sometimes violent, between grazing association members and non-members. However, this pilot project, which has benefited from large amounts of external support and funding, may not be replicable in other areas. There is currently a policy to apply the Grazing Association approach to other mountain valleys.

101. **Johnson, D.H.** (1988) 'Adaptation to Floods in the Jonglei Area of the Sudan: An Historical Analysis', in D. Anderson and D.H. Johnson (eds) *The Ecology of Survival: Case Studies from Northeast African History*. London: Lester Crook Academic Publishing.

Keywords: Sudan, Jonglei, Dinka, Nuer, flood patterns, grassland, development planning

The chapter provides a historical overview of the complex relationship between shifting flood patterns in the Jonglei area, timing and geographical scope of human and animal movement, and political/social relations between various Nilotic peoples of the area.

High floods that cut off substantial areas of grassland occurred in 1878, 1916–8 and 1961–4. The author notes, however, that even small changes in flood patterns can have important effects on seasonal access to grass, cultivation areas and settlements. Through strategies such as herding with other groups, intermarriage and movement eastward, Nuer and Dinka groups have historically managed a flexible access to a constantly shifting resource base. In this context, the implications of the Jonglei Canal are considered. While draining of the swamp would channel off high floods and make settlement along the Bahr el-Zeraf possible, it would also lower the level of the Bahr el-Jebel, thus increasing the potential for vegetation blockage, leading to new and possibly continual flooding to the east. Escape from flooding by movement eastward would thus be blocked, and present usage of the eastern plains which is essential to survival would be disrupted. The author argues that planning for the Canal did not consider its ecological implications in this broader context.

102. Johnson, D.H. (1991) 'Political Ecology in the Upper Nile: The Twentieth Century Expansion of the Pastoral "Common Economy"', in J. Galaty and P. Bonte (eds) *Herders, Warriors, and Traders: Pastoralism in Africa*. Boulder: Westview Press.

Keywords: Sudan, Dinka, Nuer, common economy, raiding, interdependence

The chapter provides an historical overview of a common economy linking ethnic and political groups in the Upper Nile region of Sudan. Anthropological studies usually characterised the Upper Nile as an area of unvarying ecological relationships, where sharply defined ethnic groups are locked in hostile relationships. Taking an historical perspective, the author argues that the political ecology of the region is far more complex. Individual and community survival depends on being able to shift the balance between pastoral and agricultural activity, and this has encouraged the development of a common economy linking groups together at various times. Although cattle raiding has been a feature of relations between Dinka and Nuer, it is an exaggeration to assume raiding has been the principle economic link between them. Rather, the Dinka and Nuer are connected through a variety of networks of reciprocity in response to periodic flooding and associated changes in access to natural resources. The author criticises studies of the Nuer, such as Evans-Pritchard's and Kelly's, which assume that individual Nuer and Dinka groups existed as

relatively self-contained economic units. Rather, economic interdependence is far more important than these studies suggest, although it is flexible and networks of interdependence may be submerged or activated as circumstances require.

103. **Joint Ethiopia Pastoral Systems Study (1983)** 'Tcheffa Valley Study. Farmers and Pastoralists: Two Ways of Looking at the Same Valley', *Research Report* No. 1. Addis Ababa: ILCA/RDP.

Keywords: Ethiopia, Tcheffa Valley, Oromo, Amhara, Afar, farmer-herder relations, drought, conflict

The report considers the use of the Tcheffa Valley near the eastern edge of the highland plateau in central Ethiopia. Amhara and Oromo cultivators use the valley for livestock grazing and crop production, while Afar pastoralists and some Oromo groups from adjacent foothills visit the valley with livestock on a seasonal basis. In times of extreme stress, Afar pastoralists use the valley for dry season grazing from December to June. This conflicts, however, with the production schedule of resident farmers, who plant in March and April and thus want 'immigrant' herds of livestock to leave the area at this time. Oromo herders use the valley both as a retreat in times of drought and as regular seasonal grazing, while Amhara farmers have increasingly moved down from the highlands to clear new areas of the valley floor for cultivation. Use of the valley has thus intensified in recent years and animosity between resident farmers and immigrant herders, especially over the issue of crop damage, has increased. At the same time, following the 1972-4 drought, the government developed plans for the expansion of agriculture in the valley, including control of inflowing tributaries and draining of the valley swamp. The report notes that, while government planning has considered the critical role of the Tcheffa Valley in the survival strategies of peoples from drought-affected midlands and lowlands, the pressure for agricultural land will likely mean that the requirements of immigrant herders such as the Afar will be neglected.

104. **Joint Ethiopia Pastoral Systems Study (1983)** 'The Climatic Risks to Livestock Production in the Ethiopian Rangelands', *Research Report* No. 4. Addis Ababa: ILCA/RDP.

Keywords: Ethiopia, Northern Rift Valley, Afar, livestock, development planning, rainfall

The report examines the possibilities for the development of livestock production in three areas of Ethiopia, based mainly on rainfall data and potential for grass growth. Of particular interest is the report's analysis of the potential of northeastern rangelands in the Northern Rift Valley. The report notes that it is the hostility of the natural environment and not pastoral land use, that places severe limitations on the potential of improving livestock production in this area. Aside from a zone 50km wide, encompassing valleys along the edge of the highlands, the rest of the northeastern rangeland zone (some 200km wide) will not benefit from technical improvements in existing production systems, due to arid conditions and unreliability of rainfall. Regular utilisation of this area is thus not feasible. Afar pastoralists in particular cannot be expected to survive in the lowlands only. Without access to neighbouring highlands, livestock production in the northeastern rangelands is 'a lost cause'. The report concludes that attempts to develop the Afar lowlands in isolation from adjacent highlands is not a development option.

105. **Kaberry, Phyllis M.** (1959) 'Report on Farmer-Grazier Relations and the Changing Pattern of Agriculture in Nsaw', Mimeo report.
106. **Kaberry, Phyllis M.** (1960) 'Some Problems of Land Tenure in Nsaw, Southern Cameroons', *Journal of African Administration* XII(1): 21-28.

Keywords: Cameroun, grasslands, pastoralists

107. **Kelly, R.** (1985) *The Nuer Conquest*. Ann Arbor: University of Michigan Press.

Keywords: Sudan, Nuer, pastoralists, ecology, territorial expansion, social structure

The book presents a detailed study of the territorial expansion of Nuer pastoralists in southern Sudan during the nineteenth century. Between 1818 and 1890, Nuer territory increased fourfold, to a total of some 35,000 square miles, when it was halted by exogenous factors. Including a review of the rich literature on this subject, the author notes that most explanations of Nuer expansion rely on the concept of a 'self-regulating system' widely used in ecology. This cannot, however, account for why Nuer expansion continued after a balance

between human/animal population and natural resources had been reached. A more complex explanation is linked to Nuer social organisation, especially the manner in which the bridewealth system established social requirements for cattle. While each phase of territorial expansion lowered human and animal population densities, it also exacerbated social pressures for cattle accumulation. Accumulation would be achieved through new expansion into areas used by Dinka and Anuak peoples to the east, until dry season grazing lands were exhausted. This, in turn, would create pressure for a new phase of expansion. Nuer territorial expansion thus never reached 'equilibrium'. Hence, ecological analyses alone do not comprehend the distinctive features of Nuer social organisation that created the impetus for continual expansion.

108. Kintz, D. (1982) 'Pastoralisme, Agro-pastoralisme et Organisation Foncière: Le Cas des Peuls', in E. LeBris, E. LeRoy and F. Leimdorfer (eds) *Enjeux Fonciers en Afrique Noire*, pp. 212-217. Paris, Bondy: Karthala, ORSTOM.

Keywords: Sahel, resource control, Fulbe, livestock production, agriculture-herding interactions

Kintz summarises three types of stock-keeping activities in the Sahel: 'pure' pastoralism, agro-pastoralism, and stock-raising as a secondary source of income by predominantly agricultural groups. Resource use regulations vary with each of these types of economy. Kintz surveys codes of access to water, land, trails and gathered produce.

Rights of access to water are dependent on the amount of effort involved. In areas of high water tables, where a well is quickly dug, regulation of its use will be minimal. Where scarce or deeply buried water requires investment in a permanent well, access will be limited. In certain areas, access to grazing will be free but conditioned by the availability of water in the dry season. The owner of a well will also have control of the pastures around it.

Setting aside of land specifically for grazing purposes occurs only where the Fulbe retain political power. In these reserves, pastoralists hold a collective right of access to pasture, and there is no restriction of the number of herds involved. However, more often Fulbe find themselves a minority within predominantly agricultural groups. In these cases, animals are left to graze on crop remains or pockets of uncultivated land. In the rainy season, transhumance to the less densely cultivated areas is arranged to avoid damaging fields.

Routes have been delineated by the authorities for cattle to follow through densely cultivated areas, but these tend not to be respected by agriculturists. Encroachment of cultivation on cattle tracks or paths to water sources and the resulting nuisance to herders and damage to farmer's fields, are a constant source of conflict. Access to produce gathered from trees and bushes is traditionally unrestricted, but in the face of increasing wood consumption by cities, peasants are requesting control over these resources.

Pastoral economies are less dependent on the appropriation of a plot of land which gives them a certain advantage through being flexible and adaptable. However being less tied to a territory is a disadvantage in environments where the climate permits both agriculture and pastoralism. Here, grazing lands are inevitably reduced by the extension of crop land, be it that of Fulbe or that of other ethnic groups.

109. **Keenan, J.** (1984) 'The Pilanesberg Game Reserve', Report to the Management of the Pilanesberg Game Reserve, South Africa. 2 volumes. Unpublished.

Keywords: South Africa, wildlife, National Parks, forced removals, local politics, compensation

When the 50,000 hectare Pilanesberg Game Reserve was established in 1979, in the Bophutatswana homeland, South Africa, the management claimed that the primary aim of the park was to make resources and revenue available to the local population. The area in which the park was established was home to the baKgatla people and provided communal grazing land for many others. There was no wildlife before the park was established, and they had to be introduced from elsewhere. The reality of people's experiences have been very different from the stated aims of the parks management. Most local residents have extremely negative feelings towards the park. Key issues have included the breaking of promises to compensate people with comparable land, the loss of large numbers of livestock during the establishment of the park and crop loss to escaped animals. People's reaction to the park has also to be understood in the political context of the Bophutatswana homeland in the mid-1980s. Volume I gives the results of a survey of people's attitudes to the park and Volume II background socio-economic data.

110. **Keijsper, V.** (1993) 'Livestock Development in Botswana: Consequences for the Rural Poor', *Afrika Spektrum* 28(3): 323-339.

Keywords: Botswana, livestock, land, rural conditions, economic policy, boreholes

Fencing for the individual use of previously communal grazing land around privately-owned boreholes is leading to greater income inequalities in Botswana's communal areas. Government policy has favoured the better-off cattle owners with large herds, but communal area small-scale cattle owners and people with no cattle have lost access to crucial resources at their expense. Livestock owners with fenced ranches based on boreholes have continued to have access to communally-owned grazing areas and have utilised both resources to ensure maximum production from their herds. Increased grazing pressure on the remaining communal areas has led to pasture deterioration. Continued government support for commercial livestock owners, despite statements to the contrary, means that the privatisation of the communal areas will continue. The paper suggests an alternative policy of 'community-based communal area management' designed to help the poor.

111. **Kishindo, P.** (1993) 'Land Rights and Fish Farming in Malawi', *Eastern Anthropologist* 44(2): 145-153.

Keywords: Malawi, fishing, water, land tenure, local politics, inheritance

The establishment of a fish farm can provide good returns for a small-scale farmer but it requires considerable capital and labour investment. Potential fish farmers will only establish fish farms on communal land when they feel their tenure is secure. Their relations with the village headman and their neighbours also need to be strong enough for them not to be denied access to an essential common property resource for their enterprise - water. Newer arrivals and especially refugees from Mozambique, are unwilling to make the investments needed, not just because they feel their land tenure is insecure but also because they do not want to appear more successful than their neighbours and be denied access to other common property resources, such as water, through jealousy.

112. **Kiss, A. (1990)** *Living with Wildlife: Wildlife Resource Management with Local Participation in Africa*. World Bank Technical Paper. Washington D.C: World Bank.

Keywords: Africa, parks, wildlife, participation, management, local institutions

The decline in Africa's wildlife heritage and the persistent poverty of its rural people are linked by a common denominator: rapid human population growth and the resulting misuse and degradation of land. Expanding settlements, crops, and livestock in marginal areas are reducing agricultural productivity and displacing wildlife. Conservationists and development planners are exploring a common solution - developing alternative land uses based on wildlife resources, generating food and income for rural communities. This paper examines the experience, the potential, and the constraints of wildlife management programs which involve and benefit local people. It also explores the potential for wildlife management to stimulate independence and institutional capabilities in rural communities, and greater complexity and diversity in their economies. Case studies are presented on 17 projects in 12 African countries: Botswana, Burkina Faso, Central African Republic, Ghana, Kenya, Madagascar, Niger, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. (Author)

113. **Kockott, F. (1993)** 'The Fields of Wrath: Cattle Impounding in Weenen', *Special Report* No. 8. Pietermaritzburg: Association for Rural Advancement and the Church Agricultural Project.

Keywords: South Africa, livestock, commercial farms, labour tenants, fencing, impounding

In Weenen district, KwaZulu-Natal, South Africa, white landowners impound black herders' livestock on a regular basis. Black herders have to pay very high fees at the pound to get them released and are often forced to sell a large percent of their herd to speculators to raise the cash to release the rest. The black herders who have livestock impounded fall into two categories. Firstly, herders from Msinga, a heavily grazed and densely populated neighbouring communal area, who cut the fences of neighbouring commercial farms and introduce their livestock. They do so not just for access to grazing resources but also for access to watering points. Many commercial farms in the

district are not farmed by their landowners, hence the availability of under-utilised grazing land, and it is claimed by many communal area inhabitants that the landlords make most of their money from trespass fines. The secondary category of black stockowners who find their livestock impounded are long-term labour tenants and their families, who have lived on the commercial farms for many generations and regard the land as theirs. The title deeds for the land, however, belong to absentee white landlords who have occasionally tried to evict the tenants. When this occurs the black herders find their livestock impounded and they have to pay large fines to get them back.

114. **Kokwe, M.** (1991) *Wetlands in Drylands: The Agro-ecology of Savanna Systems in Africa*. Part 3e: 'The Role of Dambos in Agricultural Development in Zambia', London: International Institute of Environment and Development.

Keywords: Zambia, wetlands, agriculture, marketing, extension, population

Both *dambos* and more extensive flood plains are important natural resources in Zambia. This paper reviews their role in the agricultural economy and how this has changed over the past 30–40 years. Increased population, the introduction of new crops and techniques and greater access to urban markets has led to more competition for *dambo* resources. The paper mentions that conflict over access to these resources can occur but does not discuss this in detail.

115. **Lane, C. and R. Moorehead** (1995) 'New Directions for Rangeland Resource Tenure and Policy', in I. Scoones (ed.) *Living with Uncertainty: New Directions in Pastoral Development in Africa*, pp. 116–133 London: Intermediate Technology Publications.

Keywords: land tenure, livestock, pastoralists, privatisation, nationalisation

This chapter examines different theories of rangeland tenure and considers how they have impacted on government policy. It argues that, despite being academically discredited, the 'tragedy of the commons' approach to rangeland tenure is still powerful in

determining government policies such as privatisation or nationalisation of rangelands or sedentarisation of pastoralists. Rather than decreasing competition for resources these policies have often lead to increased conflict both between communities as well as with outside institutions. It advocates land tenure policies based on new research into communal land tenure systems and flexible, locally-determined approaches. Case studies from Mali, Botswana and Tanzania are described.

116. Lane, C. and J. Pretty (1990) 'Displaced Pastoralists and Transferred Wheat Technology in Tanzania', *Gatekeeper Series* No. SA20. London: International Institute of Environment and Development.

Keywords: Tanzania, pastoralists, livestock, agriculture, large-scale development, evaluation

In the early 1970s the Tanzanian government, with support from Canada, established seven large wheat farms on the Basotu Plains, Hanang District, Tanzania. The wheat farms have been highly productive, in terms of tonnes per hectare, and meet about half of Tanzania's domestic wheat demand. Economic evaluations of the projects show a good return on investment. The establishment of the farms has led to the displacement of Barabaig pastoralists from some of their most productive grazing lands resulting in increased grazing pressure on the remaining rangeland and a rapid decrease in the livestock population. Many Barabaig have become destitute. The wheat farms have also prevented Barabaig access to important cultural sites - the graves of their ancestors. In many cases these have been ploughed up. Recent project evaluation that has considered all the costs of the wheat project (not just direct economic investment) indicates that it cannot be considered the success purely financial evaluations have indicated.

117. Laya, D. (n.d.) 'Recherche et Développement: Le Projet de Mise en Valeur des Cuvettes de Kutukale et Karma en Pays Songhay', *Etudes Nigériennes* No. 24. Niamey: Centre Nigérien de Recherches en Sciences Humaines.

Keywords: Niger, Fulbe, Songhay, rice, farming-herding complementarity

This paper describes an investigation by the government of Niger into the possibility of developing rice cultivation in the regions of Karma and Kutukale. These valleys lying in the vast plain flooded seasonally by the River Niger, offer fertile lands for cropping and abundant water and grazing for herds.

The region has a long history of co-habitation by different ethnic groups and the modern populations share a belief in Islam and a common language, Songhay. Agriculture is the main economic activity and land is at a premium so there are no fallow or unowned plots. Property is acquired through inheritance or gifts and the renting out of fields in exchange for a part of the harvest ensures a periodic redistribution of plots.

Cattle-keeping, the traditional livelihood of the Fulbe, has also become fairly common among the Songhay. However, the Songhay consider agriculture as the only activity fit for a man and do not keep their own cattle, preferring to entrust them to the settled Fulbe. In the rainy season, herds are kept on the highlands to graze, at a safe distance from the fields. Once harvesting is finished in the valley, and the highlands dry out, the herds are brought back to the river. The peasants arrange for graziers to camp their animals on their fields for manuring and in exchange the farmers offer millet or help in the herder's fields. Farmers are expected to pay for the manure from Fulbe herds, even if it is that of their own animals.

The author concludes that the introduction of intensive rice-cultivation in the Karma and Kutukale regions would disrupt the traditional relations between farmers and herders and that the introduction of chemical fertilisers would be particularly damaging.

118. Lewis, J. van D. (1981) 'Range Use and Fulbe Social Organisation: The View from Macina', in M.D. Zamora, V.H. Sutlive and N. Altshuler (eds) *Image and Reality in African Interethnic Relations: The Fulbe and Their Neighbours*, pp.1-19. Williamsburg: College of William and Mary Department of Anthropology.

Keywords: Mali, Fulbe, Dina, social organisation, pasture rights

Lewis gives a detailed description of the transhumant system of the Fulbe community of Jafaraabe, near Mopti, Mali, which follows the

renowned Code of the Dina. This code is held to be the outcome of Sheik Ahmadou's empire-building holy war in c. 1819. But Lewis argues that the distribution of pasture rights between the Delta communities seems to predate the Dina and that the transhumance pattern of the Jafaraabe pastoralists is not unusual for the Sahel. The allocation of pasture rights should be seen as an outgrowth of fundamental aspects of Fulbe social organisation and is thus not specific to the area of Mopti. What is remarkable about the range control system in the Mopti region is that these relationships are so developed that pasture regulations have become extremely firm.

119. Lindsay, W.K. (1987) 'Integrating Parks and Pastoralists: Some Lessons from Amboseli', in D. Anderson and R. Grove (eds) *Conservation in Africa: People, Policies and Practice*, pp. 149-167. Cambridge: Cambridge University Press.

Keywords: Kenya, Maasai, wildlife, wetlands, parks, livestock, boreholes

In the late 1970s a new management plan was developed for the Amboseli National Park in Kenya, designed to reduce conflict between Maasai pastoralists and the park. Wetlands in the centre of the park are the key resource over which conflict has occurred. Both livestock herded by Maasai and a large wild herbivore population are reliant on the water and grazing resources during the dry season. The Amboseli area has had a long history of wildlife conservation and conflicts between the Maasai and conservation authorities. When wildlife reserves were first established in the area in the early 20th century, it was envisaged that the Maasai livestock and wildlife could co-exist but more recently and especially in the 1960s and 1970s, it was believed that there was a need to totally separate the two in order to reduce conflict over grazing and water resources. Conservation regulations were resented by the Maasai and a number of rhinoceros and elephants were killed in what appeared to be a political protest.

The plan enacted in the late 1970s was to prevent Maasai use of the park wetlands but rather to provide water resources outside the park and to ensure compensation payments, from tourist receipts, for the loss of grazing land. At first this scheme seemed to work well and the (political) killing of large mammals quickly reduced. In the mid-1980s, however, some of the previous problems resurfaced. The water provision scheme ran into technical and financial problems and the hoped-for expansion in tourism failed to materialise. Local residents

did not receive any payments from the park and, when their water supplies dried up, herded their livestock back into the wetland in the park centre. Many problems still need to be overcome if conflict is to be avoided and a more flexible approach to planning is required.

120. **Little, P.** (1987) 'Land Use Conflicts in the Agriculture/Pastoral Borderlands: The Case of Kenya', in P. Little, M. Horowitz and A. Nyerges (eds) *Lands at Risk in the Third World: Local Level Perspectives*. Boulder: Westview Press.

Keywords: Kenya, Camus, livestock, sedentarisation, differentiation, agriculture, reciprocity

Much of the recent literature on land use conflicts has concentrated on farmer-pastoralists conflicts: what could be called the encroaching farmer model. It is also important to consider how the changing nature of pastoral society is leading to conflict. Il Camus pastoralists in Baringo district, Kenya have lost large tracts of their land to neighbouring agriculturists, but internal changes have also influenced land use conflicts. The first is the sedentarisation of herders and their adoption of cultivation. Richer pastoralists have been able to develop irrigated farms in swamp areas and along seasonal streams but poorer members of the society have planted rain-fed crops in former wet season grazing areas. This has led to conflicts when livestock (often belonging to richer farmers with irrigated farms) have encroached on the rain-fed crops. These conflicts tend to be muted, however, both by intra-community power relations and because people with rain-fed crops are aware that their livestock may stray at a future date and they do not want to set a precedent of heavy fines. There has been a trend towards greater differentiation in herd size. A few wealthy individuals, living in towns, own large herds whilst the majority have only small herds. The large herds are managed by employees (though there are often patron/client links) and have different management objectives to the smaller herds. This has led to different herding patterns and therefore conflict over the seasonal use of grazing lands.

121. **Madzudzo, E.** (1996) 'A General Overview of CAMPFIRE: Successes and Constraints', in Centre for Development Co-operation Services *Successful Natural Resource Management in Southern Africa*, pp. 155-164. Windhoek: Gamsberg Macmillan.

Keywords: Zimbabwe, wildlife, CAMPFIRE, scale, local government, national parks

After a brief history of the development of the CAMPFIRE programme, the chapter assesses the success of the programme in practice. It judges CAMPFIRE to have been a success where the households losing most from living with wildlife have been clearly identified (ideally by the wider community itself) and receive the benefits from hunting and safari receipts. CAMPFIRE has been less successful where benefits are shared out amongst a larger (district) population which includes some people who suffer considerable losses from wildlife and some who do not. The chapter concludes by pointing out that it is in the interest of Rural District Councils to control as much revenue as possible and that, as a result, they have sometimes attempted to play the role of decision-maker without devolving power to the actual communities involved.

122. **Manger, L.** (1988) 'Traders, Farmers and Pastoralists: Economic Adaptation and Environmental Problems in the Southern Nuba Mountains of the Sudan', in D. Anderson and D.H. Johnson (eds) *The Ecology of Survival: Case Studies from Northeast African History*. London: Lester Crook Academic Publishing.

Keywords: Sudan, Kordofan, Nuba Mountains, political economy, commercial agriculture, drought, wage-labour

The chapter provides a historical overview of developments in the Nuba Mountains of central and southern Kordofan from the nineteenth century to 1988. Although conflict between different peoples of the region has a long trajectory, it has intensified in recent decades, along with increased pressure on land from humans and animals. The author argues, however, that the effects of environmental degradation must be seen in terms of the political economy of the region and the way in which vulnerability varies between different groups. In particular, the introduction of large-scale mechanised agriculture in the late 1960s led to sharp economic differentiation between commercial farm owners, comprising mainly Arab *jellaba*, agricultural wage-labourers and subsistence farmers, mainly Nuba, and nomadic pastoralists. This differentiation can be seen by the way in which the mid-1980s drought provided opportunities for groups linked to the commercial sector to benefit, while subsistence

producers, wage-labourers and many nomadic pastoralists were further impoverished.

123. **Manger, L.** (1996) *Survival on Meagre Resources: Hadendowa Pastoralism in the Red Sea Hills*. Uppsala: Nordiska Afrikainstitutet.
124. **Markakis, J.** (1989) 'The Ishaq-Ogaden Dispute', in A. Hjort af Ornas and M.A. Mohamed Salih (eds) *Ecology and Politics: Environmental Stress and Security in Africa*. Uppsala: Scandanavian Institute of African Studies.

Keywords: Ethiopia, Ogaden, pastoralists, land use conflict, weapons, armed movements, warfare, displacement

The chapter describes the history of land dispute over the Ogaden between Ishaq and Ogaden pastoralists. The author argues that the twin imperatives of the pastoral way of life – extensive use of land and freedom of movement – have underpinned Ishaq and Ogaden resistance to incorporation as 'subjects' into the modern state, and their recruitment into armed movements whose goals include the break-up of state structures.

The worsening ecological situation in the 1940s led many pastoralists to migrate into the Ogaden. The concentration of large numbers of livestock around water sources contributed to overstocking and overgrazing. This congestion triggered increasingly violent disputes over grazing and water resources between various clans. The situation was aggravated by competition for access to livestock markets in oil-rich countries in the 1960s and the Ethiopia/Somalia war in the late 1970s. As armed opposition groups proliferated during this period, clan-based conflicts over land use were enlarged and intensified through incorporation into regional and national-level struggles. The Ishaq were armed by the Somali National Movement and the Ogaden were armed by the Western Somali Liberation Front. Many pastoralists were caught between warring parties, creating large-scale population displacement and refugee flows.

125. **Mathieu, P. and B. Coupe** (1982) 'Intégration Agriculture-élevage ou Conflits Agriculteurs-éleveurs dans les Aménagements Ruraux en Zone Sahélienne: Le Cas de la Vallée du Fleuve Sénégal',

Communication au Colloque de l'Institut de Médecine Tropicale, Anvers 17-18 December 1982. Reference: 7876 - RRMG. London: Overseas Development Institute.

Keywords: Senegal, Sahel, Senegal river, farmer-herder complementarity

This article examines the cohabitation of the numerous ethnic groups and modes of subsistence in the Senegal River valley. Traditional ways of life are characterised by flexibility: complementary systems of agriculture (floodwater and rainfed); diversification of activities (all groups practise a combination of agriculture and cattle-keeping with varying intensities) and movement of peoples. This integration makes it possible for the populations of the valley to co-exist peacefully.

Herders are allowed to graze their cattle on crop residues and they trade milk for millet with the agriculturists. However, unlike other cases of farmer-herder interaction, few agreements are made concerning manure. Conflicts occur over damage to crops and over routes of access to the river. These tensions are not new and did not seem to endanger the equilibrium of the region and the mutually beneficial character of the exchanges. But recent droughts and the intensification of artificially irrigated agriculture, have exposed the latent tensions of the system. The irrigated areas were laid out with agriculture exclusively in mind and little use is made of cattle and their by-products. The Fulbe are tolerated, not integrated, and have been expelled and denied access to water in some places that they traditionally used. Some Fulbe have settled and taken up rice cultivation with good results, but others have settled with their herds, causing an increase in conflicts between agriculturists and pastoralists. The authors suggest that this may be seen simply as an attempt to assert their right to land.

The authors are concerned that conflicts will multiply if the Fulbe continue to be forced out. A solution to the crisis can be found either through a complete marginalisation of cattle-keeping - despite the fact that it is the only successful mode of exploitation of Sahelian pastures - or an integration of the Fulbe as agro-pastoralists into the production system. The authors see the second option as the only way of avoiding serious conflict in the Senegal valley in the next few years.

126. Mathieu, P., M. Niasse and P.-P. Vincke (1986) 'Aménagements Hydro-agricoles, Concurrence pour l'Espace et Pratiques Foncières Locales dans la Vallée du Fleuve Sénégal - Le Cas du Lac de Guiers',

in B. Crousse, E. LeBriss and E. LeRoy (eds) *Espaces Disputés en Afrique Noire*, pp. 217–238. Paris: Karthala.

Keywords: Senegal, Lac de Guiers, irrigation project, land tenure, peasant dispossession, farmer–herder relations

The Lac de Guiers is an exceptional reserve of fresh water in the middle of the Ferlo in Senegal, important both to the Wolof and Moors who practise rainfed agriculture and to the transhumant Fulbe who make it a stop in their migration cycle. In addition, the Senegalese government is intending to make it an area of intensive rice cultivation, which will involve extensive water management schemes.

The traditional land tenure system of the local farming population was essentially communal. Each village, made up of related families, had rights over a territory, managed by the leader (*lamane*). The *lamane* managed the territory and allocated it to community members or, upon request, to foreigners. This system was only viable in conditions of low population density. To transhumant herders, land has no permanent value. Its worth is defined by availability of grazing and water. The Fulbe made arrangements with the peasants for temporary rights to water and pasture.

However, a law of June 1980 suppressed traditional tenure rights in favour of State ownership. This change in land tenure and the beginning of water management projects is forcing transhumant herders and sedentary farmers to completely remodel their traditional structures and is endangering the complementarity of pastoral and agricultural economies. Dams and canals constructed in attempts at water management disrupt traditional pastoral migration circuits and access to water is increasingly difficult for the herders, resulting in a multiplication of disputes with farmers over crop damage.

But the most serious consequence of the 1980 land law is a gradual dispossession of the local populations, first and foremost the Fulbe herders. The democratic principles of the 1980 law, which specifies that any individual can apply for the use of land, are not borne out in practice. The law favours the concept of '*mise en valeur*' – land developing – and states that land will be allocated to the person who will best be able to develop it. Because pastoralism is not considered a valid development, the Fulbe right to land is not being recognised. As for the peasants, they have no economic means to artificially irrigate their crops, so their claims for land are not being accepted either. The fertile fields around the Lac de Guiers are attributed to economically powerful agents outside the valley.

127. **Mawson, A.** (1991) 'Murahaleen Raids on the Dinka, 1985-89', *Disasters* 15(2): 137-149.

Keywords: Sudan, Dinka, Murahaleen, raiding, warfare, armed movements, famine

Mawson describes recent patterns of raiding and violence by the Rizeiqat and Misseriya people of South Darfur and South Kordofan, Sudan, against Dinka peoples living to the south. Such raids have become incorporated into the structure of the civil war, through government policies of arming militia bands, called Murahaleen. Common dependence on grazing lands along border areas between north and south Sudan has been a long-standing source of conflict between the Dinka and the Rizeiqat and Misseriya peoples. In the colonial and immediate post-colonial period, inter-tribal conferences of chiefs regulated and sometimes resolved disputes. In the 1970s, however, dispute settlement was undermined by manipulation on the part of local, regional and national political elites. In the early 1980s, drought in western Sudan led to massive loss of livestock among the Rizeiqat and Misseriya. Recovery was made possible, in part, by raids on Dinka cattle, which could be sold for cash. Middle men in these transactions were often linked to Umma Party officials, who supplied automatic weapons. After 1983, many Dinka joined the SPLA in order to protect cattle herds and rangelands. In 1985, the scale of raiding and inter-ethnic conflict escalated. This was a contributing factor to famine conditions both that year and throughout the late 1980s. By 1989, SPLA presence in northern Bahr al-Ghazal was sufficient to deter large-scale raiding by Murahaleen. The author notes, however, that important transformations in Dinka economies in northern Bahr al-Ghazal have occurred, including increased reliance on markets and labour migration and the decline of kin networks as a means of support.

128. **McCabe, T., S. Perkin and C. Schofield** (1992) 'Can Conservation and Development be Coupled amongst Pastoral People? An Examination of the Maasai of the Ngorongoro Conservation Area, Tanzania', *Human Organisation* 51(4): 353-366.

Keywords: Tanzania, Ngorongoro, Maasai, pastoralism, conservation, livestock

Conservation of natural resources and human development are linked together in the new paradigm of development for Africa's pastoral

populations. The Ngorongoro Conservation Area (NCA), Tanzania has been managed under a dual mandate for pastoral development and environmental conservation for thirty years. The economy of the Maasai population of the area, however, shows serious signs of decline. Nutritional levels are low and the percentage of the population unable to support itself by pastoralism has increased. Livestock populations have remained fairly constant whilst human population has increased and herd management strategies indicate that short term survival considerations are paramount rather than long-term planning. This pattern is repeated among most East African pastoral peoples, but the alternative survival strategies available to other pastoralists, in particular taking up cultivation, are not available to the NCA Maasai because of conservation regulations. Indeed cultivators living within the area, on whom the Maasai were reliant for trading grain, were evicted when the NCA was established. The paper does not necessarily argue for the introduction of cultivation into the NCA, suggesting that a proper evaluation of its viability is needed first, but rather recommends immediate steps to improve pastoralists' income-generating options in non-livestock activities.

129. **Mearns, R.** (1995) 'Institutions and Natural Resource Management: Access to and Control over Woodfuel in East Africa', in T. Binns (ed.) *People and Environment in Africa*, pp.103-114. Chichester: John Wiley.

Keywords: Africa, woodfuel, trees, institutions, gender, labour

The African 'woodfuel crisis' is commonly seen to be simply a problem of too many consumers for the available bio-mass, leading to over-exploitation and a vicious downward spiral. This chapter, however, attempts to shift the emphasis away from simple physical scarcity to the problem of different individuals' or groups' access to available resources. Trees perform multiple functions, for example as a resource for food or building material as well as fuel. It is often not women, who tend to be the collectors of fuel, who control the allocation of these different resource functions. It is, therefore, essential to base any analysis of the 'woodfuel crisis' on institutional factors determining allocation rather than on simple availability.

130. **Mohamed Ahmed, Abd-Al Ghaffar** (1973) 'Nomadic Competition in the Funj Area', *Sudan Notes and Records* 54.

Keywords: Sudan, Funj, Fulani, farmer-herder relations, pastoralists, commercial agriculture, insecurity, wage-labour

The article describes increasing competition between ethnic groups in the southern part of Gezira, Sudan, known as the Funj. In the past, complementary production systems of the mainly sedentary Ingessana and the nomadic pastoral Rufa'a al-Hoi had created only minor conflict between these two peoples. In their movement southward toward dry season grazing, the Rufa'a al-Hoi often hired Ingessana men to herd for them and also shared water sources. However, the introduction of mechanised agricultural schemes throughout the Funj reduced access of the Rufa'a al-Hoi to grazing lands, water sources and migration routes from approximately 1945 forward. Disputes over pastoral encroachment of agricultural land were frequently settled by local courts in favour of commercial farmers. In addition, eastward migration of the nomadic Fulani led to new conflicts between pastoral groups. The author notes that while the Rufa'a al-Hoi practice a mobile form of grazing livestock, where vegetation is not depleted in any given area, the Fulani practice 'razor grazing', where livestock are left in one area for long periods, leaving almost no vegetation behind. With rangelands confined by mechanised agriculture, the Fulani and Rufa'a al-Hoi are increasingly concentrated in the same areas, exacerbating differences in grazing practices and creating conditions of insecurity. Few areas are now left fallow during the year. As a result, the subsistence economy of the area is being eroded and many Rufa'a al-Hoi are forced to move out of the pastoral sector to become agricultural wage-labourers.

131. **Mohamed Salih, M.A.** (1993) 'Pastoralists and the War in Southern Sudan: The Ngok Dinka/Humr Conflict on South Kordofan', in J. Markakis (ed.) *Conflict and the Decline of Pastoralism in the Horn of Africa*. Basingstoke: Macmillan.

Keywords: Sudan, Dinka, Humr, Baggara, warfare, armed movements, development projects, state policy, famine

The chapter considers relations between the Ngok Dinka and the Humr peoples of South Kordofan, Sudan. It illustrates how local conflict has escalated as a result of political ideology, state-sponsored

development programs, and civil war. Unlike most other Nilotic groups, the Ngok Dinka occupy an area that is administratively part of northern Sudan. Long-standing conflict with the Arabic-speaking Humr over access to rangelands and water sources has periodically erupted into warfare, when the Ngok Dinka perceived themselves under threat of incorporation into northern Arab political and cultural systems. In the late 1970s, the state-sponsored Abyei Rural Development Project exacerbated tensions by establishing Ngok Dinka farmers on land traditionally used by the Humr for grazing. Tensions reached a peak in 1977, when armed Humr youth burnt down the Abyei Project's building and crops. The outbreak of civil war in 1983 finally closed the project. Since then, the Sudanese government has armed Arabic-speaking peoples, including the Humr, who inhabit the border area between north and south. By the late 1980s, raiding had devastated the subsistence economy of the Ngok Dinka. The author argues that famine in Ngok Dinkaland is a direct result of the civil war and the perception among Arab militia groups such as the Humr is that the Ngok Dinka are collaborating with the SPLA.

132. **Mohamed Salih, M.A.** (1992) 'Environmental and Social Insecurity in the Drylands of the Sudan', in A. Hjort and Ornas (ed.) *Security in African Drylands: Research, Development and Policy*. Uppsala: Research Programme on Environment and International Security, Departments of Human and Physical Geography, Uppsala University.

Keywords: Sudan, Baggara, ecological zones, environmental insecurity, drought, conflict, displaced, armed movements

The chapter provides an overview of the relationship between environmental and political/military insecurity in Sudan. The long-running civil war has exacerbated the environmental crisis in the northern drylands, by denying northern pastoralists access to seasonal pastures in sub-humid zones of the south. As a result, there has been a high concentration of human and animal population in the buffer zone between dry and sub-humid zones, leading to serious conflict between northern and southern ethnic groups. Southern ethnic groups have been under constant attack by Baggara tribal militia and government troops, while the SPLA has destabilised life in border villages. The disruption of traditional patterns of migration between ecological zones has increased vulnerability to drought and famine and created huge numbers of internally displaced. The case of the

buffer zone illustrates how political and environmental insecurity interrelate, and highlights the importance of interdependence between drylands and sub-humid areas.

133. **Mohamed Salih, M.A.** (1989) 'Ecological Stress, Political Coercion, and the Limits of State Intervention: Sudan', in A. Hjort af Ornas and M.A. Mohamed Salih (eds.) *Ecology and Politics: Environmental Stress and Security in Africa*. Uppsala: Scandinavian Institute of African Studies.

Keywords: Sudan, state policy, commercial agriculture, farmer-herder relations, warfare, armed movements

Mohamed Salih outlines the relationship between mechanised agriculture, environmental degradation and local and national conflicts. Since the 1940s, the Sudanese state has invested heavily in large-scale mechanised agricultural schemes. This involved the use of coercive measures by the state to evict traditional cultivators and pastoralists. During the 1983/85 drought, the state deployed troops to prevent the spontaneous movement by subsistence farmers and pastoralists into fertile areas intended for commercial agricultural development. In addition to environmental degradation, agricultural schemes have triggered localised conflicts between commercial farmers, subsistence cultivators and pastoralists over land use and migration routes. They have also fuelled support for armed movements who oppose agricultural policies that disenfranchise subsistence producers. In the Nuba Mountains, for example, many Nuba have joined the SPLA to fight for more equitable distribution of land resources and have attacked mechanised schemes and burned crops. Similar attacks against mechanised schemes in the Blue Nile have been carried out by Ingessana supporters of the SPLA, while mechanised schemes in the White Nile have ceased to operate since 1986 as a result of SPLA attacks.

134. **Monod, T.** (1975) Introduction in T. Monod (ed.) *Pastoralism in Tropical Africa*, pp. 3-93 (French) and 99-183 (English). London: Oxford University Press.

Keywords: Africa, farmer-herder relations, economic change

The author surveys the contributions made in this volume to the study of problems of contact between pastoralists and farmers. The notion of complementarity between these groups has often been discussed. However, despite relationships that are often efficient and functional there seems to be in West Africa a strong traditional opposition between 'the men of the cattle and the men of the hoe' (Gallais).

Monod surveys the different approaches that can be adopted in a study of problems of contact. He gives particular attention to one exemplified by Bourgeot, who views problems of contact at the dynamic level of relations of production. Special attention is paid to the interactions between ethnicity, social organisation and modes of production.

Monod also addresses the issue of changes between a pastoral and an agricultural way of life. These are frequent in West Africa and do not result in a loss of ethnic affiliation. The reasons for a change are often economic necessity. For instance, after suffering losses in their herds a Fulbe family may settle temporarily and take up agriculture whilst they build up their herd, then return to a nomadic herding lifestyle. This should not be viewed as acculturation.

135. Moore, D. (1993) 'Contesting Terrain in Zimbabwe's Eastern Highlands: Political Ecology, Ethnography and Peasant Resource Struggles', *Economic Geography* 69(4): 380-401.

Keywords: Zimbabwe, national parks, resettlement, gender, landscape, state

The Kaerezi Resettlement Scheme in the eastern highlands of Zimbabwe is unusual in three respects. Firstly, the people settling in the state-administered resettlement area were for the most part the same people who were forcibly evicted from the area in the early 1970s. Secondly it is a favourable agro-ecological zone. Thirdly it borders a National Park (the Nyanga National Park). The extension of the Park in 1987 and proposals to establish a protected river corridor running through the resettlement area have resulted in a series of resource conflicts. These conflicts, however, need to be understood in a more nuanced way than simply state verses peasant (which has tended to dominate in political economy approaches). The state itself has not acted in a co-ordinated and unified manner, with different branches of the state acting in seemingly contradictory ways. Peasants' interests are also far from monolithic. Gender plays an important role in explaining different points of conflict. Most men, for

example, favoured the construction of a park fence to prevent their cattle straying into the park and the incursion of wildlife into the resettlement area, while for women a park fence meant the loss of access to forested areas important for gathering woodfuel. The paper stresses that conflicts over resources need also to be understood in the context of conflicts over the cultural meanings of landscapes and the collective memory of past resource conflicts.

136. **Morton, J.** (1994) 'Pastoral Decline and Famine: The Beja Case', in J. Markakis (ed.) *Conflict and the Decline of Pastoralism in the Horn of Africa*. Basingstoke: Macmillan Press Ltd.

Keywords: Sudan, Beja, Red Sea Hills, commercial agriculture, marginalisation, drought, famine

The chapter considers the pastoral Beja people of northeastern Sudan. It distinguishes between northern Beja groups, who inhabit the north of Red Sea Province, and the Hadendowa, who inhabit southern Red Sea Province and northern Kassala Province. The northern Beja have not seen the loss of control over pasture and agricultural land that the Hadendowa have. As a result, the effect of drought in the mid-1980s on the northern Beja was a slow decline in subsistence livelihoods, while for the Hadendowa it was a collapse into famine conditions. The author discusses the loss of Hadendowa dry season pasture and water sources after the establishment of the Gash and Tokar agricultural schemes in the first half of the century and pressure on Hadendowa grazing land from the Beni Amer, the Rashaida, and Eritrean refugees. Many Hadendowa also become impoverished through unfavourable tenancy arrangements on agricultural schemes, and through migration as unskilled labour to towns such as Port Sudan. Exacerbating the situation was the inability of the Hadendowa to exert political pressure in favour of their rights to land, as a consequence of allegiance to traditional Sudanese parties and sects. The author argues that cumulative effects of economic and political marginalisation were key factors in the severity of famine among the Hadendowa during the drought of the early 1980s in the Red Sea Hills.

137. **Murombedezi, J.** (1991) 'Decentralising Common Property Resources Management: A Case Study of the Nyaminyami District Council of Zimbabwe's Wildlife Management Programme', *Drylands Networks Programme Issues Paper* 30. London: International Institute of Environment and Development.

Keywords: Zimbabwe, CAMPFIRE, wildlife, local government, decentralisation, national parks, community

In 1984 the Zimbabwean government implemented a decentralisation programme which led to the establishment of new local government structures at ward and village level. Implementation of this programme has, however, been patchy and development planning decisions still take place at the District or Provincial levels. District Councils covering communal areas have few revenue raising options, given the extent of rural poverty. By being granted status as the Appropriate Authority to receive revenue directly from safari and hunting fees, under CAMPFIRE, District Councils can significantly increase their revenue. This paper examines the economics of the local government system in Nyaminyami District and how revenue raised by CAMPFIRE has been used. It argues that the present system of distributing benefits equally to the whole district penalises people living in the wards who lose most from living in close proximity to wildlife. By spreading the benefits too thinly these people are not being adequately compensated and they are still calling for wildlife to be removed from their areas. To be a success CAMPFIRE needs to consider what exactly is meant by community and at what level management of communal resources should take place.

138. **Mwalubanda, C., A. Ngaiza, E.E.M. Kazungu, H. Ramadhani, P. Temda and B. Musalika** (1991) 'Learning from the Past? The East Usambara Catchment Forest Project, Tanzania', in Panos Institute *Whose Trees?*, pp. 57-89. London: Panos.

Keywords: Tanzania, forest, commercial logging, fuelwood, NGOs, participation

Commercial logging in the forest areas of East Usambara during the 1960s, 70s and 80s received bilateral technical assistance from the Finnish government. When the environmental impact of the logging was exposed in the international media, the Finns withdrew their

support. In the place of the previous policy, they formulated a new management plan in conjunction with IUCN, to protect the most ecological valuable forest areas and carefully manage surrounding buffer zones for the benefit of the local population. The project has placed great emphasis on consultation with the local population to prevent conflicts between their use of the forest and conservation priorities. Despite this stated ambition, very few of the local residents had even heard of the planned conservation project and most were sceptical about any of their views being taken into account. It seems that, despite good intentions, the project's definition of consultation fell far short of what the local community expected.

139. Myers, G.W. (1994) 'Competitive Rights, Competitive Claims: Land Access in Post-war Mozambique', *Journal of Southern Africa Studies*, 20(4): 603-632.

Keywords: Mozambique, land, peasants, local government, internal migration, commercial farmers

Land tenure in post-war Mozambique is extremely complex and this complexity is leading to actual or potential conflict over land. This paper is based on research in Gaza Province and traces how layer upon layer of different claims have built up since the colonial period. The state's attitude to customary tenure is seen as a particular problem and both before, during and after the war, the state has been a prime agent in alienating peasants from land to which they claim customary rights. The mass displacement of peasant farmers during the war has meant, however, that often a number of different people now claim historical, or customary, rights to the same areas. The paper argues that one key issue is that the government has to engage with customary allocation and conflict resolution mechanisms if the extremely problematic land tenure situation is to be sorted out.

140. Ndagala, D.K. (1990) 'Pastoralists and the State in Tanzania', *Nomadic Peoples* 25-27: 51-64.

Keywords: Tanzania, pastoralists, state, agriculture, conflict, local politics, land alienation

Relations between the state and pastoralists in Tanzania have to be understood in the context of relations between pastoralists and their

agricultural neighbours. As the Maasai constitute the majority in their district they have been able to influence government in their area to make them more favourable to their interests. Other minority pastoral groups such as the Datoga are less able to resist state interventions. They have lost large tracts of their land to agriculturists and many are no longer primarily pastoralists, but agro-pastoralists. Datoga groups who have had confrontational relationships with their neighbours, such as the Barabaig, have been especially affected and have often lost out in conflicts over land.

141. **Ngoufo, R.** (1992) 'The Bamboutos Mountains: Environment and Rural Land Use in West Cameroon', *Mountain Research and Development* 12(4): 349-356.

Keywords: Cameroun, Bamilkeke, conflict, environmental damage, farmer-herder relations

The Bamboutos mountains are a volcanic massif in West Cameroon rising over a densely populated piedmont inhabited mostly by Bamileke people, who practise agriculture and stock-raising. Diminished crop yields in the plain and the attraction of lands suitable for grazing and lucrative cash crops have caused a recent expansion of the piedmont populations upwards.

Cattle and sheep raising are practised extensively and herds usually number over a hundred head. However pasture areas, already of poor quality, are being reduced to a minimum by a gradual encroachment of cultivation. Traditionally, animals were left to wander freely but recent conflicts between herders and farmers have made it necessary for livestock to be watched closely and kept in pens at night.

Conflict between field owners and livestock owners has reached severe proportions. Incidents have involved herders destroying enclosures around farmland and releasing animals into fields and farmers setting fire to herder camps, blocking access to water and slaughtering, poisoning or stealing animals. Governmental measures aiming to defuse this atmosphere of conflict and tension, such as a clear demarcation of grazing land and routes, have been unsuccessful. In addition, the colonisation and overuse of the steep mountain slopes for crops and pastures has resulted in severe environmental degradation.

142. Nhira, C. and L. Fortmann (1990) 'Local Woodland Management: Realities at the Grassroots', in P.N. Bradley & K. McNamara (eds) 'Living with Trees: Policies for Forestry Management in Zimbabwe', *World Bank Technical Paper* No. 120, pp. 139-155. Washington D.C.: World Bank.

Keywords: Zimbabwe, CAMPFIRE, woodland, tenure, resettlement, local government, forest reserves

Using a 'tenurial niche' approach, which describes a category of land in terms of its use by certain people for particular purposes, this chapter examines the local management of trees and woodland in Zimbabwe. It highlights many areas where the tenurial niche of trees, or woodland, is contested by different groups. A key area of conflict is between the state and residents of communal areas over Forestry Commission land. Conflicts have been especially acute where residents have been recently prevented from using woodlands to which, although being on state land, they have had access in the past. The chapter points out that these conflicts are not always over trees *per se*, as woodlands have often been used as reserve grazing areas.

Another key area of conflict is between District Councils and residents over the right to fell trees on communal land. Under the Communal Land Act (1982) some District Councils have claimed the ownership of trees in communal areas and have granted concession licences to commercial timber concerns. Local residents are banned from exploiting any commercial trees, even those on their own fields, and those caught breaking the regulations are fined. The author argues that this is a clear case where CAMPFIRE could be used as a means of overcoming conflict between commercial companies and residents. Local management systems can often regulate use of trees, for example through the definition of sacred groves. These systems are not, however, able to deal with situations where the tenurial niche of individual trees or woodland is contested, especially where it is contested between longer-term residents and newer arrivals. Conflict is especially acute in areas where resettlement schemes have redefined the tenure of certain areas of woodland. Local institutions are able to deal with these conflicts and the state should encourage, support and co-ordinate local management structures rather than impose a hard and fast regulatory framework.

143. **Nyamapfene, K.W.** (1985) 'Prevention of Land Use Conflicts in Zimbabwe's Marginal Lands', *Land Use Policy* 2: 323-326.

Keywords: Zimbabwe, CAMPFIRE, wildlife management, rural development, national parks, communal areas, land use

The paper describes the Zimbabwean government's Communal Area Management Programme for Indigenous Resources (CAMPFIRE) and describes how the Programme has reduced conflicts between peasants and animals in nearby National Parks. CAMPFIRE is seen as not simply a way of reducing tensions, however, but also an important part of rural development policy in some marginal regions of the country. In both respects it is thought that the policy has been and will continue to be a success.

144. **Oba, G.** (1992) 'Ecological Factors in Land Use Conflicts, Land Administration and Food Insecurity in Turkana, Kenya', *Pastoral Development Network Paper* No. 33a. London: Overseas Development Institute.

Keywords: Kenya, Turkana, international boundaries, livestock, conflict, food security, water

The extremely variable nature (both spatially and temporally) of the physical environment in the Turkana area of northern Kenya has resulted in highly nomadic pastoral strategies. To be effective, these pastoral strategies necessitate the occasional movement out of the Turkana area into surrounding districts. Violent conflicts and cattle raiding have been a long-term feature of Turkana relations with their neighbours but these interactions have also included more reciprocal arrangements, allowing access to grazing during periods of shortage in Turkana. This paper shows how British colonial concern to demarcate precise and secure boundaries actually increased the number of confrontations and created a political climate in which past reciprocal relationships between pastoral groups broke down. Wider political instability in the region and the availability of large numbers of cheap modern armaments have fanned the flames of these resource conflicts in the post-Independence period. Since colonial times there have been development policies designed to increase the productivity of Turkana pastoralism and non-pastoral activities in the hope that this would decrease the necessity to raid neighbouring groups. These policies have included rotational grazing schemes, fishing projects on

Lake Turkana and various irrigated agriculture projects to encourage food security. Despite the willingness of Turkana pastoralists to take part in non-pastoral activities these projects have all failed. Today much of the Turkana population is reliant upon food aid to meet its nutritional requirements.

145. Oba, G. (1996) 'Shifting Identities Along Resource Borders: Becoming and Continuing to be Borana Oromo', in P.T.W. Baxter, J. Hultin and A. Triulzi (eds.) *Being and Becoming Oromo: Historical and Anthropological Enquiries*. Uppsala: Nordiska Afrikainstitutet.

Keywords: Ethiopia, Borana, Somali, pastoralists, resource boundaries, conflict

Oba provides an historical perspective on competition over natural resources between Oromo and non-Oromo pastoralists. As cattle pastoralists, the Borana Oromo did not range as widely as camel pastoralists. Their movements were mainly restricted to herding around well clusters in the dry season, and then moving to more arid rangelands in the wet season. This mode of transhumance left wet season pastures available for other pastoral groups to exploit. The author describes how Somali clans moved progressively into Borana wet season grazing areas and then used force to keep the Borana out. Unlike the Borana, Somali clans believed that rights to key resources could not be negotiated, but must be taken and defended by force of arms. For the Somali, the right to graze in an area was based on effective occupation and ability to provide defence. At the end of the nineteenth century, a rinderpest epidemic greatly weakened the Borana cattle-based economy, but had less impact on camel- and small-stock-based economies of the Somali. Looting of Borana livestock and forcible attempts by the Somali to convert the Borana to Islam, led to a series of wars. Colonialism and the subsequent demarcation of the border between Ethiopia and Kenya further weakened the Borana, who were split between countries. Today, Borana land is greatly reduced compared to previous centuries as a result of pressures from other pastoral groups.

146. **Okali, C. and B. Sule** (1980) 'The Role of Pastoralists' Organisations in Defining Land Use Systems in Kaduna State', in *International Livestock Centre for Africa Sub-Humid Programme. A Compendium of Background Papers*. Reference: 5776-RRMG. Kaduna/London: ILCA/Overseas Development Institute.

Keywords: Nigeria, Ful'e, social organisation, land rights, flexibility

Okali and Sule describe two features of contemporary Ful'e pastoralist social organisation in Nigeria: the *ardos* and the Miyetti Allah club. The *ardos* were originally appointed by the colonial government to collect the cattle tax, *jangali*. Although the *jangali* was abolished in 1975, the *ardos* still exist. Their roles are restricted, since pastoralists tend to arrange affairs directly with farmers on a one-to-one basis. For instance rights to camp on a field, or resolution of a conflict over crop damage, will usually be settled without the intervention of an *ardo*.

The Miyetti Allah organisation of Kaduna was registered as a club in 1972. It is in theory open to all pastoralists and its stated aim is to help and support the Ful'e. However, the club has no full-time officials, regular meetings, or records and therefore has little continuity or cohesion.

The strength of the Ful'e is their ability to move quickly when disease breaks out, pasture is overgrazed or arable farmers exert pressure. In this strength of the herders, conclude Okali and Sule, lies their weakness for organising themselves into clubs. Neither the *ardos* nor the Miyetti Allah organisation alone can settle land rights concerns, which increase with the settlement of the Ful'e. A system of resource use including arable farming and pastoralism must be defined.

147. **Oloka-Onyango, J. and G.M. Zie** (1993) 'Pastoralism, Crisis and Transformation in Karamoja', *Dryland Networks Programme Issues Paper* No. 43. London: International Institute for Environment and Development.

Keywords: Uganda, Karamojong, livestock, raiding, violence, disarmament, national politics

This pamphlet summarises the proceedings of a workshop held at Makerere University, Uganda in August 1992. A underlying theme of the workshop was that of cattle raiding by and amongst, the Karamojong. One paper specifically addressed this issue. Three main

causes were proposed for cattle raiding: the need for restocking after drought, private accumulation and plunder following social disintegration. Possible solutions included more participatory development policies and a more prominent role for women.

148. Parkipany, M.S. (1991) 'Pastoralism, Conservation and Development in the Greater Serengeti Region', *Drylands Network Programme Issues Paper* No. 26. London: International Institute of Environment and Development.

Keywords: Tanzania, Kenya, Serengeti, Ngorongoro, Maasai, wildlife, parks, agriculture, livestock, tourism

The Greater Serengeti region of Tanzania and Kenya includes a vast land area devoted to wildlife protection and includes the world famous Ngorongoro Conservation Area, Maasai Mara National Reserve and Serengeti National Park. The area is home to the largest concentration of wild ungulates in the world. National and international conservation organisations have tended to ignore the plight of the tens of thousands of peoples living in and around the region. Many of these people, predominantly Maasai, have found their livelihoods adversely affected by the wildlife protection areas.

Spectacular increases in wildlife populations over recent decades has led to increased conflicts between livestock and wildlife in the areas surrounding the parks. At the same time pastoralist populations have had their lands encroached upon by expansions in cultivation, in particular medium- and large-scale wheat farms along the eastern fringes of the Greater Serengeti region. While some Maasai have benefited from their involvement in agricultural production, those living within the Ngorongoro Conservation Area have been prevented from developing cultivation plots by conservation regulations, although large numbers of wildlife and rules circumscribing their production systems has led to a rapid decline in the viability of pastoralism. The presence of wildlife protection areas has led to an inflow of revenue from tourism to local government coffers in the case of Maasai Mara National Reserve, but this has tended not to reach the people living in closest proximity to the wildlife. While previous preservationist policies may have been replaced by new conservationist policies, environmental concerns tend to be at the expense of the local population. Increases in livestock populations are blamed for overgrazing but increases in wildlife populations are not.

149. Parry, D.C. and B.M. Campbell (1990) 'Wildlife Management Areas of Botswana', *Botswana Notes and Records* 22: 65-77.

Keywords: Botswana, wildlife, grazing, tourism, fencing, protected areas

The highly variable nature of Botswana's environment means that wildlife tend to migrate over large distances and often leave the country's extensive areas of protected land. A system of buffer zones has been established around the protected areas in which hunting is controlled, but as there are no restrictions on land use in these areas wildlife have often had their migration routes disrupted by livestock development and associated fencing. As a solution the Botswana government has proposed the establishment of Wildlife Management Areas (WMAs) in which wildlife utilisation will be the primary land use. An analysis of statistical data on all of Botswana's proposed WMAs indicates that they can be divided into two distinct management units: northern and southern. The northern WMAs have high wildlife biomass and a reasonable tourist potential, whilst the drier WMAs in the south have a lower wildlife biomass and less tourist potential.

Despite the lower densities, local people in the southern WMAs are more dependent on wildlife resources for their basic requirements. This divide suggests that southern WMAs should be run primarily as 'community wildlife-use areas'. As financial returns on livestock are similar to wildlife these areas could incorporate both land uses as long as fencing is prevented. Because of their higher wildlife biomass and the presence of valuable species the northern WMAs could be targeted for commercial wildlife utilisation and for tourism. One area in the north (Chobe Enclave), however, has already rejected the plans for a WMA, suggesting that political and social considerations need to be incorporated into the analysis as well as purely economic.

150. Pearce, F. (1993) 'Botswana: Enclosing for Beef', *The Ecologist* 23(1): 25-29.

Keywords: Botswana, fencing, hunter-gatherers, livestock, wildlife, parks, water

The construction of fences around new ranches in Botswana has led to a decrease in the wildlife population through denying access to drought year migration routes. The San population of the Kalahari is

denied access to their traditional sources of food from hunting and gathering, both by restrictions in the Kalahari Game Reserve and by the expansion of beef ranches. The government has attempted to blame the San population for decreasing wildlife numbers in the Kalahari as a way of deflecting criticism from the effects of the fences. There are also conflicts between the diamond mines, tourism and farmers over the use of water from the Okavango. Tourism is not a long-term solution for the protection of wildlife.

151. **Perner, C.** (1993) 'The Reward of Life is Death: Warfare and the Anyuak of the Ethiopian-Sudanese Border', *Nomadic Peoples* 32: 39-54.

Keywords: Ethiopia, Sudan, Anyuak, conflict, armed movements, drought, weapons

The author examines how traditional life of the Nilotic Anyuak people was disrupted as a consequence of larger political developments in Sudan and Ethiopia. The Anyuak specialise in agriculture, supplemented by hunting and fishing. Their lands were divided by the border between Ethiopia and Sudan, along the river Akobo. In Ethiopia, the government introduced peasant associations and socialist-style production systems after 1974 that undermined the authority of Anyuak kings and disrupted traditional social practices. In Sudan, after 1983 many Anyuak were supportive of the SPLA and saw the civil war as a means to gain regional autonomy. However, the establishment of an SPLA military training camp at Itang, in the heart of Anyuak territory in Ethiopia and the large number of Nuer and Dinka refugees that crossed to Itang from Sudan, led the Ethiopian Anyuak to change their loyalties. Believing their lands occupied by 'foreign invaders', Ethiopian Anyuak aligned with anti-SPLA rebels. The author describes the impact that Anyuak involvement in these wider conflicts has had on social and economic life, including the disruption of subsistence agriculture due to large-scale population displacement, the collapse of traditional forms of mutual support, and increased vulnerability to drought in the 1980s. The proliferation of automatic weapons has also exacerbated conflict between the Anyuak and the pastoral Murle. Well-armed Murle have expanded their range of hunting wild antelope into Anyuak areas, leading to violent local clashes.

152. **Peters, P.** (1992) 'Manoeuvres and Debates in the Interpretation of Land Rights in Botswana', *Africa* 3(62): 413–434.

Keywords: Botswana, land, livestock, customary law, privatisation, cultural change

Conflicts over resources have to be understood in terms of re-inventions of and contestations over meanings. The transformation of rights to grazing land and water in Kgatleng, Botswana over the past five decades has been accompanied by constantly shifting definitions of 'customary' or 'traditional' rights. This paper concentrates on the three different situations where manoeuvres over meaning are central. First, it considers the shift from more inclusive to less incorporative organisations controlling (or owning) boreholes and how definitions of who is a member have been transformed and contested. Secondly, it examines the closely related debates over exclusive grazing rights to land around boreholes, and who has rights to these exclusive grazing zones and for what periods. Thirdly, the paper considers the significance of debates about fencing and how this has fulfilled an important role as a metaphor for wider debates about privatisation of grazing land. The paper argues that analyses that include the minutiae of social interaction and the manoeuvres over meaning are vital if we are to understand the process, as well as outcomes, of increasing exclusivity of claims over common property resources.

153. **Peterson, J.H.** (1992) 'A Proto-CAMPFIRE Initiative in Mahenye Ward, Chipinge District: Development of a Wildlife Utilization Programme in Response to Community Needs', *Centre for Applied Social Sciences Working Paper NRM 3*, 1992. Harare: University of Zimbabwe.

Keywords: Zimbabwe, CAMPFIRE, wildlife, National Parks, local government, community identity, poaching

When the Gonarezhou National Park, in the extreme south east of Zimbabwe (bordering Mozambique) was established in 1966 the people living within the park were compulsorily evicted. Many of these people settled just outside the Park boundaries, including in a thin strip of land between the Save river and the Mozambique border known as Mahenye ward. The people living in this area were extremely angry about their removal from the park and continued to

poach extensively within the park boundaries. Both before and after their eviction hunting provided a significant portion of their diet.

After Independence the residents of Mahenye Ward assumed that they would be reallocated what they saw as their land inside the National Park. When it was explained that this would not happen because the nation needed the foreign exchange from tourists wanting to see wildlife, it only increased the incentive for the residents of Mahenye to carry on poaching. In response, the Parks authorities started raiding Mahenye villages to look for the spoils of poaching. To make matters worse, fields in Mahenye were being severely disrupted by elephants crossing over from the Park and some people lost cattle to lions and hyenas. Parks officials were slow to come to the assistance of the local residents when they complained about problem animals. In 1982 a meeting was organised between the local lineage heads and the National Park authorities. At the meeting it was decided that a trial policy of distributing meat and proceeds from a hunting licence to kill to elephants would be undertaken. The trial seemed to be a success and the distribution of meat helped lower tensions. The money from the licences was, however, caught up in a bureaucratic tangle and not finally released to the ward to build a school until 1988. Over this period the policy has continued to flourish and the residents of Mahenye have asked AGRITEX to dismantle a planned grazing scheme in an unpopulated area of the ward and set the land aside as a grazing area. Three elements seemed to be crucial to the success of this project. First, the presence of a local safari operator who took a keen interest in community affairs, spoke the local dialect and maintained good relations. Secondly the District Council agreed to release the funds for ward level development, and thirdly the population of the ward has an unusual sense of social cohesion and community action. CAMPFIRE has been able to aid this (pre-existing) project through a simplified structure of paying receipts direct to the District Council.

154. **Prioul, C.** (1971) 'Eleveurs Nomades et Paysans Sedentaires dans le Nord Ouest Centrafricain', in *Quatre Etudes sur l'Elevoage Travaux et Documents de Geographie Tropicale* No.3, pp. 1-42. Lyon: CEGET.

Keywords: Central African Republic, Ful^oe, nomadic pastoralism, conflict

155. **Marindo-Ranganai, R.** (1995) 'The Population Dynamics of the Tembomvura People of Zambezi Valley, Northern Zimbabwe', *Zambezia* 22(2): 177-196.

Keywords: Zimbabwe, CAMPFIRE, wildlife, tsetse, hunter-gatherers, ethnicity, local politics, poverty

Chapoto Ward, in the Dande Communal Land area in the far north-east of Zimbabwe, is a marginal area for settled agriculture and the presence of tsetse fly makes cattle-rearing difficult. It does, however, have a large amount of wildlife and is close to the Dande Safari Area and the Chewore Game Reserve. The majority of the population in the ward belong to the Chikunda ethnic group and a minority to (around 500 people) the Tembomvura. The Chikunda are mainly cultivators, though in the past they supplemented their diet by hunting, whilst the Tembomvura are basically semi-nomadic hunter-gatherers, who occasionally plant some crops. The Tembomvura are extremely poor and are excluded from all local level political structures.

A CAMPFIRE scheme was established in the area in 1988, and money received from hunting concessions has been handed over to the District Council. What has happened to the money subsequently is unclear, but it appears that at least some of it has been used to build a new school and clinic. Whilst there is some disquiet amongst the Chikunda that they have not been paid money directly they are mostly supportive of CAMPFIRE and see the benefits of the school. The Tembomvura on the other hand are extremely unhappy with CAMPFIRE. They say that they have been prevented from all hunting activities including trapping birds and rodents and are not even allowed to gather non-animal produce from the safari area. As their children never attend school or the clinic they identify benefits from CAMPFIRE as accruing just to the Chikunda. The paper argues that CAMPFIRE is failing to bring 'community development' to the poorest of the poor as it has failed to recognise either the heterogeneous nature of the local community or the reality of absolute poverty amongst the Tembomvura, to whom a full stomach is more important than a school.

156. **Ranganai, M. and B. Zaba** (1993) 'Animal Conservation and Human Survival: A Case Study of the Tembomvura People of Chapoto Ward in the Zambezi Valley, Zimbabwe', Unpublished paper presented at

South-North Centre Seminar Series, School of Oriental and African Studies, University of London, October 1993.

157. **RIM** (1984) *Livestock and Land Use in Southern Gongola State*. Kaduna, Nigeria: Final report to the Livestock Project Unit.

Keywords: Nigeria, Fulbe, grassy uplands, erosion

This report is principally a discussion of the livestock production systems in Southern Gongola State, Nigeria. One section of the report covers the Mambila plateau, a high-altitude grassland, inhabited by Mambila farmers, but during the last century a favoured refuge area of Fulbe pastoralists coming across from Cameroun. When population densities were low, farmer-herder interactions were complementary, but increased herd sizes and increased human populations have led to accelerating conflicts. The absence of a market for pastoralists' milk and the fact that Mambila have no need for cattle manure are important in terms of the lack of interaction and ultimately the evolution of violence. See also Blench (1984).

158. **Richards, A.** (1988) 'Kaolin vs Forest and River: A Dilemma in Dar-es-Salaam', *Splash* 4(3): 15.

Keywords: Tanzania, forest, water, mining, reserve, planning

There are plans to rapidly increase the amount of kaolin mined in the Pugu Forest Reserve in the upper catchment of the Msimbazi river, Tanzania. The mine's management have produced a plan which claims that the expansion will have little environmental impact, that water used by the mine can be recycled and that the area will be reclaimable after mining ceases. The Division of Forestry fears that the mine may have a negative impact on the environment of the forest and the hydrology of the Msimbazi river, which serves nearby Dar-es-Salaam. A comprehensive environmental impact assessment is needed before the project can proceed.

159. **Rihoy, E.** (1995) *The Common Without the Tragedy? Strategies for Community-based Natural Resources Management in Southern Africa*. Lilongwe, Malawi: SADC Wildlife Technical Cooperation Unit.

Proceedings of a workshop held in Kasane, Botswana in April 1995, exploring comparative experiences of natural resource management strategies in the SADC countries.

160. **Rose L.** (1992) 'The Politics of Harmony: Land Dispute Strategies in Swaziland', *African Studies Series* No. 69. Cambridge: Cambridge University Press.

Keywords: Swaziland, land tenure, customary rights, dispute resolution, local politics, gender

Based on a detailed case by case analysis of land disputes, this book places Swaziland tenure into its broader political context. Swazi traditional élites use what the author terms 'harmony ideologies,' often in the form of appeals to national unity, in order to resolve land disputes. Their ability to resolve land, and other communal resource disputes is important if they are to resist calls from external development agents (and new local élites) to reform the customary land tenure system, upon which the traditional élite's power is largely based. Commoners are sometimes willing to accept the traditional élite's harmony ideology but also use differing strategies, determined largely by class and gender, in order to manoeuvre more favourable outcomes. These manoeuvrings in the sphere of land disputes are also constantly redefining the meaning of customary tenure.

161. **Said, A.** (1994) 'Pastoralism and the State Policies in Mid-Awash Valley: The Case of the Afar, Ethiopia', *African Arid Lands Working Paper* No. 1. Uppsala: Scandinavian Institute of African Studies.

Keywords: Ethiopia, Afar, commercial agriculture, national park, farmer-herder relations, land rights, conflict

Said's paper outlines conflict over natural resources in north-eastern Ethiopia caused by development programs and the establishment of a national park in areas traditionally used by Afar pastoralists. The author estimates that the expansion of state-run irrigation schemes along the Awash River and the enclosure of land for Awash National Park had, by 1991, alienated some 52,000 hectares of dry and wet grazing land from the Afar. The resulting disruption in traditional Afar patterns of mobility and access to land and water resources led

to environmental degradation and increased vulnerability to drought. It also exacerbated conflicts over territory between the Afar and other groups, and between different Afar clans. Conflict between the Afar and agriculturists also intensified. On irrigated cotton schemes, cotton fields mature when fodder supply in rangelands is at its lowest. Consequently, the Afar frequently drive their animals into cotton fields, resulting in armed confrontations with scheme guards and the loss of human and animal lives. Non-violent confrontations have also occurred with guards at Awash National Park, who seize Afar livestock in lieu of payment of fines for encroaching park land. Since the change of government in Ethiopia in 1991, these conditions have been eased to some extent. Nevertheless, the author argues that as long as Afar land rights are not formally recognised by the state, the potential for violent conflict remains.

162. Scoones, I. (1991) *Wetlands in Drylands: The Agro-ecology of Savanna Systems in Africa*. Part 1, Overview. London: International Institute of Environment and Development.

Keywords: Africa, wetlands, grazing, agriculture, local institutions, key resource

This overview of valley bottom wetlands in the semi-arid areas of Africa includes a chapter on conflict over these key resources. Conflicts over land resources are likely to focus on the areas of highest productivity. This is especially so as they provide critical resources in times of greatest stress, in the dry season and drought years. Their value also means that local institutions will concentrate on the regulation of such resources. Within agro-pastoral systems community level decisions are often made about allocating portions of the wetland (or certain seasons) to agriculture or grazing. When agriculturalists and pastoralists belong to different ethnic groups conflicts tend to be more intense and complex. In some areas wetlands have been enclosed for commercial agriculture or large-scale damming projects have affected hydrology, resulting in the disruption of pre-existing systems of control and production. Case studies are presented from Sudan, Nigeria and Tanzania.

163. Scoones, I. (1992) 'Wetlands in Drylands: Key Resources for Agricultural and Pastoral Production in Africa', *Dryland Networks Programme Issue Paper No. 38*. London: International Institute for

Environment and Development. (A version of this paper also appeared in *Ambio* 20: 366-371.)

Keywords: Africa, wetlands, key resources, seasonal variations, livestock, agriculture

Valley bottom wetlands are a key resource in African dryland agricultural and pastoral systems. This paper provides an overview of their role and shows how they are central to resource management strategies. Their economic importance and their hydrological role make them key sites of resource conflict, especially between agriculturalists and herders. Development policies that do not take into account the multi-use functions of these wetlands can tip the balance towards one side in situations of resource conflict, typically away from herders. The paper includes examples from Nigeria, Sudan, Tanzania, Zambia and Zimbabwe.

164. Scoones, I. and B. Cousins (1991) *Wetlands in Drylands: The Agroecology of Savanna Systems in Africa*. Part 3f: 'Key Resources for Agriculture and Grazing: The Struggle for Control over Dambo Resources in Zimbabwe'. London: International Institute of Environment and Development.

Keywords: Zimbabwe, wetlands, grazing, agriculture, local politics, local institutions

There are two main axis of conflict over *dambo* resources in Zimbabwe, firstly intra-community conflicts and secondly conflicts between the local community (or elements of the local community) and the state. Access to *dambos* is contested between different actors, using different means to legitimise their control of the resource. Lineage groups with long-standing claims to certain *dambos* will often use the concept of sacredness to support their claims, whilst government agencies cite environmental protection and new immigrants make claims based on communitarianism or equality. The paper includes a detailed case study of the use of *dambos* in Zimato Communal land. Mutakwa Grazing Scheme was first established in the 1940s and revived in the 1980s. It is based on a system of rotational grazing, organised by a local committee, in fenced paddocks. There are two alternate proponents of grazing management systems in the area, firstly the committee of the Grazing Scheme (supported by outside development agencies) and others advocating a system of deferred grazing reliant

particularly on *dambo* resources. At first sight this might appear like a conflict over land use between government and their allies and the rest of the local community. Detailed examination of grazing patterns, however, reveals that much of the conflict is over who within the community has the right to control access to *dambos*. The grazing committee members do not follow or even advocate a system of rotational grazing but rather use the fenced paddocks to reduce labour inputs into herding. The introduction of an inappropriate scheme has fostered intra-community tension and made effective community level common property resource management more difficult.

165. Scoones, I. and F. Matose (1990) 'Local Woodland Management: Constraints and Opportunities for Sustainable Resource Use', in P.N. Bradley and K. McNamara (eds) 'Living with Trees: Policies for Forestry Management in Zimbabwe', *World Bank Technical Paper* No. 120, pp. 157–198. Washington D.C: World Bank.

Keywords: Zimbabwe, CAMPFIRE, woodlands, local government, legislation, planning, land tenure

This chapter gives a detailed overview of the current institutional, legislative and economic context for local (mainly communal) natural resource management. Though the focus is on woodlands, the chapter includes sections on the lessons that could be learnt from grazing schemes and CAMPFIRE. The impacts and implications of the seven key Acts that control community resource management are discussed and the chapter makes suggestions for reforms. Despite the existence of legislation allowing for the decentralisation of resource management functions to a local level, these still tend to be controlled centrally and especially through the sectoral ministries. The chapter cites numerous instances of conflict between individual users of communal resources and the institutions supposedly controlling the resources and notes that, even where management is devolved to appropriate local institutions these are often controlled by a particular interest group, resulting in intra-community conflicts.

166. Scoones, I., C. Toulmin and C. Lane (1993) 'Land Tenure for Pastoral Communities', in M.D. Young and O.T. Solbrig (eds) *The World's Savannas: Economic Driving Forces, Ecological Constraints and Policy Options for Sustainable Land Use*, pp. 49–66. Paris: UNESCO.

Keywords: Africa, land use conflicts, theoretical framework

This chapter provides an introduction to issues of land tenure and land-use conflict in savanna areas. The authors outline recent theoretical debates on land management, and draw upon a range of case studies, many of them African. Different types of land-use conflicts are briefly described: peasant agriculture versus pastoralism; mechanised agriculture versus pastoralism; agriculture and pastoralism versus wildlife managers, cultivating herders and versus absentee herd owners.

167. **Shepherd, G.** (1991) 'The Communal Management of Forests in the Semi-arid and Sub-humid Regions of Africa: Past Practices and Prospects for the future', *Development Policy Review* 9(2): 151-176.

Keywords: Africa, forestry, land, indigenous knowledge, management, government reserves

This article summarises a wide range of literature on forestry management practices in sub-Saharan Africa. It focuses not simply on forest areas but also on trees within agricultural land, pointing out that boundaries between the two are often blurred. Successful government forestry management policies are few and far between and attempts to impose European concepts of land tenure have had a disastrous effect. Government ignorance of indigenous management techniques has led to numerous instances of fallow land being delimited by the state as forest reserves and, hence, changing intensively managed common property resources into open access land as far as locals are concerned. The article includes four case studies of development projects based around local management institutions, including one amongst the Turkana of Kenya.

168. **Skinner, J.** (1992) 'Towards Better Woodland Management in Sahelian Mali', in G. Shepherd (ed.) *Forest Policies, Forest Politics*, pp. 45-58. London: Overseas Development Institute.

Keywords: Mali, Inland Delta, resource management, ecology, fisheries, pastoralism, rice

Fishermen, transhumant goat herders and rice growers share the fertile Bouna woodland lying in the middle of the flood plain of the Inner Niger Delta, Mali. This paper assesses a new management plan that aims to protect the fauna and flora of the Delta and the livelihood of the villagers who exploit it. The Delta has an extremely complex web of traditional rights. During the flood season, land is divided into discrete fishing areas. When the same areas dry out, the *dioros* – the heads of the herding communities – allocate land to pasture and rice fields.

The woodland is in danger not only from cutting by villagers for household needs, but also from herders breaking branches to feed their animals and build enclosures and fishermen throwing thorn branches in the river to serve as refuges for fish. There has also been an increase in herd numbers – partly because the *dioros* charge a fixed sum per herd using the lands they manage and thus have an interest in maximising herd numbers. Administrative efforts to protect the wood have so far not been successful, mainly because they have not taken into account the traditional land rights system and simply because the large area is covered by one Forestry agent, which makes efficient control impossible.

The ground rules of a new management plan were laid down in April 1986. The plan would involve the creation of a committee answerable to the Forestry agent and consisting of members of all the different groups present in the Delta. Thus, the people using the Delta's resources would be made responsible for their management.

See also Nos. 55, 73, 75 and 118.

169. Swift, J. (1991) 'Local Customary Institutions as the Basis for Natural Resource Management among Boran Pastoralists in Northern Kenya', *IDS Bulletin* 22(4): 34-37.

Keywords: Kenya, Boran, pastoralism, rangeland, customary institutions, redistribution, pastoral development

A number of customary institutions exist amongst Boran pastoralists in northern Kenya that play a role in resource management. This paper outlines some of these institutions and suggests that they could be adapted as part of current pastoral development projects to ensure effective natural resource management. Any such institution would probably need statutory support and a contemporary legal framework to facilitate conflict resolution.

170. Sylla, D. (1995) 'Pastoral Organisations for Uncertain Environments', in I. Scoones (ed.) *Living with Uncertainty: New Directions in Pastoral Development in Africa*, pp. 134–152. London: Intermediate Technology Publications.

Keywords: Africa, livestock, pastoral organisations, resource management, enforcement, decentralisation

This chapter examines the formation, structure and operations of pastoral organisations in dryland Africa. Using case studies from Kenya, Botswana, Lesotho, Zimbabwe and the Sahel, it analyses what makes some organisations more successful than others in their management of natural resources. It argues that organisations built upon existing institutions have tended to be more successful than imposed structures, but that this does not mean there is no role for external 'top-down' interventions.

171. Thomas, D.H.L., M.A. Jimoh and H. Matthes (1993) 'Fishing', in G.E. Hollis, W.M. Adams and M. Aminu-Kano (eds) *The Hadejia-Nguru Wetlands - Environment, Economy and Sustainable Development of a Sahelian Floodplain Wetland*, pp. 97–115. Gland and Cambridge: International Union for the Conservation of Nature and Natural Resources.

Keywords: Nigeria, Hadejia-Nguru floodplain, fisheries, irrigation

This book is devoted to the rural economy of the fertile Hadejia-Jama'are floodplain of Northeast Nigeria, and this chapter concentrates on the fisheries sector. Methods and productivity are analysed and the prospects of the fisheries within the current irrigation plans for the area are examined.

Access to fisheries is rarely open and there is a variety of mechanisms controlling use of suitable spots. In some areas, rights to fish in specific parts of the *fadama*, stretches of river or small ponds, are handed down from father to son and although they can in theory be bought and sold, this rarely happens. In other places, access to water will be bought from the village head acting on behalf of the local government. The purchase price is in fact a licence fee or tax. Often access is regulated by a combination of these traditional ownership rights and government fees. However a proposed decree would extinguish all traditional rights to fishing sites and vest their ownership in the state.

Fishing is only one of the activities practised by the inhabitants of the Hadejia-Jama'are area. Most villagers rear livestock or farm as well as fish. In fact cropping, pastoralism and fishing are so closely integrated in the plain that it is not possible to speak of distinct groups. In this sense, the significance of fishing itself goes beyond its considerable value in monetary terms – it plays an important role in the flexibility and adaptability of the economy of the floodplain.

The fisheries are dependent on the depth and duration of flooding and existing dams have already disrupted the Hadejia-Jama'are floodplain. The completion of the proposed schemes upstream could reduce fish productivity by up to two thirds. Measures must therefore be implemented to ensure that a maximum area is flooded each year and that flood regimes are as close to the natural ones as possible.

172. Thomson, J.T. (1982) 'Le Processus Juridique, les Droits Fonciers et l'Aménagement de l'Environnement dans un Canton Hausophone du Niger', in E. LeBris, E. LeRoy and F. Leimdorfer (eds) *Enjeux Fonciers en Afrique Noire*, pp. 169–177. Paris/Bondy: Karthala/ORSTOM.

Keywords: Niger, Zinder, local authority, environmental degradation, grazing regulation

This article explores the links between the politics of Niger and resource use on a day-to-day basis by the villagers of the Zinder region of Niger. The Zinder people all practice cattle-keeping and agriculture, but in varying degrees. Whereas the Fulbe maintain the fertility of the soils by a regular rotation of fields, pastures and cattle pens, the Hausa system cannot truly be described as agro-pastoral.

The general situation in Zinder is that of severe environmental degradation and a lack of autonomous local organisation. Fields, pastures and forests are overused, land is scarce and the added impact of drought has made desertification a serious threat. Thomson suggests that the political and economic history of the area explains the apathy of the villagers and the failure of government efforts to halt desertification.

The Zinder region was placed under close supervision by the post-colonial government dubious of the loyalty of the local peoples. As a result, the area was deprived of any local authority structure. One unfortunate consequence of this is visible in land use. There are no areas set aside for grazing, since there is no local authority to take and enforce such decisions. The only rule is that in the rainy season animals must be kept well away from fields. In the dry season, there

is free access to village land for all. The people of Zinder take no measures because they feel that the problem of regulation of herder-farmer rights should be addressed by the state authorities. A framework of local collective action must be reinstated if the environmental degradation of the area is to be halted.

173. Todd, D. (1977) 'War and Peace Between the Bodi and Dime of Southwestern Ethiopia', in K. Fukui and D. Turton (eds) *Warfare Among East African Herders*. Osaka: National Museum of Ethnology.

Keywords: Ethiopia, Bodi, Dime, conflict, raiding, weapons, farmer-herder relations

The chapter presents an overview of relations between the highland agricultural Dime and the lowland pastoral Bodi in south-western Ethiopia. The author traces the escalation of conflict from 1968 to 1971. Unlike warfare between the Bodi and the Mursi, where institutionalised 'rules of war' are possible due to a rough parity in population, weaponry and culture, warfare between the Bodi and the Dime was highly uneven. Bodi numbers and weapons were much greater than those of the Dime, while cultural differences between highlanders and lowlanders - including mutually unintelligible languages - meant that no consensual 'rules of war' existed. Traditional forms of conflict resolution were thus not utilised, since the Bodi did not believe the Dime could offer resistance of a strength comparable to their own. Bodi strength was underpinned by support from highland Amhara, who collaborated with the Bodi in order to obtain cattle and illegal products of lowland hunting. The increasing violence of Bodi cattle raids and attacks on Dime settlements was only halted by the intervention of government troops and by Mursi attacks on the Bodi from the south, which distracted their attention. The effect of the war has been to enable the Bodi to obtain a foothold on Dime agricultural lands to the north.

174. Tornay, S. (1977) 'Armed Conflicts in the Lower Omo Valley, 1970-1976: An Analysis from within Nyangatom Society', in K. Fukui and D. Turton (eds) *Warfare Among East African Herders*. Osaka: National Museum of Ethnology.

Keywords: Ethiopia, Lower Omo Valley, territorial expansion, flooding, ecology, warfare, farmer-herder relations

Tornay describes the dynamics of warfare in the late 1970s between the Nyangatom and their neighbours the Dassanetch and Kara of the Lower Omo Valley in south-western Ethiopia. All groups of the Lower Omo Valley practice a diversification of activities, including pastoralism, agriculture and hunting/gathering. The Kara are the only people to have left livestock rearing and concentrated predominantly on agriculture.

From 1962 to 1965, the level of Lake Turkana rose, flooding a large part of agricultural and grazing land essential to the Dassanetch. Dassanetch rangeland to the west had already been alienated by the establishment of the Kenyan border. In response, the Dassanetch pushed northward into areas held by former allies, the Nyangatom. Although co-existence was initially possible, drought in 1971 led to a deterioration in relations and incidents of warfare between 1972 and 1974. Pushed northward by the Dassanetch, the Nyangatom in turn encroached on Kara agricultural land, leading to conflict between them in the same period. The author argues that warfare in the Lower Omo Valley does not necessarily lead to physical occupation and settlement of new territory, but to an expansion of the scope of assured access to natural resources. In this regard, warfare is a means to protect flexibility of movement and land use which is essential for survival in the complex ecology of the area. At the same time, a general drift northward of peoples with a pastoral ideology, toward the Ethiopian highland plateau, is discernible. Internal social dynamics also play a role in incidents of warfare, including fluctuating degrees of control on young warriors by elders.

175. Toulmin, C. (1983) 'Herders and Farmers, or Farmer-herders and Herder-farmers?' *Pastoral Development Network Paper 15d*. London: Overseas Development Institute.

Keywords: Mali, Bambara, Fulbe, herder-farmer complementarity, environmental degradation, manure

This paper considers the effects of drought on the traditional relations between stock-raisers and agriculturists in the village of Kala, Central Mali. Kala is inhabited mainly by Bambara and Fulbe. The former are traditionally farmers, the latter traditionally herders, but in Kala all practise a combination of herding and cultivation.

The land around the village is under Bambara control and any group wishing to settle must obtain permission from the local chief. The Kala villagers do not allow the establishment of an independent

Fulbe settlement within the village territory, out of fear of competition for land, water and manure. The only Fulbe families allowed to settle permanently in Kala and practise agriculture are those who are contracted to herd village animals and keep them from the crops.

The 1972 and 1973 droughts and a recent tendency to short, erratic rainy seasons, caused a number of changes in agro-pastoral organisation. Toulmin notes an increasing involvement of pastoral groups in cultivation and an increasing popularity of short-cycle crops with peasants.

Short-cycle crops have high yields if manured and their adoption has caused an increase in the value of animal dung in Kala. As a result, a closer symbiosis of farmers and herders might be expected. This, however, is not true in Kala, where the lack of a clear-cut division between herder and farmer has caused a lessening of the basis for mutually beneficial exchanges between the two groups. Competition for resources has become intense. During the dry season livestock owners must arrange with village well owners for access to water. Because these contracts usually involve the exchange of water for manure, disputes have become more and more common.

176. Turner, S.D. (1996) 'Conservancies in Namibia: A Model for Successful Common Property Resource Management', *SSD Discussion Paper* No. 13. Windhoek: Social Sciences Division, University of Namibia.

Keywords: Namibia, wildlife, commercial farming, communities, land use, scale, traditional authorities

The Conservancy concept was first developed in Namibia on commercial farming areas. When a number of neighbouring farmers were willing to form a local management unit they were granted ownership of animals on their land, as long as they agreed to abide by certain management practices. In recent years there has been an attempt to extend this programme to the communal areas of the country. This paper reviews the prospects of success for this policy based around four case studies. It concludes that there are many difficulties that need to be overcome with the policy if it is to succeed. One of the key issues is that the conservancy concept does not clearly define whether it should be applied to geographical areas or to resource use groups. As these two often do not coincide, there is scope for conflict over the rights of ownership of wildlife, especially if some people in the area fall outside the user group management structure.

A further problem identified is that the areas with greatest potential for wildlife management schemes are the least densely populated areas of the country. The question therefore arises about what is the best scale for management interventions.

177. **Turton, D.** (1987) 'The Mursi and National Park Development in the Lower Omo Valley', in D. Anderson and R. Grove (eds) *Conservation in Africa: People, Policies and Practice*. Cambridge: Cambridge University Press.

Keywords: Ethiopia, Lower Omo Valley, national park, conservation, wildlife, resettlement

The chapter considers the creation of the Omo and Mago National Parks in the Lower Omo Valley of south-west Ethiopia and its implications for the Mursi people who inhabit the area. The economy of the Mursi rests on the integration of cultivation and cattle herding. Cattle herding is particularly important during periods of famine, when livestock can be converted into grain through market exchange. The Mago Park boundary, however, encloses virtually all of the Mursi's best dry season grazing land. Hunting of buffalo is also now restricted by the presence of the parks. Periodic enforcement of park boundaries has thus increased Mursi vulnerability, by contracting their scope for economic diversification. Were park boundaries to be strictly enforced, the basis for Mursi subsistence would be severely eroded. Contradictions between Mursi use of the territory and wildlife conservation efforts were to be solved through their resettlement, although this has yet to materialise. The author argues, however, that the notion of wildlife conservation need not be seen as incompatible with Mursi use of the parks. Rather, Mursi concepts of nature are better suited to long-term conservation of park resources than western notions, which see wildlife conservation and human habitation as being in conflict.

178. **Turton, D.** (1991) 'Warfare, Vulnerability and Survival: A Case from Southwestern Ethiopia', *Disasters* 15(3): 67-85.

Keywords: Ethiopia, Lower Omo Valley, territorial expansion, weapons, warfare, conflict resolution, social structure

The paper presents a case study of the Mursi of the Lower Omo Valley of south-western Ethiopia and the history of warfare between the Mursi and the Bodi and the Nyangatom. The author argues that Mursi warfare must be understood from both an ecological and a political perspective. Although territorial expansion in response to ecological change is an impetus to warfare, warfare itself is also a necessary preliminary to peace negotiations that serve to formalise political boundaries between groups.

The Mursi depend on a combination of cultivation and livestock rearing. Ecological changes this century, including the contraction of flood areas and the spread of tsetse, have increased their reliance on shifting cultivation and created pressure for expansion into uncleared woodlands. For many years, this occurred northward into Bodi territory. In the early 1970s, warfare between the Mursi and the Bodi led to mutual recognition of boundaries, which reinforced distinct political identities. In the late 1980s, warfare erupted between the Mursi and the Nyangatom to the south. Resolution of this conflict was hampered, however, by Nyangatom acquisition of modern weaponry. Unless parity of weapons could be achieved, peace negotiations would be no guarantee against future attacks and the Mursi could face extinction as a distinct political group.

179. See also: **Turton, D.** (1991) 'Movement, Warfare and Ethnicity in the Lower Omo Valley', in J. Galaty and P. Bonte (eds) *Herdsmen, Warriors, and Traders: Pastoralism in Africa*. Boulder: Westview Press.
180. **Unruh, J.D.** (1994) 'Pastoralist Resource Use and Access in Somalia: A Changing Context of Development, Environmental Stress and Conflict', in J. Sørensen (ed.) *Disaster and Development in the Horn of Africa*. Basingstoke: Macmillan Press Ltd.

Keywords: Somalia, pastoralists, commercial agriculture, irrigation, land rights, drought, conflict, weapons, armed movements

The chapter examines the relationship between Somali pastoralist social structure, resource use and armed conflict. Traditionally, six major clan families and their sub-groups (clans) retained access to most land. While cycles of scarcity, intrusion and confrontation have always been part of Somali pastoralism, conflict has increased in recent decades as a result of deteriorating conditions for pastoral production. This deterioration is linked to state policies of rangeland

enclosure, abrogation of traditional use rights, worsening terms of trade in livestock markets, severe drought and famine in the mid-1970s and the expansion of irrigated agriculture in high potential areas along the Shabelle and Jubba rivers. The author argues that pastoral disenfranchisement has been a major factor contributing to instability. As more land was removed from customary use, traditional mechanisms for conflict avoidance broke down. With subsistence livelihoods eroded, clan identification intensified as a means of protecting a shrinking resource base. Animosity between clans in the 1980s grew into clan-based political movements opposed to the government, aided by the acquisition of modern weaponry. After the collapse of the Siad Barre government, these movements have fought over natural resources and the spoils of the state.

181. Van Der Sluis, T. (1994) 'Community-based Land Use Planning - Ngamiland West', *Splash* 10(1): 8-10.

Keywords: Botswana, Ngamiland, livestock, wildlife, agriculture, gathering, land use planning

Ngamiland West Communal Remote Zone, in the far north west of Botswana (bordering on Namibia) is the site of numerous land use conflicts. Livestock have been lost to wild dogs and lions from Kandom Game Reserve in Namibia, crops and veldt plants are destroyed by livestock and agriculture has encroached onto communal rangeland. To help overcome some of these conflicts a Land Use Zoning Plan was made by collecting together data on the area's natural resources and then delimiting zones for certain activities in consultation with local residents. Great pains were taken to make sure everybody in the area took part in the consultation process and areas in which agreement could not be reached were zoned as mixed land use. Most residents welcomed the final plan.

182. Van Donge, J.K. (1993) 'Legal Insecurity and Land Conflicts in Mgeta, Uluguru Mountains, Tanzania', *Africa* 63(2): 197-218.

Keywords: Tanzania, land, law, tenure, agriculture, commodification

There are numerous land disputes amongst people living in the Uluguru Mountains, an area of Tanzania with high population density and severe soil erosion. These disputes are often between individuals

or groups with different interpretations of their land tenure rights, through a complex matrilineal clan system, to a specific plot of land. In the past these disputes tended to be resolved through the institution of clan heads, but these no longer exist. In recent years, cases have tended to be referred to the local Courts for judgement. These Courts, however, appear to be incapable or unwilling to come to clear judgements based on points of law. Their decisions, often delayed by many years, seem to be merely based on expressions of opinion about the individual case and more often than not cases are resolved when one side runs out of money to pursue the expensive claim further. Claimants, however, continue to embark on Court cases and there are few, or no, non-state institutions able to deal with conflict resolution. The theory that land conflicts are a result of increased commodification of land is rejected. They are seen, rather, as a result of a breakdown in the legal definitions of the social construction of tenure rights.

183. **Veeneklaas, F.R., S. Cissé, P.A. Gosseye, N. van Duivenboden and H. van Keulen** (1991) *Competing for Limited Resources: The Case of the Fifth Region of Mali*. Report 4: 'Development Scenarios', Wageningen/Mopti: CABO-DLO/ESPR.

Keywords: Mali, Mopti, development interventions, economy, input-output

This document details a model for the economic development of the Mopti area. Given that the scarcity of land makes an extension of the area under exploitation impossible, the emphasis must be placed on increasing yields per unit area.

The subsistence activities of the area include arable farming, animal husbandry and fisheries. Each is analysed in detail in terms of labour input and yield and factors such as competition for land, forage restriction, crop yields and subsistence needs are examined. The report proposes sustainable and technically feasible scenarios for land use that would reconcile all the different economic sectors.

184. **Vivian, J.** (1994) 'NGOs and Sustainable Development in Zimbabwe: No Magic Bullets', *Development and Change* 25: 167-193.

Keywords: Zimbabwe, NGOs, experimentation, land redistribution, population pressure, government departments

NGOs have been identified as key actors in much of the recent literature on sustainable development in Africa. Their ability to successfully address environmental problems has been emphasised in some case studies, but it is unclear if these specific success stories have much to say about a general approach. This article examines the political, environmental and economic context in which Zimbabwean NGOs operate and concludes that it is unlikely they will be able to offer a 'magic bullet' solution to problems of sustainable development. Key issues include the unrealistic expectations of success from international donor organisations and the inability of NGOs to identify strategies outside those in line with the normative government explanations of environmental problems.

185. **Waters-Bayer, A. and E. Taylor-Powell** (1986) 'Settlement and Land Use by Fulani Pastoralists in Case Study Areas', in R. von Kaufmann, S. Chater and R.M. Blench (eds) *Livestock Systems Research in Nigeria's Subhumid Zone*, pp. 213–226. Addis Ababa: ILCA.

Keywords: Nigeria, Fulbe, farmer–herder relations, crop–livestock interaction, development

These articles illustrate the idea that farmer–herder relations are characterised by mutual advantage. Farmers benefit from the availability of manure, milk and meat and pastoralists from readily available markets, crop residues for grazing, agricultural foodstuffs and low tsetse challenge. For these reasons, Fulbe herders wanting to settle usually do so close to farm communities. They nonetheless maintain much of the flexibility of land use characteristic of pastoral production systems in general.

The state of the relations between farmers and Fulbe pastoralists in subhumid Nigeria is described, concentrating on one zone of Fulbe settlement, the area of Abet. The land resources of Abet are exploited by the settled Fulbe and farmers, and by the transhumant Fulbe who migrate to the Abet area. The situation in the Kurmin Biri grazing reserve, established in 1970, is also assessed.

The Fulbe of Abet have no legal rights of land ownership. Traditional rights are held by the Kaje and Kamantan farmers with whom the herders make arrangements for permission to use land. Conflicts between farmers and settled pastoralists, usually concerned with crop damage rather than land use rights, are relatively rare. However, the situation of economic exchanges and land sharing is not devoid of competition and conflict. Ethnic and religious differences

create a social distance between the groups and small incidents can easily strain economic interactions.

In Abet, some Fulbe reported a heightening of tensions between the two groups in recent years. This is attributed primarily to the increasing use of chemical fertilisers, which reduce farmer dependence on Fulbe herds and increasing cultivation by Fulbe, which reduces their dependence on farmers' grains and crop residues. Problems also occur in zones where farmers grow more root crops, which do not lend themselves well to stubble grazing.

Relations are also less amiable within the Kurmin Biri grazing reserve, mainly because farmers have not yet been compensated for the loss of their traditional right to land claimed by it. In addition to these tensions, one must also consider that research has revealed that reserves not only separate farmers and herders, but also do not result in increased productivity. The authors stress the complementarity between stock-keeping and cropping in traditional production systems and state that development efforts should not aim at eliminating pastoral systems, but rather be based on them.

186. **Bayer, W., H. Suleiman, R. von Kaufmann and A. Waters-Bayer** (1987) 'Resource Use Strategies for Development of Pastoral Systems in Subhumid West Africa - The Case of Nigeria', *Quarterly Journal of International Agriculture* 26(1): 58-71.
187. **Waters-Bayer, A. and W. Bayer** (1984) 'The Fulani of Abet: Research for Development of Agro-pastoralism in the West African Savannah', *Entwicklung und Ländlicher Raum* May 1984: 16-20.
188. **Wiese, B.** (1991) 'Les Massifs Montagneux du Malawi: Milieux Tropicaux d'Altitude, Conflits de Mise en Valeur et Aménagement', *Cahiers d'Outre-mer* 44(173): 11-28.

Keywords: Malai, environment, land use, agriculture, forestry, education

The creation of supplementary farm land for food crops and export commodities such as tea and coffee poses a permanent danger to the natural resources of the highlands of Malawi. Illegal felling of trees is causing the disappearance of mountain forest. Control over commercial plantations and a programme of replanting trees is

possible, but there is no way of stopping the unauthorised agricultural activities of small peasant landholders. The plan that presents a theoretical development programme for Mount Michiru provides an example of the multi-purpose use of a mountain chain under long-term economic, social and environmental perspectives. Making a population firstly aware of the importance that the protection of an environment has, and then educating it as to how this may be achieved, plays an important role in the protection of mountain environments. (Author)

189. Wood, A. (1993) 'State, Communities, and the Role of the National Conservation Strategy in the Search for Sustainable Development', *Nordic Journal of African Studies* 1(2): 83-101.

Keywords: Ethiopia, resource conflict, forests, economic growth, conservation strategy

The article examines the potential for resource conflict in south-western Ethiopia, and the role of a national conservation strategy in alleviating conflict. The south-western highlands are rich in natural resources due to a high and reliable rainfall, as well as forest cover that protects against soil erosion. It is home to diverse ethnic groups with different and potentially competing interests in resource use. Central governments have long considered the area as one of high-potential for agricultural expansion, including coffee-growing for export. However, the development potential of the area is fragile, notably because forest clearance for agriculture increases the risk of soil erosion and alters hydrological regimes downstream. At present, the region is threatened with serious environmental degradation. Immigration during the last century and state development policies favouring the expansion of coffee production and exploitation of timber resources, have led to forest clearance. As a result, pressure on specific groups, including hunter-gatherers in Illubabor and Kefa, has intensified, as traditional territories have been reduced. Competing demands of local, regional and national agendas for economic growth are creating greater potential for resource conflict. The author argues for a national conservation strategy that accommodates economic growth, while still protecting the fragile ecology of the region. This includes decentralisation of planning, emphasis on intensive but sustainable resource use and economic diversification that reduces community demands on the natural resource base.

190. **Woube, M.** (1995) *Resource Use and Conflicts along the Blue Nile River Basin: The Need for New Conservation Sustainability Measures*. Uppsala: Geographics Laboratory, Uppsala University. 31 pp.

Keywords: Ethiopia, Sudan, Nile, water use, dams

This booklet describes the geography of the Blue Nile Basin and the history of its mapping. Woube details a series of agreements forced on the Ethiopian Government to prevent them from abstracting water within Ethiopia and thus putting at risk large-scale cotton enterprise in the Sudan and Egypt. Land mismanagement along the Blue Nile in Ethiopia has led to deforestation and soil erosion and the loss of valuable silt and water to countries downstream is no longer acceptable. The author argues for a re-negotiation of these agreements and for the building of dams and other water diversion works along the Blue Nile.

191. **Zuppan, M.** (1994) 'Need Herders and Farmers Quarrel? Rethinking Herder-farmer Models in Africa', *Rural Extension Bulletin* 4: 12-16.

Keywords: Africa, herder-farmer relations

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Resource Conflict in Semi-Arid Africa An Essay and Annotated Bibliography

Roger Blench

This book consists of two parts, an analysis of resource conflict in semi-arid Africa and an annotated bibliography of source materials. The main conclusions are that:

- resource conflicts in semi-arid Africa are set to increase following demographic shifts – for socio-political reasons development initiatives too often fail to take this into account
- attempts to police highly mobile groups such as pastoralists or hunter-gatherers only record short-term successes – only co-operation with such groups can succeed in the longer term
- governments can expect to see a significant rise in community activism, often supported by externally funded NGOs
- the land rights of displaced hunting-gathering populations are likely to become a major issue

Roger Blench is a Research Fellow in the Natural Resources Group at ODI, working on social and economic aspects of environment and rural development; natural resource conflict; animal traction in sub-Saharan Africa; climate (especially drought) in relation to policy; ethnoscience and the domestication of the wild in sub-Saharan Africa; natural resource policy issues in Central Asia.

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