FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

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PASTRES
Pastoralism, Uncertainty, Resilience

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Cover photo 'Which way for pastoral development?' Camels in Isiolo, Kenya, October 2018.

Photographer Ian Scoones.

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Editor **Ian Scoones**

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Pastoralism and Development: Fifty Years of Dynamic Change*†

Ian Scoones,[1] Jeremy Lind,[2] Natasha Maru,[3] Michele Nori,[4] Linda Pappagallo,[5] Tahira Shariff,[6] Giulia Simula,[7] Jeremy Swift,[8] Masresha Taye[9] and Palden Tsering[10]

Abstract This archive *IDS Bulletin* reflects on 50 years of research on pastoralism at IDS. Thirteen articles are introduced around six themes that have characterised IDS-linked research over this period. These are: pastoral livelihoods; institutions and common property resource management; climate change and ecological dynamics; food security, early warning, and livelihood vulnerability; pastoral marketing; and conflict and governance. Across these themes, IDS research has challenged mainstream development thinking and practice, highlighting the importance of mobility and living with uncertainty. This introductory article concludes with some reflections on research gaps and new challenges, including: the effects of climate change; new forms of pastoral mobility and livelihood; increasing patterns of commoditisation and social differentiation; and changing conflict dynamics. Although massively changed over 50 years, and despite repeated proclamations of crisis and collapse, pastoralism remains, we argue, an important, resilient source of livelihood in marginal rangeland areas across the world, from which others can learn.

Keywords: pastoralism, uncertainty, mobility, livelihoods, land and resource use, climate change, food security, livestock marketing.

1 Introduction

This *IDS Bulletin* celebrates 50 years of research on pastoralism at the Institute of Development Studies (IDS). The period starts with the commencement of Jeremy Swift's PhD, a major study of the Tuareg in northern Mali, and ends during the early stages of a major new IDS initiative, the PASTRES (Pastoralism, Uncertainty and Resilience: Global Lessons from the Margins) programme. PASTRES involves six new PhD studies – working in Amdo Tibet, China; Gujarat, western India; southern Ethiopia; northern Kenya; southern Tunisia; and Sardinia, Italy – which all build on the IDS traditions of grounded field research in marginal pastoral areas.

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This article is part of *IDS Bulletin* Vol. 51 No. 1A May 2020 '**Fifty Years of Research on Pastoralism and Development**'.

The authorship of this *IDS Bulletin* introduction reflects this generational span: from those who started their PhDs 50 years ago to those who started only 18 months ago, and a few in-between. What characterises IDS research across this half-century is a commitment to critical engagements with processes of development, informed by sustained field research on a range of themes. Publications range from academic articles to consultancy reports, sometimes the result of sustained interactions with field practice over many years. Across the 50 years, IDS work has attempted to bridge the gap between theory and practice, and to insert the new understanding of pastoralism into development planning. This has involved building a coherent analysis of policies and institutions for pastoral development, and then helping to see the results of that analysis put into practice. A companion bibliography of research conducted by IDS members – both faculty and PhD students – over the years has been published as part of the 50-year celebration (IDS 2020).[11] This demonstrates the scope of research undertaken, across many themes and numerous sites and together with multiple partners.

Over time, this has involved major projects and initiatives. These have included the work in Mongolia in the post-socialist period (Policy Alternatives for Livestock Development in Mongolia (PALD), 1991–95; Swift and Mearns 1993);[12] participatory approaches to raise pastoralists' voices in policy and political debates (through the Pastoral Communication Initiative; Brocklesby, Hobley and Scott-Villiers 2010); a research project in Ethiopia, Mali, and Zimbabwe on crop-livestock integration (Scoones and Wolmer 2002); a Food and Agriculture Organization of the United Nations (FAO)-supported project on the political economy of 'pro-poor' livestock policy in the Horn of Africa (Leonard 2004); a review of strategies for resilience in East African pastoral areas (Lind *et al.* 2016); and research under the pastoralism theme of the Future Agricultures Consortium, working in the Greater Horn of Africa,[13] which hosted the major 'Future of Pastoralism' conference in Addis Ababa in 2011 (Catley, Lind and Scoones 2013), updating earlier conferences that surveyed the field (e.g. Monod 1975; Galaty *et al.* 1981). In addition, there have been ongoing practice-based consultancy engagements with field projects, notably with Oxfam which had a substantial and influential field programme in dryland pastoral areas of Africa for many years. These have combined with policy reform efforts, including those supported by the UK's aid programme, FAO, and the World Bank, where IDS work helped to contribute to the framing of interventions.

This archive *IDS Bulletin* collects together 13 articles on pastoralism published in the *IDS Bulletin* between 1986 and 2017. The articles address six overlapping themes: pastoral livelihoods; institutions and common property resource management; climate change and ecological dynamics; food security, early warning, and livelihood vulnerability; pastoral marketing; and conflict and governance. The articles are inevitably highly selective, and do not reflect the full scope

of IDS work (see the bibliography – IDS 2020); all contributions are from experiences outside the global North, and so reflect the historically narrow focus of 'development studies'. But, as research by IDS and others shows, including the current PASTRES programme, these themes are relevant much more widely, whether in the Mediterranean, the mountainous and hilly areas of Europe, or the Arctic.

The authors of the articles in this *IDS Bulletin* are either IDS members (current and former) or research collaborators. Much work on pastoralism at IDS has been inspired by and forged through partnerships, including in many countries across the world where pastoralism is a core livelihood. Partnerships in the UK have been important too, and two institutions deserve mention as contributing to this sustained research effort on pastoralism. One is the International Institute for Environment and Development (IIED) whose Drylands Programme established in 1987 was hugely influential in focusing on natural resource management and land tenure issues, with a major focus on francophone West Africa.[14] The other is the Overseas Development Institute (ODI), which hosted the Pastoral Development Network over 20 years from 1976, with the network papers still representing an important resource for work on pastoralism.[15] Today, two key sources of inspiration for work on pastoralism globally are the journals, *Nomadic Peoples* and *Pastoralism*, both with strong IDS connections.[16]

Over the last 50 years, both pastoralism and development have changed massively. In the 1970s, the framing of development focused on modernisation, banishing 'backward' ways, and improving production. Debates about pastoral development focused on how to transform pastoralism through settlement, improvement of livestock breeds, fencing rangelands, improving markets, and so on. In often newly independent states, the assertion of government authority, the fixing of borders, and the reduction of conflict were high priorities. Major investments in infrastructure, along with technical assistance on everything from veterinary care to livestock production and marketing, were the stock-in-trade of development projects from this era.

Today, many of these features persist. The political imperative to control the pastoral margins through modernist projects has not gone away. Indeed, with major investments in dryland areas – whether renewable energy projects, protected areas for biodiversity conservation, or large-scale irrigated agriculture initiatives – the transformation of pastoral areas continues, pushed by state plans and private capital. Today, debates about land grabs, corridor developments, and free, prior and informed consent around investment are hot issues across pastoral areas (Lind, Okenwa and Scoones, 2020; Chome *et al.*, 2020).

Yet over this period, pastoralism, as a source of livelihoods centred on livestock production, has changed too. In the 1970s, some of the major references were classic works by colonial anthropologists, which often provided an idealised, romantic view of archaic societies, bound by

tradition, and underpinned by cultures of equality. The exoticisation of pastoral peoples continues in some quarters, promoted by some non-governmental organisations (NGOs) and journalists, but the reality is very different today. Pastoralists are connected to global circuits of capital through diverse markets; they are influenced by state authority and subject to geopolitical influences in often sensitive border areas; and due to land use and environmental change, once traditional practices have had to adapt to new conditions (Catley *et al.* 2013).

Nevertheless, pastoralism remains an important livelihood for many. Covering around 45 per cent of the world's surface area, rangelands are an important environment, and are home to maybe 120 million people (Reid, Fernández-Giménez and Galvin 2014). These are some of the world's poorest and most marginal areas, but also some of the most innovative and enterprising, responding to environmental, market, and governance uncertainties in ways that can offer vital insights elsewhere. Mobility, as a central feature of pastoralism, challenges the standard models derived from settled systems, and so emphasises flexibility, opportunism, and improvisation as responses to uncertainty. Pastoral areas – whether in dryland, montane, or island settings – are not areas that need rescuing from 'backwardness' as the old development narratives suggested, but are often important sites for experimentation and learning; challenging development practices and reframing narratives on everything from environmental change to conflict and governance (Nori and Scoones 2019).

The articles in this *IDS Bulletin*, and the array of literature in the accompanying bibliography (IDS 2020), offer insights across various themes, building on wider debates in development, while carving out new areas specific to pastoral areas. The rest of this introduction profiles the articles in this issue and introduces the themes.

2 Pastoral livelihoods

Pastoralism is defined as a livelihood reliant on livestock – both small and large – for a majority of household income (Swift 1980; see also Krätli and Swift 2014). Pastoralists of course are rarely solely reliant on livestock alone, however, and most pastoral livelihoods are highly diversified. This is essential in often harsh, variable environments, where other income-earning strategies – from trade to natural resource harvesting to agriculture – are important (Krätli *et al.* 2013; Fratkin and Mearns 2003).

The drylands inhabited by most pastoralists are places of high environmental variability, where the nutrients on which livestock depend are widely scattered in time and space as a result of unpredictable patterns of rainfall. Pastoralists who move to take advantage of this variability can feed their animals better than those who do not. Pastoral livelihoods integrate variability into processes of production: use of inputs, breeding, land tenure, marketing strategies, and links with other livelihood systems. Mobility is a production strategy, not just a coping strategy, with important consequences for other variables such as

property rights, institutions, governance, environmental management, and conflict (Krätli 2019, 2008; Krätli and Schareika 2010).

The two articles in this first section are discussions of agro-pastoral systems, one in central Mali (Toulmin, this *IDS Bulletin*) and one in northern Pakistan (Joekes, this *IDS Bulletin*), where interactions between crop and livestock production are additionally important (*cf.* Scoones and Wolmer 2002). The articles offer nuanced accounts of how agricultural and livestock production systems intersect, and how different people compose their livelihoods. Wealth and gender differences are important, indicating an often highly socially differentiated livelihood pattern. In Mali, livelihood strategies in small and large, collective households are compared, with large household size allowing for accumulation of assets – wells and cattle – and improved resilience to climate and other risks. Meanwhile in Pakistan, inequalities within and between households are accentuated through the arrival of external interventions, such as a major highway and a regional integrated rural development project, even if overall poverty is reduced.

Several decades on, more extreme forms of social and economic differentiation are seen across (agro-)pastoral systems. Some pastoralists are able to 'step up' towards more commercial pastoral production systems, capitalising on growing often international markets in livestock productions, while others are simply 'hanging in', combining limited pastoral production with other activities (Aklilu and Catley 2010; Dorward *et al.* 2009). In many areas, the traditional transhumant pastoral systems no longer operate, or have dramatically transformed, with new forms of mobility emerging (Nori 2019; Turner and Schlecht 2019).

Both articles pick up on strong traditions of IDS research – on livelihoods and gender dynamics, and indeed the intersection between the two. Both articles illustrate attention to the detail of livelihood activities, later labelled as 'sustainable livelihoods' approaches (Chambers and Conway 1992; Scoones 1998). Here, a focus on different livelihood resources and how they are mediated by institutions and so deliver differential outcomes is important. Access to livelihood resources, the functioning of institutions and outcomes in relation to both poverty and environmental indicators are highly gendered, with men and women negotiating livelihoods in different ways as much IDS research in pastoral areas and beyond has demonstrated (Leach, Joekes and Green 1995; Kabeer 1994). And perhaps especially in patriarchal pastoral societies, attention to gender dynamics, alongside generational, class, and ethnic difference, becomes vitally important (Hodgson 2000; Joekes and Pointing 1991).

3 Institutions and common property regimes

The next two articles in this *IDS Bulletin* reflect on the operation of common property institutions in managing land and resources, and the challenges they face. They focus on the pastoral rangelands of northern Kenya (Swift, this *IDS Bulletin*) and Syria (Ngaido, Shomo and Arab, this *IDS Bulletin*). Based on results from a pioneering participatory research

project coordinated by Abdi Umar, Swift examines how institutional arrangements allow for effective management of common range resources in northern Kenya. These institutions often take hybrid forms, incorporating both traditional systems of management, as the Boran *deda* system in Isiolo. Ngaido and colleagues explain how in the early 2000s such Bedouin pastoral management systems had broken down in Syria through decades of promotion of agriculture in the rangelands, and increased land privatisation. This has resulted in growing feed shortages and major changes in Bedouin production systems.

Both articles draw on scholarship on collective action institutions and common property resource management. This directly challenges the assumptions of the 'tragedy of the commons' narrative, first promoted by Hardin (1968), and subsequently repeated endlessly in debates about rangeland degradation and desertification in pastoral areas. Pastoral rangelands have rarely been free-for-all open access regimes, subject to an inevitable tragedy of overpopulation and overgrazing. On the contrary, numerous empirical studies have shown how access is frequently carefully regulated around bounded communities, with agreed systems for inclusion and exclusion. This research took inspiration from the important work of Ostrom and colleagues (Ostrom 1990) and was central to much IDS work from the late 1980s into the 1990s, including many PhD theses, as the bibliography documents (IDS 2020).

Such detailed empirical studies in different pastoral areas also revealed variations on the ideal-type common property systems, governed by Ostrom's eight rules, which assert the requirements for agreed, stable boundaries of both resource user groups and resource territories. Ecological, social, and political uncertainties necessarily require more complex, hybrid institutions (Mehta *et al.* 1999), with flexible, negotiable, and overlapping boundaries often key features in pastoral systems. These, in turn, emphasise processual dimensions of property regimes, rather than clear, enforceable rules (Cousins 2000).

Pastoral resource management systems are not static, however. Shifts in political economies have equally resulted in increased commoditisation and privatisation of rangeland resources, reducing areas governed by common property regimes, as the article from Syria shows (Ngaido *et al.*, this *IDS Bulletin*). Long-term IDS-led work in Mongolia during the 1990s also showed how collective ownership under state socialism transformed into new property regimes under emerging forms of capitalism (Swift and Mearns 1993; Mearns 1996). Meanwhile, research in the rangelands of eastern Africa showed how privatisation of rangelands at a local level has combined with processes of land and green grabbing as external investors appropriate resources (Catley *et al.* 2013; Galaty 2013; Fairhead, Leach and Scoones 2012). In such conditions, institutional innovations around 'open property' regimes (Moritz *et al.* 2018) – which are neither open access nor common property – are important responses to such changes, as land control, property regimes, and forms of citizenship are transformed (Lund and Boone 2013).

4 Climate change and environmental dynamics

A focus on environmental variability has long been a concern of research on pastoralism. High levels of rainfall variability characterise dryland areas, while variations in snowfall are important ecological drivers in montane areas. For this reason, many pastoral areas can be defined as non-equilibrium environments, where coefficients of variation of rainfall amounts may exceed 33 per cent (Ellis 1994; Ellis and Swift 1988). Living with or indeed from such environmental and resource uncertainty (Krätli and Schareika 2010; Krätli 2008; Scoones 1994) has multiple implications. If livestock populations are governed more by major climatic events than by population density, then management according to fixed 'carrying capacities' and 'stocking rates' does not make sense, and an 'opportunistic' strategy is more appropriate (Behnke, Scoones and Kerven 1993; Sandford and Scoones 2006). Equally, blaming pastoralists for land degradation and 'desertification' may miss the mark, if dryland environments follow often cyclical patterns of rainfall variation over time, rather than being subject to secular decline due to human and livestock population pressures (Brierley, Manning and Maslin 2018; Swift 1977, 1996).

Such debates can inform responses to climate change, an issue that has risen up the policy agenda in the last decade. As the article by Scoones shows (this *IDS Bulletin*), insights from non-equilibrium rangeland ecology challenge climate change debates to engage with uncertainty and avoid simplistic prescriptions in the face of variable environments. One of the challenges of climate change science has been to 'downscale' from global atmospheric circulation models, making it difficult to predict climate change impacts at a local level (Ericksen *et al.* 2013). This means that responding to uncertainties – a capacity that pastoralists have long honed – will become even more important in the future, as climate change accelerates.

One such response is to make use of 'patches' of rangeland in a careful seasonal and inter-annual use of variegated grazing landscapes. Such key resource patches can be drought reserves, often 'wetlands in drylands' (Scoones 1991), where last-resort grazing can be found. This is vital in non-equilibrium environments as the contribution from Mearns on Mongolia in this *IDS Bulletin* shows. In the post-socialist *perestroika* period, tenure reforms that take into account traditional management systems, including mobility and locally negotiated access to key resources and other territorial boundaries, are seen to be essential.

5 Food security, early warning, and livelihood vulnerability

Pastoral areas are often extremely poor and susceptible to periods of food insecurity, exacerbated by drought, conflict, and the absence of regular support and services provided by the state. Why people are poor and how vulnerability emerges has been the subject of much IDS research over the years (Baulch 1996; Chambers 1989). Some of this has focused on pastoral areas, with major studies on pastoral livelihoods in Mali (Davies 1996; Moorehead 1997), Ethiopia

(Devereux 2006), Tanzania (Lane 1991), Italy (Forni 1998) and Kenya (van den Boogaard 2003), for example. More operationally focused work on drought contingency planning in Turkana in Kenya (Swift 1989), rooted in deep understanding of livelihood dynamics, became a template for work elsewhere. And more recently, studies on 'social protection' have also been carried out in pastoral areas (Lind *et al.* 2018; Sabates-Wheeler, Lind and Hoddinott 2013), as well as humanitarian approaches that incorporate adaptation to climate change (Mosberg, Nyukuri and Naess 2017). As with much IDS work, research in this area has been centred on on-the-ground problems, but engaging with and taking inspiration from wider academic debates, which help frame interventions.

The second article in this *IDS Bulletin* by Swift is an important attempt to explore the underlying processes that create vulnerability, reflecting in particular on pastoral cases among others. Drawing on the classic work of Sen (1981) on famine and 'entitlements', questions of access to food, rather than total food availability, are raised. Access is mediated by a range of formal and informal institutions, influenced by the 'moral economy' of sharing and redistribution within societies (Scott 1976). As the article explains, vulnerabilities arise from failures in production, in exchange (in commodity and labour markets and among kin and wider communities), as well as in access to assets (affected by investments, stores, and claims). This disaggregated framework for understanding vulnerability, the article argues, can help guide responses to reduce it, including in pastoral settings.

How to raise the alarm about impending food insecurity and famine, especially in dryland areas, has been a major development concern for decades. From the Sahel famines of the 1970s to those in the Horn of Africa from the 1980s, widespread mortality and extreme suffering has shocked the world (de Waal 1997; Devereux 1993). Famine early warning systems, involving systematic collection of data on rangeland condition, livestock health, market sales, and household livelihoods, for example, have been developed by both national governments and international agencies (Buchanan-Smith and Davies 1995). Since hunger arrives only at certain times of year, taking seasonality into account in the design of early warning systems is crucial; yet, as IDS work has long pointed out (Chambers, Longhurst and Pacey 1981; Devereux, Sabates-Wheeler and Longhurst 2013), seasonality is often a blind-spot in development thinking and practice.

The article by Buchanan-Smith, Davies and Petty (this *IDS Bulletin*) reflects on research that asked why early warning information often goes unused, and early warnings are not heeded. Much of this is to do with trust, and the relationship between populations at risk and the state or other forms of authority. With long histories of marginalisation, why should anyone trust the recommendation to destock animals, move herds, or change livelihood practices? The article recommends the creation of decentralised systems for early warning, aimed at encouraging local ownership of information and greater accountability

around response systems. The lessons from this important work are as relevant today, when ever-more elaborate early warning systems are devised, involving satellite imagery analysis offering climate information in real time via mobile phones, for example. Such information can, in turn, be linked to insurance products that pay out according to particular indices, aiming to provide market-based protection from potential droughts, so reducing vulnerability (Chantarat *et al.* 2013). Despite the sophistication of the techniques, the same issues apply. Trust, accountability, and the wider political economy of information often mean that such systems fail to provide the protection against food insecurity or herd loss envisaged, and sometimes may even act to increase vulnerabilities for some (Taylor 2016).

For this reason, the arguments for a grounded livelihoods analysis linked to local-level responses become especially pertinent. Understanding what the underlying drivers are that create vulnerabilities in the first place – from environmental change to unequal social relations, to access to land or markets, to war and conflict – is crucial. As the contributions to this *IDS Bulletin* across the years point out, rooting responses in local understandings and knowledges, and linking them to vernacular practices and moral economies, is vital.

6 Pastoral marketing

Most, but not all, pastoralist economies have been integrated into national or international markets over a long historical period. Somalia is an example. Trade in livestock and livestock products such as milk, ghee, hides and skins, as well as trade in gathered wild products such as ivory, myrrh, gum Arabic, and ostrich feathers, is documented back to at least the thirteenth century, with detailed records available since the nineteenth century. Institutions to regulate this trade, particularly the office of *abaan* or patron, who oversees market transactions and ensures that herders are not exploited, are also ancient. Reliance on markets generates cash incomes for herders, but also creates dependency on price variability, over both the long and short term. A pastoral terms of trade index (price of goods bought by pastoralists over price of goods sold or exchanged by them) showed that the purchasing power of gathered products declined catastrophically in the hundred years from 1850 to 1950; and the purchasing power of livestock also declined substantially over the same period. A rapid short-term decline in the index signals an impending food security crisis (Swift 1979).

Since the 1970s, there has been a strong emphasis among governments and development agencies alike on the commercialisation of pastoral systems and the improvement of livestock markets. This has largely been a sorry tale, especially in Africa. Formal markets were often put in inappropriate locations; attempts to improve the breeds of animals failed in the face of drought; and poor forage and attempts to upgrade value chains to global standards proved challenging (de Haan 1994). The archaeological relics of failed aid projects are strewn across pastoral areas. Yet, some pastoralists are increasingly commercialising, often

through local market connections, sometimes to lucrative international and regional markets. As a driver of social differentiation within pastoral populations, access to markets is key (Catley and Aklilu 2013).

The article in this *IDS Bulletin* by Catley and colleagues focuses on the policy changes required for African pastoralists to gain access to international trade, despite the prevalence of endemic diseases – such as foot-and-mouth disease – in pastoral areas. It tells the story of engaged research linked to policy change over many years. The proposed solution for assuring safe trade in livestock products is a 'commodity-based' system, where the commodity, not the area, is deemed free of disease. This is much more feasible in pastoral areas, where the veterinarians' ideal of territorial disease-freedom is impossible. Central to this proposal are 'community animal health workers', allowing for a decentralised, field-based system of veterinary support led by para-veterinarians who are members of the community. Despite the objection of professional veterinarians in some countries, this is more suited to pastoral settings, allowing wider and more immediate coverage, protecting herds and flocks, but also providing assurance of the health and safety of animals and their products.

A macro-focus on the plethora of veterinary health standards influencing cross-border trade is complemented in a second article by Mutua and colleagues on youth participation in livestock markets in Baringo County in Kenya (this *IDS Bulletin*). Here the emphasis is on the micro-level negotiations around market access by young people, both as producers and traders, which is affected by social norms and local-level politics. The article links to a focus on how 'real' markets work in practice (de Alcántara 1993), embedded as they are in social and cultural norms and practices that influence both generational and gendered market engagement.

In both these articles, there is an emphasis on the need for policy change, as standard approaches too often do not work in pastoral contexts. Catley and colleagues (this *IDS Bulletin*) in particular emphasise engaging with 'policy processes'. This requires influencing narratives about policy, as well as addressing the actors and underlying interests (Keeley and Scoones 2003). In pastoral areas, given the mismatch between policy interventions and local conditions and understandings, influencing policymaking at national and international level is imperative. As with all the contributions to this *IDS Bulletin*, and IDS' work on pastoralism more generally (IDS 2020), this requires a commitment to critical, engaged research, linking out to policy and practice.

7 The state, governance, and conflict

The relationship between pastoralists and the state is a crucial research theme stretching back over 50 years. In the 1970s, the focus was on state-building, creating a developmental state, aimed at establishing newly independent nations' ability to grow and prosper. As in the colonial era, how to deal with pastoralists on the margins was central.

Development aid was often deployed as part of a process of pacification and incorporation. The whole suite of development schemes – from market development to infrastructure building to settlement and villagisation – followed. Pastoral peoples very often viewed such initiatives with deep distrust, resisting actively and passively attempts to tax populations, control movement, block borders, and force particular marketing channels.

From the 1980s, the focus of development efforts shifted towards liberalisation and economic reform, such as under International Monetary Fund/World Bank 'structural adjustment' programmes in Africa. These saw a retreat of the state and an emphasis on market solutions. This created more autonomy at the margins, but humanitarian crises in many pastoral areas in this period saw a flood of different types of external intervention, in the form of famine relief and food aid, alongside numerous NGO projects focusing on everything from restocking to milk marketing to community conservation and tourism initiatives. Yet, in practice, the state was distant from the day-to-day life of pastoralists in many places. Still, while the role of the state was often minimal, as well as contested, pastoral areas were highly governed through various non-state and informal channels (Leonard and Samantar, this *IDS Bulletin*; Lind 2018).

The classic debates in development studies around the role of states and markets (Colclough and Manor 1993) were central to IDS work in this period, as well as the politics of economic reform in China and post-socialist states (White 1993). Such reforms have particular consequences in pastoral areas, rarely explored in the mainstream literature. In the pastoral areas of Mongolia or China, these transitions took on particular forms as collectivised arrangements were disbanded in favour of more private arrangements. The theme of how states and markets frame pastoral development are not directly addressed by the articles in this section but are certainly implied. For example, the article by Leonard and Samantar on Somalia (this *IDS Bulletin*) is very relevant. Somalia represents a highly functioning pastoral economy, with strong export links, but for long periods operating effectively without a state (Little 2003). As the article shows, political order has emerged in very different ways in the south and in Somaliland and Puntland in the north, where a social contract both with a wider polity and within local structures was brokered. Negotiating post-conflict governance in pastoral areas is challenging, particularly in conditions where the formal state is weak or absent and where standard 'good governance' and 'market-based' development interventions are meaningless. But, despite the historical specificities of different parts of Somalia, the conclusions of this article have wider resonance, indicating the need to build public authority from below.

Governance reforms, including decentralisation in many countries, has been important in many pastoral areas as the state, and associated services, has been brought closer to pastoral populations. But this has

downsides too, as the politics of decentralisation, especially if not supported by resources, results in antagonism and resentment, as Lind's (2018) work shows on devolution and the shifting dynamics of conflict in pastoral northern Kenya.

Decentralisation was a major focus of IDS research in the 1990s (Crook and Manor 1995), but again did not filter through to articles on pastoralism in the *IDS Bulletin*, although significant work was undertaken in Africa on political economy of 'pro-poor' livestock policy (Leonard 2004). Decentralisation results in a refashioning of authority in pastoral areas, and so the striking of new relationships between the local state and informal sites of rule and political order, including through traditional leaders and local elites. The result is always overlapping forms of hybrid governance – combining the 'traditional' and 'modern' – and frequently resulting in contestation between them over land access, markets, and political control.

Conflict in pastoral areas has been a central theme of research over the past 50 years in IDS and beyond. In the past, however, pastoral conflict was seen as somehow distinct, rooted in cultural norms, linked to contests between clans and 'tribes' as part of ritualised raids and feuds, aimed at regulating a cultural-ecological 'balance'. This framing, however, fails to locate pastoral conflict in wider understandings of conflict dynamics, including the role of small arms in pastoral areas; the processes of territorialisation and border-making, and the inherent flexibility and negotiability of boundaries in many pastoralist settings, which create disputes; the importance of politically motivated religious fundamentalism in mobilising discontent; and the wider geopolitical influences on pastoral areas that help fuel conflict (Lind, Mutahi and Oosterom 2017; Hagmann and Mulugeta 2008; Mkutu 2007). The article by Hendrickson, Mearns and Armon (this *IDS Bulletin*) takes such a broader view of livestock raiding in pastoral East Africa, and shows how, while rooted in longstanding cultural practices, raiding has shifted from a 'redistributive' function to a more 'predatory', and often violent one set within a wider context of insecurity.

A focus on 'vernacular' conflict and peace-building, as developed in an important strand of IDS research (Lind and Luckham 2017; Luckham and Kirk 2013), emphasises the flexible, local practices associated with conflict, rather than a simplistic assessment of static interest positions. Such work highlights the overlapping, contested, and hybrid nature of conflicts, particularly where resources overlap and are highly variable. As Cousins argues in his article (this *IDS Bulletin*), negotiating conflicts among multiple resource users requires attention to procedural mediation and arbitration, rather than regulation and control. This in turn shines a light on the institutional 'messy middle', where solutions between competing claims can be found (Mehta, Leach and Scoones 2001; Leach, Mearns and Scoones 1999). The argument here is not for a resort to state or market control or complete local autonomy, but for a hybrid arrangement whereby different players must negotiate resource

conflicts. Such arrangements may be modelled on vernacular systems, where traditional practices of resource management always have had to respond to variability, uncertainty, and complexity.

8 Conclusion

The six themes and 13 articles in this virtual *IDS Bulletin* cover a wide range of topics, and IDS research even more, as the bibliography shows (IDS 2020). But what is missing? Certainly, as already noted, a focus on social difference – and the dynamics of class, gender, age, and ethnicity, for example – is under-represented in research on pastoralism. Perhaps this is a hangover from earlier studies that assumed a more homogenous society, distinct from agrarian settings. However, increasing inequalities are generating new forms of pastoralism, very different to a 'traditional' (if it ever existed) lifestyle. The penetration of capital and state authority, as we have discussed, is crucial to this, as pastoral areas become increasingly incorporated in a globalised political economy. Future research will surely focus on such dynamics, linking more concretely to debates in critical agrarian studies (Caravani 2019).

Such differentiation, in turn, generates a new politics of elite pastoralism, as some pastoralists engage in land speculation, absentee commercial herd management, and investment in enterprises based in burgeoning small towns, alongside engagement in local politics. Such processes of wider economic and political engagement result in changes in economic infrastructure – including processes of urbanisation in pastoral areas – as well as settlement patterns, as people sedentarise and demand services, such as health and education. Settlement, in turn, has impacts on the nutrition and health status of pastoral populations as dietary access changes. Cultural shifts occur too, often through the growing influence of world religions and variations of these, including political Islam and evangelical Christianity, as well as strong assertions of indigeneity and cultural heritage in the face of perceived dilution by the forces of globalisation. Research on all these areas is being undertaken, but again, we suggest, will feature more centrally in studies of pastoral areas in the future.

Reflecting back on the 50 years since 1970, much has changed. But there are also important continuities. The 'end of pastoralism' was proclaimed widely in the 1970s (and before), yet, as a successful, resilient livelihood adapted to some of the harshest environments on the planet, pastoralism has survived, even if it has changed radically. A romantic idealisation of the past is no help; instead – as pastoralists must do – facing future uncertainties is essential, reconfiguring strategies to suit new circumstances.

Continuous innovation and adaptation, however, may not be enough. Changes in environmental, economic, and political circumstances mean pastoralists are increasingly squeezed. This arises from many intersecting forces, whether from climate change resulting in more frequent livelihood shocks; from the extension of capital into the

rangelands through large investment projects; from the continued marginalisation of pastoralists by states eager to expand frontiers and secure borders; or from the changes of markets for meat, as diets in the West shift.

All these processes are having major structural consequences for the survival of pastoral populations. So, in another 50 years, will we be looking back at the end of pastoralism? We think not. The doomsayers in the past were proven wrong; and will be again. Indeed, the capacity to respond to today's turbulent world, to make productive use of marginal environments, to make use of mobility to respond to heightened uncertainty, and to adapt and innovate are all features of pastoralism that can be important in meeting wider, global challenges. As the PASTRES programme argues, pastoralism may be an important site for learning about dealing with financial volatility, managing critical infrastructures, responding to mass migration flows, or formulating policies for disease outbreaks and natural disasters (Scoones 2019; Nori and Scoones 2019). In 2070, perhaps development professionals will be looking to pastoralism, not as an archaic, 'backward' lifestyle, but as quintessentially modern and mobile, and the source of inspiration for addressing future uncertainties.

Notes

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11 See https://pastres.wordpress.com/bibliography-fifty-years-of-research-on-pastoralism-and-development/.

12 See PALD list of publications at https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/2400/List%20of%20Publications%20Oct%2095.pdf.
13 From 2005–14, see www.future-agricultures.org/category/themes/pastoralism/.
14 The IIED Drylands Programme was established in 1987 by Camilla Toulmin, and published Drylands Issues Papers and the magazine, *Hararmata*, until 2009–10 (www.iied.org/archive-completed-drylands-pastoralist-projects).
15 The ODI hosted the Pastoral Development Network from 1976 and published regular papers until 1996 (www.odi.org/publications/4375-pastoral-development-network-papers). The network was led by Stephen Sandford, Clare Oxby, Jon Morris, and Roy Behnke.
16 *Nomadic Peoples* (www.whpress.co.uk/NP.html, currently edited by Saverio Krätli) and *Pastoralism* (https://pastoralismjournal.springeropen.com/about, currently edited by Carol Kerven and Roy Behnke).

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Access to Food, Dry Season Strategies and Household Size amongst the Bambara of Central Mali

Camilla Toulmin

The Bambara village of Kala lies on the northern frontier for regular crop production in Mali (see Map). With a long term mean rainfall of 600 mm per year, this region forms part of the southern Sahelian zone. Rainfall is concentrated in the three months from July to September and intensive work in the fields must be done during this short period to ensure a harvest. Rainfall is highly variable in its distribution within the year, between neighbouring villages in a given year and from one year to the next. Expected rainfall levels have been falling over the last 20 years; levels ranged from 350-450 mm per year over the period 1980-83 before falling to the exceptionally low total of 250 mm in the drought year of 1984.

Farmers have adapted to this risky environment in several ways. Two millet varieties of different cycle length are grown and it is rare for both varieties to fail in the same year. Oxen phoughteams have been widely adopted as they enable farmers to cultivate a very large area of land per worker. Surplus grain is stored in granaries or invested in livestock — cattle, sheep, goats, horses and donkeys — which can then be sold in years of food shortage. Within Bambara society, there are also a variety of mechanisms through which grain is redistributed (described in greater detail below, which help individual households suffering crop failure.

The lower rainfall levels of recent years have brought a shift in resources towards an increase in area under short cycle millet, as this has a greater chance of reaching maturity during the short growing season. However, this variety of millet only performs well on manured soils. Farmers have therefore needed to gain access to more dung in order to increase the area they cultivate with this crop. Much of this dung comes from relationships of exchange established during the dry season between farmers and livestock-owners, the latter gaining access to water for their stock from the farmer's well in return for stabling their herds on the farmer's field each night. Wells have become crucially important assets to farmers if they are to produce a regular grain surplus. Diagram 1 shows the growth in private wells dug in the village, from which it can be seen that by 1981 there was a total of 29 private wells. The dry season of 1983 witnessed a further 16 wells dug. However, these wells are far from evenly distributed between the 29 households in Kala. The largest domestic groups not only were the first to get a well dug but they have also dug second and third wells, thereby gaining access to large quantities of dung for their fields. This strong correlation between household size and levels of asset-ownership is discussed further below.

While the climate imposes a heavy risk on producers, due to rainfall variability, there are also other large risks to which people are subject and against which they attempt to protect themselves. This second class of risk is largely demographic in nature and consists of high levels of mortality, paticularly among children, varying levels of fertility and the vulnerability of all producers to sickness and disability. Many Bambara live in large, complex domestic groups containing men who share a common ancestor, often as many as five or six generations in the past, living with their mothers, sisters, wives and daughters. Men continue living and working together over several generations before the household divides, giving these large groups a solidity and permanence which transcends the importance of any particular individual.

The Large Bambara Household

Table 1 presents data on the distribution of households by size in Kala, from which it may be seen that 85 per cent of the population live in complex households, the mean size of which exceeds 24 people. These are very much larger groups than are found in other West African village studies and this paper will outline both the advantages which these large groups reap and the internal structure of such groups which allows them to minimise conflicts of interest between their members. Large households face certain advantages in crop and livestock production which include:

IDS Bulletin. 1986. vol 17 no 3. Institute of Development Studies. Sussex

Map South and Central Mali

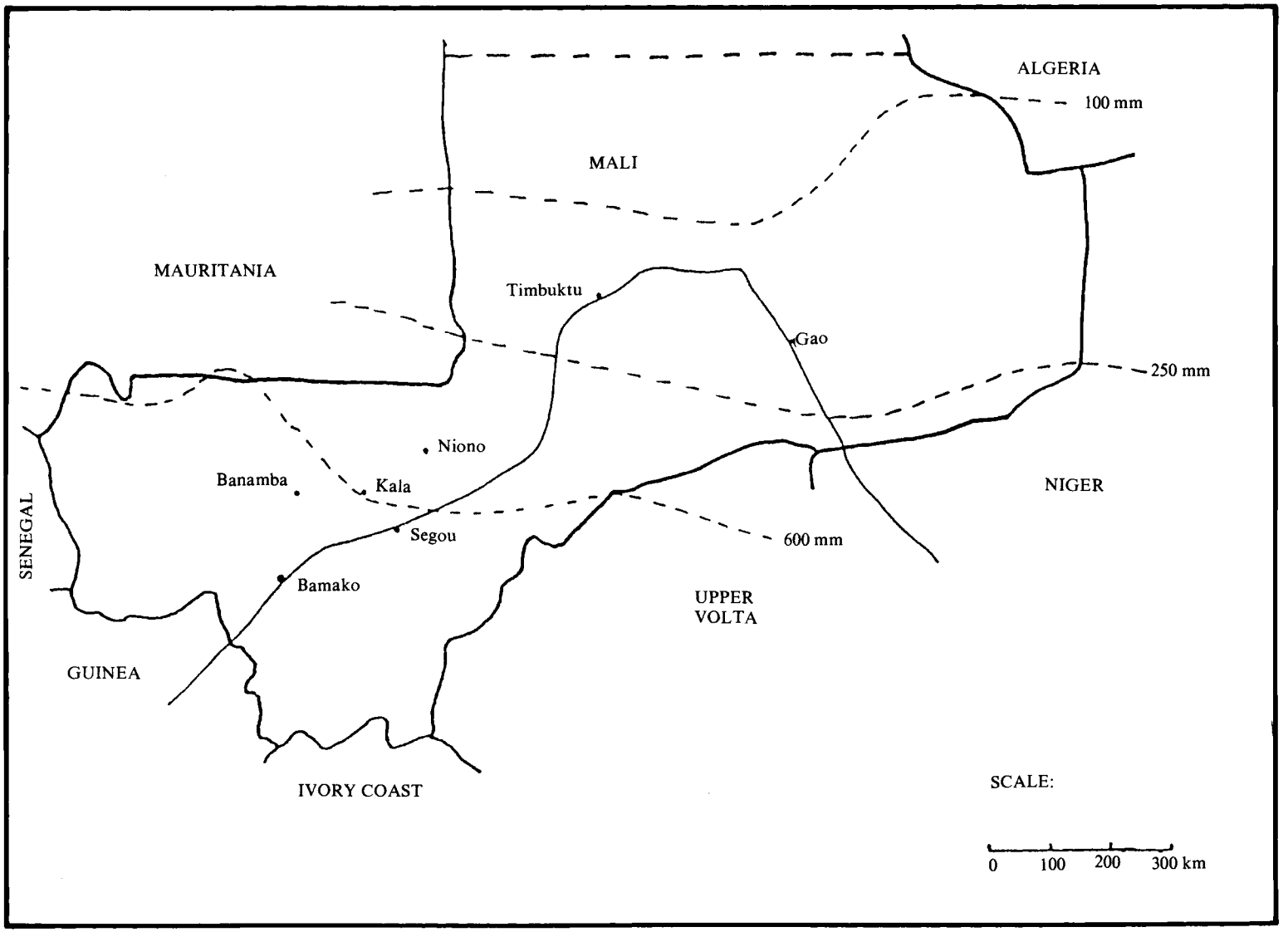
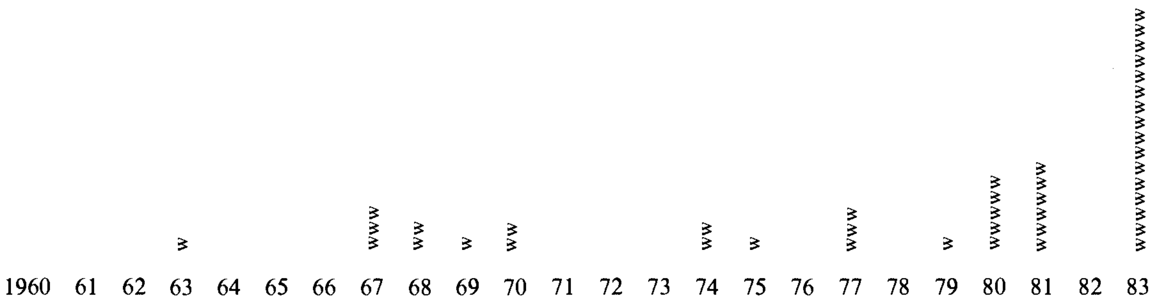
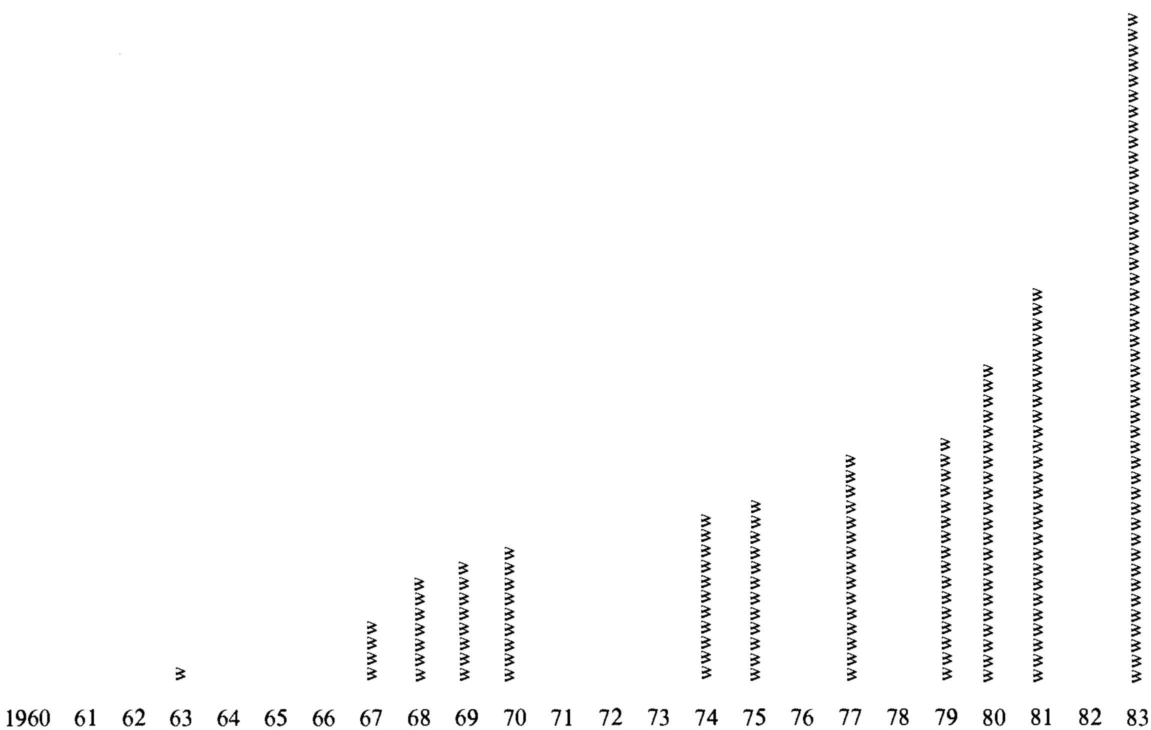


Diagram 1 Well-Digging by Households in Kala, 1960-83



Number of Wells Dug by Households per Year



Cumulative Total of Private Wells Dug

Table 1

Mean Household Size by Type, Kala 1981

	No. of hhs.	*% of total hhs.*	*Mean size of hh.*	*% of total population*
Complex Households*	19	66%	23.8 (12.9)	85.6%
Simple Households**	10	34%	7.6 (3.8)	14.4%
Village Total	29	100%	18.2 (13.2)	100.0%

Note: * Complex households are those containing more than one married man.
** Simple households contain either a single married man or unmarried men with a widowed mother.
Figures in brackets denote the standard deviation.

Table 2

Distribution of Wells, Workoxen and Breeding Cattle Holdings: Kala 1981

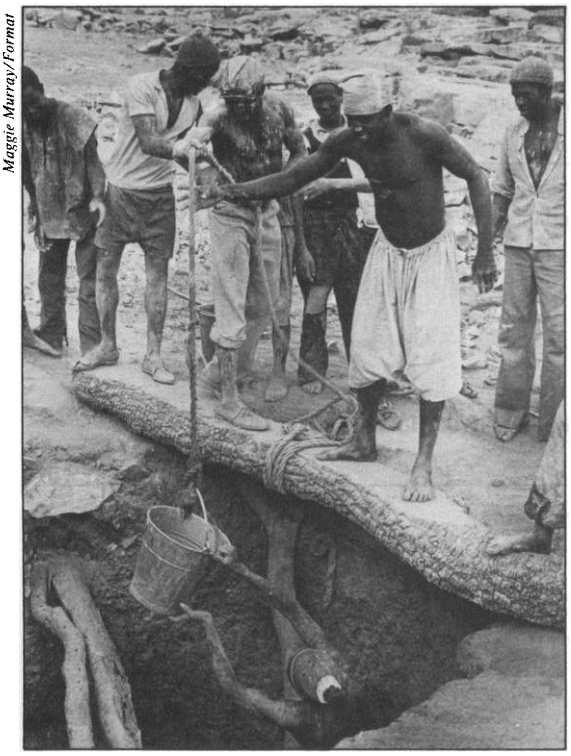
	Breeding Cattle Holdings				
	0	1 - 10	11 - 20	21 - 40	>40
0	2° 1* (2.6)				
1 - 4	4° 5* (4.9)	1° 5* 1** (5.1)		1* 1** (7.9)	
5 - 8			2* (10.7)	1* (11.6)	1** (14.9)
9 - 12					1* 1** (16.1)
13 - 16					1* 1** (16.9)

Note: Figures in the matrix refer to the number of households. °, *, ** refer to those households with no well, one well or two wells. Figures in brackets are the mean number of household workers for that element in the matrix.

HOLDINGS OF WORK OXEN

(a) the diversification of income sources, thereby reducing risk to overall income. In the rainy season, women from larger households have time to plant a small plot of grain which provides a supplement to household grain supplies. In the past few years, several households have also detached one member to engage full-time in petty trade during the farming season, a period when village traders have a near monopoly on the supply of goods in the village. Out of the six permanent trading businesses, five are in the largest and richest households for whom it represents an additional source of income and avenue for wealth accumulation. In the dry season, labour is spread amongst a number of activities, some of which are essential to maintaining the household's farm and livestock production while; others represent an opportunity for the household and individual to supplement income from other sources. Women in households where they are not the sole woman in charge of the cooking can share the housework, leaving time free to devote to money-spinning occupations. Migration by several young men to town is easier for the larger households, since a few of their peers can remain behind in the village to water cattle and prepare for the next farming

season. (b) economies of scale which operate in the process of generating a surplus for investment in productive assets. It is easier for larger households to finance investment in large indivisible assets, such as an oxen ploughteam, as they have at their disposal an absolutely larger volume of resources. Similarly, larger households have found it easier to invest in digging a well because they can mobilise their own labour force to get the well dug rather than having to hire a well-digger.



Maggie Murray/Format

Constructing a safe-water well Dogon Region, Mali, West Africa.

Large households are also better able to protect their members from demographic risk; they are less vulnerable to the illness or death of one of their members and they are likely to exhibit less variation in dependency rates than a nuclear household. They can also safeguard the investment made in acquiring a woman as wife through the practice of the levirate, an institution whereby a woman is inherited by the younger brother of her dead husband. In a small household, there is less likely to be an inheritor present and the woman will pass out the household's control when she remarries.

The result of these advantages faced by larger households is that they can build up a larger agricultural surplus to be invested in assets such as wells, oxen ploughteams and a breeding cattle herd. Table 2 shows the distribution of the three main assets between households in Kala from which it may be seen that there is a strong positive correlation between ownership of the different assets. Household size increases regularly as one moves from the top left to bottom right-hand corner of the table. Small households are those most likely to be with neither a well, work oxen nor a cattle holding, whereas the largest holdings of these assets are associated with the largest domestic groups. In addition, larger households tend to be absolutely better-off, as may be seen from Table 3, in which cattle holding per household member is shown. This greater level of livestock wealth per person for the larger households gives them greater ability to finance tax and bridewealth payments and to purchase grain in years of poor harvest.

The advantages of large household size have been described above. The disadvantages likely to arise from the organisation and management of such a large group (such as labour-incentive problems and disputes over the allocation of labour time and other resources) are minimised by specifying clearly the rights and obligations of the individual to the joint estate. Typically these consist of each household member being required to work on the household's fields from the first sowing of grain in June or July until the harvest is finally stored in January. In addition to work in the field, women have domestic duties to fulfill and men must water livestock. Workers are allowed to retire from household production and to devote themselves to their own interests by their late forties or early fifties, women tending to retire earlier than men, the exact moment depending on the household's access to labour with which to replace them. In return for their labour, household members normally receive food, have their taxes paid and in the case of men, they can expect the household to finance much of their marriage expenses.

Household Organisation by Season

Bambara household production is markedly different in the two seasons of the year. The intensive farming season, during which household members work and eat together, is followed by less cohesive patterns of production and consumption once the harvest is stored and the dry season arrives. The Bambara language makes a clear distinction between the two patterns of organisation, the joint production for the household estate being termed 'foroba' while the individual pursuit and enjoyment of wealth is termed 'suroforo'. 'Foroba' means literally 'big field' and refers to the large field cultivated by the household as a whole. 'Suroforo' means 'night field' and describes the small plots farmed by individuals at twilight once

Table 3

Distribution of Cattle Holdings by Household, Kala 1981

Herd Size	*No. of HHs*	*Mean Herd Size*	*Mean HH Size**	*Cattle/ HH member**
>40	5	78.4	31.1	2.52
21 - 40	4	31.3	22.0	1.57
11 - 20	1	20.0	11.5	1.74
1 - 10	16	4.1	9.7	0.42
0	3	0.0	4.0	0.00
Village mean	29	20.8	14.6	0.94

Note: *Household size is calculated here using adult equivalents, in which those over 15 are taklen as 1.0 and those under 15 as 0.5.

Table 4

Characteristics of Food Deficit and Surplus Households, Kala 1980 and 1981

	*Deficit households**	*Surplus Households**
No. of HHs	15	14
Mean HH Size	12.7	23.4
Mean No. of Wells/HH	0.6	1.3
Mean No. of Cattle/HH	5.1	37.6
Mean Yield of Millet/HH Worker**	1169	1733

Note: *Deficit households were those that ran out of millet before the harvest in both 1980 and 1981. **Worker refers to an index aggregating those of different age and sex by a system of weights.

work on the household field is finished for the day. The 'forobal' harvest is housed in a single large granary managed by the household head and from which grain is taken for household meals, tax payments and certain other joint expenses. Small 'suroforo' granaries are found by each married woman's hut and the grain from these provides her with the means to cook the occasional special meal for her husband and children and the income for necessities and treats, such as clothing, soap, sugar and sweets.

Despite its roots in the distinction between the two kinds of field, the 'foroba'/'suroforo' dichotomy applies in many other areas of Bambara life, such as livestock holdings, some of which are owned by the household whereas others are the property of a smaller group or of an individual. The basis for the division of activities, income and wealth between these two forms of ownership rests on household members having certain labour obligations to the joint household estate, after which they are free to pursue their own interests. In the dry season, once the millet is safely stored, there are few demands made upon the individual's time. Household duties are limited to watering the herd early in the morning and clearing new land, both tasks performed by young men, while women continue with their daily domestic tasks of fetching water, cooking food, caring for children and washing clothes. Once these tasks are accomplished, men and women can work on their own account. Men pursue a variety of activities which include fortune-tellers, going on migration to town, weaving cotton cloth, hunting and making ropes. Women's sources of income consist of plaiting other women's hair, spinning cotton, dyeing cloth, collecting bush fruit and preparing snacks for sale. Both men and women also often have a petty trading business during the dry season.

Eating Patterns by Season

In the rainy season, food is prepared and consumed by the joint work-group, it being carried out to the field in mid-morning. The household does its best to ensure that people are properly fed during this time of intense physical exertion, as the future year's supply of grain will largely depend on the speed and care with which sowing, weeding and harvesting work is carried out. A hurried, often cold, breakfast allows the men and girls to leave the village soon after dawn to start work in the field. Women stay behind to prepare the midday and afternoon meals, before setting out around 10 a.m. with their bowls of thick millet porridge, 'to', its consistency being thought to provide the strength

needed by those who spend the day weeding. In mid-afternoon, the workforce sits down to a calabash of 'dege', a thin fermented gruel, lightly spiced and mixed with a little soured milk if available. Most households prepare a hot dish of 'moni' porridge in the evening, a light meal with which to send the household to sleep. A few households however would have a second dish of 'to' prepared for the evening to satisfy their members appetite and keep up their enthusiasm.

Once the peak weeding season is over, the pace of activity slows. With the millet harvest safely stored in January, many people disperse to visit relatives elsewhere or go to towns to earn cash. Many households continue to provide meals each day but a thin millet gruel is substituted for the thick 'to' porridge at midday. Women take grain from their own stores to prepare an alternative dish for their own nuclear group, so that they can eat something more tasty than this thin, watery dish. Those households where grain is in very short supply aim to conserve their stocks during the dry season by a variety of means. People leave to work and stay in neighbouring settlements, thereby reducing the burden of feeding them on the household granary. Such households also shift onto women the task of finding enough food for immediate kin. In such cases, women's granaries change from being an alternative source of food to providing the basic food ration for those remaining in the dry season.

Food Deficit Households

Table 4 compares the characteristics of grain surplus and deficit households in the village of Kala. Deficit households are those which ran out of grain before the next harvest in both 1980 and 1981. From this table, it may be seen that 15 out of the 29 households in the village suffered a food deficit in both years.

Many of these deficit households are of small size and own few productive assets. They have lower than average labour productivity because they have less access to dung and to ploughteam services, both of which are essential to ensure the regular production of a millet surplus. Often with not enough grain to eat, these households have been less able to invest in productive assets, such as wells, nor do they own cattle other than work oxen, which would be available for sale in years of food shortage. Certain of the households which ran out of grain early also had a very unfavourable ratio of consumers to workers, so that despite average yields per worker, the harvest was not large enough for the household's food needs. In one extreme case, the household had run out of food in May, before the end of the dry season. Part of this deficit was attributable to the household's general poverty — no well, ploughteam cattle or other livestock owned. However, the severity of the food shortage was due in large part to a major share of the previous harvest having been sold to finance the digging of a well using hired labour. The household opted for a period of grave food shortage in order to build up future productive capital in the form of a well which, it was hoped, would provide dung for the fields and raise yields of the short cycle millet. This household's food needs were met during the forthcoming rainy season by a variety of strategies which included sending the son to work for another household in exchange for grain, collection of bush fruit and begging of grain and bran from this and neighbouring villages.

Access to Food

The household's food needs are met from various sources, few farmers have stored grain from harvests in prior years from which grain was taken for household meals. Women's granaries provided a major addition to food stocks in many of the smaller, poorer households. The stocks held by elderly women are especially important in this respect as these women, being free from work in the household field, can cultivate a substantial field of their own. Apart from the harvest of private fields, women also acquire grain from harvesting and winnowing fees and from gifts received from relatives at harvest-time. It is common for men and women, but particularly the latter, to travel to neighbouring settlements at harvest-time. They help carry out the harvest and they winnow the grain, receiving in exchange a calabash of millet. Women's granaries can contain a considerable quantity of grain; while a busy young wife may have only 100-200 kg of millet, older, retired women often have more than 1,000 kg at their disposal.

Food supplies are supplemented for some by sending one of their family to work for another during the rainy season, the wages for this labour being paid in the form of several measures of grain.

Cash may also be used to buy grain, as when migrants' earnings are used to purchase sacks of millet or when assets have been sold. During several weeks of the dry season food may also be procured by collecting various bush fruit, such as bere (*Boscia senegalensis*) and baobab. Official systems of redistribution exist in the more Islamicised villages of the region, one tenth of the harvest being set aside as 'jaka', or tithe, to be given to other members of the community. In Kala, a similar proportion of the harvest is redistributed, though in a less formal manner. Women in Kala appropriate large quantities of grain at winnowing time, both for themselves and for payment of winnowing fees to those women helping them. Direct gifts between households are rare, a few cases occuring

at major festivals when a particularly devout man made gifts of 30-40 kg to poorer neighbours. Lewis (1979) also notes the low incidence of such direct gifts in his study of a strongly traditional Bambara village to the south of Segou. He attributes the absence of such flows to the importance attached by villagers to egalitarian ideals and the consequent desire to avoid relations of dependence between poorer and richer households. If grain is channelled through women, help is given to poorer members of the community but at lower cost to men's pride.

The poorer households in Kala gained a significant proportion of their food needs from sources other than the previous harvest. However, while non-harvest sources play an important part, these households are often less able to exploit them fully. For example, many of these grain deficit households contain a single woman of working age who has little time to cultivate a field of her own. Women in the five smallest households were the only ones in Kala not to have a private field of their own. With their small workforce, the household can less readily send out of its members to work elsewhere during the farming season, in order to earn millet, without seriously affecting its own ability to farm. In the dry season, the daily demand for labour to water plough oxen limits how much time can be spent on migration and thus the amount of cash available from this source with which to purchase food. Larger households are better placed to tap the range of incomes available, as there is a sufficient workforce for some to remain in the village to perform essential dry season tasks while others can go off looking for work. The few assets owned by food deficit households also limit the cash which can be raised from their sale. Owning no cattle other than work oxen, these animals cannot be sold to buy food without diminishing the household's ability to farm. In addition, sheep and goats, largely owned by women, are usually few in numbers in these small grain deficit households, as few women can build up enough of a surplus to invest in these stock.

Dry Season as Adjustment Period

The dry season presents different opportunities to different households. Those which have had a poor harvest must both enable their members to survive during these months and generate sufficient income to purchase the food needed to farm the following season. Hence the common strategy of those in greatest distress is one whereby the compound empties once the meagre harvest is assessed and people scatter to pursue their luck elsewhere. By contrast, those in grain surplus households can use this period of relative freedom from household labour obligations to generate private income and accumulate their own sources of wealth.

In years of poor harvest, the strategy followed by a household depends on a number of factors, such as the extent to which other producers have been similarly touched, the ownership of livestock and the consequent demands on dry season labour, and the depth of links with other producers in this and neighbouring villages through which help may be sought.

The measures taken during the dry season will intensify the more widespread and sizeable the harvest failure. If only a few households have had a poor harvest, they can obtain a significant supplement to their stocks from grain distributed at harvest-time and from gifts made to women. In 1980 and 1981, the millet harvest in Kala was better than that in many other villages and, consequently, households in Kala received a stream of visitors at harvest-time and in the dry season that followed. In all, more than 80 men and women came to pass several weeks in Kala during the dry season of 1981. Most of these visitors were from settlements no more than 50 km away and they stayed with a household with whom they were able to establish some sort of kin link. Such links were often fairly distant; one man remarked that in years when his harvest had been a success, he got to know this more distantly related kin very much better.

In a year such as 1984, when drought burned the millet crop of most villages in the region, by early September almost all young men had left to go to the cities as soon as it was clear that the harvest had failed. The start of the harvest in mid-October witnessed the movement by many women to the few villages whose crops had performed relatively well. These women planned to spend two or three months harvesting and winnowing grain and earning millet in return.

Thus, the highly localised distribution of rainfall in this region coupled with differences in soils and access to dung mean that harvests vary considerably from village to village in a single year. Shifts in population from grain deficit to surplus areas provide some access to food for those in need, while enabling those with large harvests to get the grain winnowed and stored with greater speed.

Changing Strategies for Deficit Households

Methods of coping with food shortage in this region have adapted to changing circumstances over the past couple of centuries. When Mungo Park travelled through the region in the 1790s, he noted the destitution of many families and the common practice of pawning a child to a richer neighbour in exchange for grain. The child eats with and works for his new family but will return home when his parents are able to redeem him by repaying the original sum. This

system was quite widely practised even until fairly recently, a woman from one household in Kala having been pawned as a child during the difficult years of the 1930s.

The institution of domestic slavery povided cheap labour both to till fields and to carry out domestic tasks until its formal abolition in 1905. As the master was responsible for only some of the slave's food needs, owning slaves afforded some measure of protection from food shortages. A further means by which communities coped with harvest failure in the pre-colonial period was by raiding other villages. Huddled within an encircling mud wall, these villages tried to protect themselves from the threat of raids from stronger neighbours. However, the use of sieges and other tactics allowed local warlords to capture and plunder other settlements in a manner similar to the larger-scale military manoeuvres of the 18th and 19th century kings of Segou. One old man in Kala, interviewed by a colonial officer in the 1920s, described the difficulty they now faced, following the French conquest and pacification, as villages in need could no longer raise a force to supplement their reserves by seizing others' grain.

In the 1930s, a series of poor harvests coincided with annual invasions by locusts throughout this region. The collapse of world market prices for many traditional commodities, such as shea-nut butter and kapok fibre, badly hit villages in the Segou region who relied on the sale of these products for money with which to pay taxes. Harvest failure, tax demands and the requisitioning of grain forced people throughout the zone to sell assets and to earn money on migration. Refusal to pay taxes was sternly dealt with: on one occasion the administration rounded up and carried away all Kala's womenfolk, who were only released once the missing sum had been found. Both livestock and gold were sold during the 1930s to find the money for taxes. One Commandant of Segou noted a flood of gold had been traded in 1933-34 and he attributed this to the heavy pressure on villagers to meet tax payments in these years of penury. Several villagers from Kala told of the liquidation of their entire cattle holdings during this period in an attempt to raise cash.

Migration by young men became an important means to earn cash from the 1920s onwards. Initially they travelled to the groundnut growing areas of western Mali and eastern Senegal and to the gold mining regions on the border between Mali and Guinea. Old men from Kala and neighbouring settlements can still intone the names of those villages through which they passed on the north-long trek to Senegal. The rising economic prosperity of Ivory Coast now attracts most of the young men from this region who plan to go on long distance migration.

Conclusions

Households in this region of marginal and high risk farming have long needed strategies for dealing with food shortage. Certain activities such as raiding can no longer be practised. Others such as migration have grown in importance. Households differ considerably in their ability to feed their members, the larger domestic groups being less vulnerable to chronic food shortages. These differences arise not only out of variation in the ownership of productive assets used in farming but also from differences in the household's ability to diversify its income-earning activities. The dry season is the main time available for such diversification. Grain deficit households must spend this season finding food for the farming season to come, whereas those in the larger grain surplus households can use the dry season to accummulate private sources of wealth. Redistribution of grain within the community remains of great importance to those who have suffered a poor harvest. People may try to limit the demands made upon them by importunate relatives, by converting surplus grain into livestock holdings, but the basic duty to provide hospitality and help to those in need continues to be a strong element within Bambara society.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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This article has been reissued as part of *IDS Bulletin* Archive Collection Vol. 51 No. 1A May 2020: 'Fifty Years of Research on Pastoralism and Development'; the Introduction is also recommended reading.

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GENDER AND LIVELIHOODS IN NORTHERN PAKISTAN

Susan Joekes

1 INTRODUCTION[1]

This article reports on research done in 1993-94 in the Hunza and Nagar districts in the Karakorum mountains in the Northern Areas of Pakistan[2]. It was designed to explore whether increasing demands on women's labour inputs in an ecologically stressed area undergoing population growth might be prejudicing sustainable use of natural resources and, further, whether project interventions that succeeded in delivering resources to women might, by relieving their time constraints, contribute to environmental sustainability as a result. A study in Nepal had convincingly demonstrated that in a comparable (though not exactly similar) environment, resource degradation was leading women to take short cuts in cultivation methods that were undermining the maintenence of soil fertility under traditional cultivation methods (Kumar and Hotchkiss 1988). If a similar situation obtained in Northern Pakistan, more attention to gender analysis of production systems in ecologically fragile areas, and the direction of more resources specifically to women, might be generally warranted on environmental grounds.

As it turns out, women in Hunza and Nagar do not face a binding constraint on their time, even though labour demands on them are very heavy and have increased in recent years as the agro-ecological and broader livelihood systems of their communities have undergone rapid and intense change. The way in which such a situation had been avoided reveals much about the nature of the relationship between women and environmental resources. It is also clear that the women-directed projects supported by a local NGO were successful by several criteria, including sustainability of local resource use, but that their prime value, as women themselves perceived it, and the reason for their successful implementation, related to gender rather than to productivity concerns.

2 BACKGROUND

2.1 The local ecology

Initial conditions are unfavourable to agriculture in the Northern Areas. Hunza and Nagar districts are situated in the high, geologically young Karakorum Mountains. At altitudes where year round habitation is possible (up to 3-4,000m), rainfall is too low (150-200mm p.a.) for cultivation, although at higher levels precipitation, largely in the form of snow, is sufficient to support some vegetation in high alpine pastures and small juniper and spruce forest.

Soils are very poor and have little moisture retention capacity, partly due to the geomorphology of the region, and partly to the aridity and consequent lack of spontaneous vegetation. Repeated application of organic matter is necessary to improve soil structure. Population settlement is heavily concentrated in steep river valleys, where plots are very small (typically less than two hectares per household); the population has been growing rapidly in recent years, at an estimated rate of 3-4 per cent p.a.(World Bank 1987).

The land use system that people have evolved to cope with these conditions is agro-pastoralist and, vertically diversified to take advantage of a series of differentiated ecological niches (Mahmood *et al* 1992). Even so, it supports a very low standard of living.

Cultivation takes place only at lower altitudes near the settlements, and is of cereals (wheat, maize and/or barley depending on altitude) fruit and nuts (apricot - for which Hunza is renowned, apple, pear, cherry, walnut), and vegetables (potato, carrots and leafy green vegetables). These crops are entirely dependent on irrigation water collected in single long channels (often many kilometres long) from glacial snouts. The variability of glacial melt as a source and the existence of a limited network of

[1] This research was carried out with funding from the Overseas Development Administration through its Links Between Population and Environment Research Programme.

[2] Special thanks are due to Judy Pointing who had charge of field arrangements for the study and who helped shape the ideas reported here; I would also like to thank Cathy Green and Julie Lawson for comments on this paper.

branch channels within villages mean that particular fields receive water infrequently. Water stress to plants is common. On top of this, the main channels are frequently cut and water lost because of damage caused by landslips, avalanches and mudslides, especially during spring when the water is most needed. Flat land is scarce and most fields are created by clearing the surface of boulders and stones and making drystone wall terracing.

Both small stock (sheep and goats) and large stock (cattle, yak and cattle-yak crosses) are kept. They are fed from different kinds of supply at different altitudes. Small stock tend to stay in the vicinity of the village for free or tethered grazing, but most other animals are traditionally taken by specialist shepherds far away to the highest pastures for the summer months and brought down for stall feeding through the harsh winter. The very largest (yak and crosses) may remain in the rangelands all year round. The manure that livestock provide is so valuable that a 1930s visitor's account records that not only was manure brought down the mountains to the fields to add to that from the winter stalls (as is still the case), but that the high pastures were actually swept for droppings (Lorimer cited in Lawson 1993).

2.2 Natural resource management

Local natural resource management institutions are intricate and complex. The high pastures are common property, with each pasture area designated to particular village(s). So too are the high forests, though they used to be controlled by the local rulers (*mirs*) who had limited local autonomy from the government of Pakistan. The mirdoms were abolished in 1972/73, leaving an administrative interregnum which had dire consequencies for forest management. It allowed overcutting to take place for an extended period for commercial sale down-country as well as for local domestic use. The area under large trees has been drastically dimished as a result.

Water, the key resource for cultivation, is under communal (male) management. Allocative rules for irrigation water exist, based on *baradari* ('brotherhood' or clan) membership, a family's historical date of arrival in the settlement and the cropping pattern. Guards distribute the water and may patrol the channels by night; if offenders divert water they are fined and the penalty monies are used to pay the guards and keep the channels in good repair (though the bulk of labour for maintenance operations is supplied by all participating households without remuneration). In many villages large collection tanks have been constructed, which are filled from the main channel overnight and then emptied to allow easier secondary distribution of water (from the tank) in daylight.

Cultivated land is under private ownership. Almost all households have land, although most holdings are small. The average size is approximately two hectare per household, of which 35 per cent is cultivated; in 1983 the cropped area was estimated at 0.075 hectares per person equivalent (Lawson 1993). Land titles are vested in males only.

Land titling now tends to cover areas immediately surrounding the village, which may be cultivated in due course if labour is available for land clearing and terracing and if irrigation capacity is expanded. Communal use rights to this land are recognized in the interim, for small stock grazing and collection of fodder and brushwood for fencing and fuel.

2.3 The gender division of labour

The gender division of labour reserves certain tasks to one or other gender. For instance, ploughing is an exclusively male task. Traditionally, women had full responsibility for fuelwood collection whether from private or common property land. A large number of tasks are, however, shared, particularly in agriculture. Thus manuring, sowing, field irrigation, harvesting and threshing are all carried out by men and women separately at different times or together. Some tasks are carried out by different means by the two genders, e.g. manure is carried to the fields by men using donkeys, whereas women carry it in baskets on their backs. This suggests a broader pattern of differential access to productive resources. In terms of crops, there is specialization only to the extent that growing vegetables (apart from potatoes) is done predominantly by women. Otherwise, both genders are involved in some way in production of all the main cereal and fruit crops.

Specialization is more marked in other aspects of the agro-economy. All domestic work and cooking is done by women, and most handicraft production (e.g. embroidery of the caps worn by women, although men weave woollen cloth used for making hats and coats). The work involved in livestock rearing is strongly demarcated. Women take responsibility for stall feeding and care of small livestock and poultry; children often assist by taking charge of grazing small animals in the

vicinity of the settlements. Men, on the other hand, mainly but not only specialist shepherds among them, take the large animals up to the high alpine pastures and live there with the herds for the summer months. Women are never involved in long range pasturing in this area. Milking at the homestead is usually done by women, whereas, of necessity, when it is done in the high pasture it is done by men. There is an intriguing gender distinction in end-use of certain products: for instance, traditionally, cow's milk is reserved for women, goat's milk for men.

Men also have total charge of construction and structural repairs of irrigation channels and branch distributories. In cases of emergency, women may act to staunch a potential breach in a branch side wall, for example, but this is exceptional.

This system of gender division of labour, with only male labour used on certain key works, remains viable even though historically there has always been some male out-migration. With respect to irrigation, construction and major repair works are essentially lumpy; so that they can be carried out whenever during the warmer months sufficient numbers of men are available. In any event, for these and other tasks, an elaborate system of labour mobilization exists, whereby from time to time a levee of a certain number of days male labour contribution is required of every household in the village. (Households without an able bodied male member are exempt, and others who for one reason or another cannot comply make a financial contribution instead.) This labour gang is set to work wherever necessary on the irrigation system supplying the village. This is complemented by a smaller-scale reciprocity in labour supply between households for carrying out ploughing. The third reason why the system of gender division of labour persists in the face of heavy out-migration is that households use remittances to hire in male wage labour as necessary to carry out seasonally specific tasks as they fall due.

3 PARAMETRIC CHANGES

The Northern Areas have seen two important parametric changes within the past twenty years which have radically affected the livelihood system. The first was the opening in 1978 of the Karakorum Highway (KKH), the first metalled all-weather road in the area, which linked it year round to other regions of Pakistan. Transport costs for produce to the major markets in Rawalpindi and further south were approximately halved when it opened (Lawson 1993).

The other major change was the establishment in the early 1980s of the Aga Khan Rural Support Programme (AKRSP), an NGO affiliated to the international Aga Khan Foundation. The AKRSP is a rural community-institution building NGO which has been extremely successful in galvanizing local communities to mobilize labour (remunerated at below-market wage rates by AKRSP) and savings to match those supplied by the AKRSP itself in three types of infrastructural project: construction of new irrigation facilities, bridges, and link roads to KKH. Investment projects only went ahead where the community reached consensus in choosing which project to implement. AKSRP's activities have over time expanded into other areas, mainly agricultural and livestock extension and tree nursery, seed and other inputs supplies, and produce marketing services.

The institutional framework for AKRSP operations are Village Organizations (VOs), which aim to be a forum for community decision making and information exchange. Later, in response to requests from women who felt VOs failed to meet their needs (despite the fact that VO membership did not exclude women), AKRSP sponsored the formation of Women's Organizations (WOs) in many villages. The VOs and WOs also provide savings and loan facilities for members. Over the ten years or so of AKRSP operations many VOs have accumulated major savings funds of several thousands of dollars in individual accounts, used as security against loans. WOs have also built up funds but in much smaller amounts.

4 ADAPTIVE LIVELIHOOD CHANGES

These parametric factors have led to marked and rapid adaptive changes in the livelihood pattern of the population in Gilgit in the recent period. These changes have been remarkably successful in the sense that household incomes nearly doubled over the period 1983-92, according to a recent survey (Bhatti 1992).

In agriculture, productivity has increased steadily without (yet) compromising soil fertility:

- AKRSP irrigation projects have led to an increase in the cultivated area by six per cent and another nine per cent will become cultivable after land clearing

and development (Bhatti 1992, from which all subsequent evidence in this section is also drawn);

- cropping intensity (excluding pasture) rose from 132 per cent in 1983 to 160 per cent in 1992 in Gilgit, reflecting increased incidence of double cropping at lower altitudes;

- there has been a shortening of fallow, such that land use intensity rose from 73 per cent in 1983 to 95 per cent in 1992;

- the cropping pattern changed away from cereals towards higher value potatoes, fodder crops and vegetables;

- chemical fertiliser use rose from 54 per cent of farms in 1983 to 84 per cent of farms in 1992;

- new varieties of wheat, maize, apples and potatoes have significantly increased yields;

- the stock of trees has increased dramatically: the average number of trees per farm has risen between 1982 and 1992 from 32 to 58 in the case of fruit trees and from 67 to 277 of 'forest' or 'wild' trees (poplar, willow, etc.) for poles, fodder, and so on.

As regards livestock production, the Livestock Censuses of the Gilgit district indicated a doubling of the total herd between 1976-86. The intermediate collective pastures have been severely overgrazed as a result, although the highest alpine meadows are still in good condition (AKRSP 1985). Village data suggest that animal holdings per farm are now being reduced in the lower villages and that the practice of stall feeding is spreading rapidly.

The improvement in transport and communications brought by the KKH has affected local livelihood strategies in various ways. First, it has allowed the valorization of much greater amounts of produce through sale in wholesale markets in Gilgit town. Second, the road has greatly increased tourism to the area. This is particularly relevant to women, as will be seen, because local hotels are an important source of demand for certain local products. This has diversified the local economy and sources of income, by improving the viability of local shops, hotels and restaurants, construction and transportation services, all of which have brought new job and income earning opportunities for the local population.

Improved transport may also have made outmigration from the area easier. According to a recent survey, 39 per cent of household income is derived from off-farm sources, including but not limited to migrants' remittances (Bhatti 1992). Migration has always been an important and necessary outlet for the (male) population of Gilgit, but at village level the perception is that men's participation in employment both off-farm and downcountry has been rising.

Another related element in the livelihood strategy is a strong new interest in investment in education as the key to relatively higher paying jobs of this kind locally and downcountry. There has been an upsurge in community built and managed schools. Although a number of factors are no doubt at work in the communities' adoption of education, the economic dimension is explicit. Investment in a child's education is compared favourably with the purchase of land, which is becoming established with the emergence of open markets in land and housing in some of the villages closest to the KKH. The returns expected are clearly linked to enhanced income prospects for an educated child. Interestingly, awareness that this calculus can apply for girls as well as boys is held locally to be an important reason for the rapidly increasing enrolment of girls in school. The schools, the Aga Khan health service (AKHS) and AKRSP itself are recruiting educated women onto their staff in ever increasing numbers.

5 CHANGES FOR WOMEN

Access to education for girls in this area, albeit limited, is only one new factor in the changing livelihood situation for women. There have been marked changes in the complement of tasks they undertake, with an increase in their overall workload and in the relative work burdens borne by women of different ages. Women's relation to the cash economy is also beginning to be established.

The intensification of agriculture at minimal levels of mechanization is likely to have required increased labour inputs per unit of land (though whether proportionately to increased population or not is not known). The year round increase in stall feeding of animals undertaken by women has also greatly added to their total workloads in the production of fodder (cultivation and/or collection of wild leaves). This can be seen as a compensation for the reduction in children's labour time, as educational enrolments

have risen. It is not surprising, therefore, to find that women's total workloads have on balance increased (according to both their own and men's accounts). Women themselves say that they accept the increased demands on them willingly in exchange for the higher standard of living that communities now enjoy, generated (as they see it) by male cash-earning activities. Women have taken over many more of the tasks in agriculture; the only accommodating factor is that they put in less labour time than before for woodfuel collection.

Changes to men's work pattern have involved withdrawal from much agricultural work, assumption of a larger part of the work of woodfuel collection and engagement in a new set of activities related to the money economy. Men's total workload may also have increased, but this is not known; without this information, it is not possible to say whether the increased workload borne by women has been disproportionate. Village time-use data show that there is no strong imbalance in the total workloads of men and women respectively. Women do not get less sleep than men, nor is their total non-work time less (including housework etc. as work), although distributed differently, with women praying much more and men declaring chunks of 'waiting' time (usually for meals). One district-wide time use survey estimate of the total labour input by women in Gilgit gave a figure of approximately 290 x 10hr days worked per year (Bhatti 1992).

While this is below absolute physiological capacity, in some sense, it is a much higher workload than the estimate for the neighbouring, poorer district of Baltistan (220 days). Evidence that it does not amount to a binding time constraint comes from experience of one AKRSP initiative. In the later 1980s, AKRSP tried to introduce apricot kernel cracking machines, on the assumption that this was an effective labour saving device that would relieve women of one of their most demanding tasks (since the cracking was otherwise done manually). There were some minor technical problems with the machine, but the women themselves had not been pressing AKRSP to supply labour saving machinery for this or any other task, and the effort was suspended for lack of interest on the part of the recipients.

The increase in women's agricultural workload is attributable to two main causes. On the one hand, it has involved a straightforward increase in the quantity of 'female' crops grown, such as fodder and vegetables. But there has also been a considerable reallocation of work between the genders, in the sense that many tasks that were previously all-male are now shared by men and women or are carried out by women alone. There has also been a changing **age** division of labour among women, with an intergenerational shift in demands for labour as between children - much of whose previous labour contribution, especially in grazing livestock, is precluded by school attendance - and older women. Village level data makes it very clear that the life cycle labour pattern for women has changed radically, and that women now continue to be heavily involved in production right up to old age until they become infirm. Men, on the other hand, assume an increasingly sedentary dignity as they age, however physically capable they may be.

The most striking discontinuity in labour patterns, however, is associated with changes in the management of forest resources and woodfuel collection. In the past few years, some village councils have acted to protect their depleted forest resources. On analogy (it would seem) to practices in irrigation, collective management systems have been put in place. Cutting quotas for different uses have been decided and cutting restrictions imposed (e.g. prohibition of cutting for sale of wood outside of the village). The new rules are actively monitored and sanctions applied in the form of heavy fines if they are contravened[3]. These new arrangements have obviously been facilitated by the great increase, noted above, in local tree planting on private lands (which the AKRSP was largely responsible for).

With the change in institutional arrangements came a drastic revision of the gender division of labour in this domain. With the depletion of the forest, the margin had shrunk further and further away from the villages, higher and higher up the steep slopes. Accordingly the task of gathering wood became increasingly arduous and physically dangerous. Under the new rules, women were no longer required to collect fuelwood from the high forest. It has become entirely a male responsibility (and also one

[3] These arrangements have been arrived at independently at village council level, using traditional institutional forums, not under the auspices of AKRSP.

that will in time become easier to fulfil, as the planted trees yield kindling, fuelwood and timber and the original forest is regenerated). Although it is not possible to quantify the amount of women's labour time freed up by this change, it was clearly considerable. The relief it gave was much remarked on by women themselves.

6 ASSESSMENT OF WOMEN'S RELATIONSHIP WITH ENVIRONMENTAL RESOURCES

Changes in livelihood and labour patterns in the Northern Areas can be related to the main arguments about the special relation between women and environment developed in the women, environment, development (WED) literature. These can be summarized as a concern with the spiritual primacy of women's relation with natural resources; a conviction that women's role as the main managers of natural resources (as 'hewers of wood and drawers of water' etc.) make them particularly vulnerable to environmental stress; and as an abstraction from the social context, specifically neglect of any possible causal links between gender relations and processes of environmental change. The richest interpretation of the situation, and the one most espoused by women themselves, gives primacy to the dynamics of interaction between gender relations and the livelihood system, which includes - but goes well beyond - management of the environmental resource base. Women do not view themselves as an isolated social group, but are deeply concerned about the relational aspects of their daily lives and about the totality of the livelihood base.

The special spiritual affinity argument: there is little substance to this idea in the Northern Areas agro-ecological system. This is **not** to say that the spiritual dimension in the human relationship to the environment is lacking - far from it. The people of the Northern Areas hold to a complex set of cosmological beliefs relating to their physical surroundings, alongside their adherence to Islam (Mumtaz and Fatima 1992). Both men and women have standing within this framework, which, in common with almost all religious systems, has a strongly anthromorphic character. In fact, in parallel with human society, the Northern Areas cosmology confers clear primacy on males rather than females.

Supernatural forces are believed to inhabit the mountains, alongside the human population. In parallel with the human world, these forces are gendered: and feminine forces or spirits are overtly and unambiguously conceived of as subordinate to masculine. Male spirits are pure, benevolent and inhabit high altitudes; female spirits are on the lower slopes, malign and polluting. The supreme being is a male figurehead, who is secondary only to the angels.

This belief system carries over to conceptions of appropriateness for human activity. There is a straight forward conception of the highest mountain areas as a male domain; hence, the exclusivity of herding by males in the highest pastures. And goats, as particularly sprightly, climbing animals, are felt to have special affinity with men – hence, the identification of goat's milk as male food. In terms of the evolution of resource management patterns, this ideological imperative was strong grounds for reducing and eventually eliminating women's role in gathering wood from the high forested areas. Cosmological rectitude proved a more powerful force than maintenance of a particular allocation of tasks by gender and absolute adherence to the principle of household provisioning (in the supply of fuelwood) as a female responsibility.

Two other observations are in order in this connection. The argument that women have a privileged spiritual proximity to nature carries an implication that women have a special depth and breadth of knowledge about the properties of natural resources. In these communities, however, while possession of special environmental knowledge among some groups of the population is recognized, it does not follow gender lines *per se*, but rather seniority and resource use practices (although these are of course divided by gender). Thus, elderly women are acknowledged as the single most knowledgeable people because they have the greatest experience in dealing with natural resources, both over time (given that they do not 'retire' from work as men do), and over a wider range of tasks in the agro-pastoral economy.

Even so, their field knowledge of the properties of plants does not go beyond what is **necessary** to the particular tasks that women carry out or the uses they put resources to. Thus, for example, while prolifically knowledgeable about properties and uses of trees and plants that yield fodder, raw material for baskets, medicinal leaves etc., women are not familiar with the varied cultivation requirements of different species: tree planting and nurturing is a male task. Women (and men) learn what they need to

know, which depends on their practical relation to the resource concerned within the terms of the local gender division of labour. In other settings, the vast knowledge which women have of different natural resources, of which the literature gives ample evidence, can be similarly interpreted as a consequence of practical need rather than any spiritual correspondence or quintessential intimacy.

Women as natural resource managers: Much of the 1980s 'women and environment' literature, which informed the first wave of attempts at gender awareness in project interventions, assumed that the welfare impact on resource dependent populations of environmental degradation would fall disproportionately on women. This contains at least two assumptions whose generality is questionable. First is the assumption that deforestation and water scarcity, whose exploitation falls within women's provisioning responsibilities, are the main forms of environmental stress. This **may** in fact hold up as a broad generalization worldwide. Depletion of tropical rainforest is one of the best documented types of environmental degradation, and far greater numbers of people are affected by the loss of tree cover in other locations, which is often causally associated with a range of other problems, such as soil erosion and loss of soil fertility. Failures in water supply and water quality problems may very well often be the most pressing issue at the local level, with ramifications in many aspects of life. But the importance of these problems relative to other forms of environmental stress in a given locality needs to be investigated case by case.

The second dubious assumption in the 'negative welfare impact' hypothesis is that the gender division of labour is fixed and immutable. The argument runs that changes in labour demand following changes in resource availabilities (e.g. of woodfuel) translate directly into increases in the labour demands placed on persons of the particular gender which carried out the relevant task in the baseline situation. In some situations fixity may obtain in the relevant period, so that such a direct carry-over does indeed take place. But in many others, including most obviously the case described in this paper, it does not.

There is an important distinction to be made here between the **fact** of division of labour along gender lines, and the existence of a **particular pattern** of division at any moment. As in so many other aspects of gender relations, the issue is to understand the dynamics of interaction; environmental stress often implies change in the livelihood context and this represents a compelling force for change in socioeconomic relations between different population groups, notably between the genders and among the generations. This case study represents a modification of the pattern which did not compromise the principle of gender division - in fact in some ways consolidated it. For instance, it implies a reaffirmation of spatial differentiation by gender, whereby women's sphere is kept less wide-ranging and closer to home than men's. (The great distances to the remaining forest stands were taking women further and further from the settlements.) It also confirmed the subordination of women, insofar as men's obligation to 'protect' women was called into play as another part of the justification to modify work patterns. Increased exposure to danger for women carried the connotation of increased vulnerability, for men, to the charge of failing to ensure a woman's safety (should she be injured in a fall, for example), and bringing shame upon him and his family as a result. Finally, it also, in material terms, implies a rewriting of common property resource use rights in men's favour. In the previous situation, women may have had at least some moral right to the returns from the forest, insofar as they had recognized rights of wood gathering for domestic purposes. But now it is clear that, should the forest be successfully regenerated, men's claim to the income from timber and non-timber products that may be produced from the forest - and is likely to be considerable, given the spread of monetary exchange - will be uncontested. Women may indeed normally have more equitable rights in common property than in privately owned resources (Agarwal 1992) but this case illustrates the fact that they are not sacrosanct but socially structured and may be under male control.

The proximate stimulus to and justification of the reallocation of the work of woodfuel collection was cosmological. Women were relieved of the task by male fiat; they accepted the change willingly, because the work was extremely hard and difficult. (Note that the arduousness of the work was not a salient factor in the reallocation.) Thus they clearly gained from the change. The converse does not necessarily apply to instances of extra work, which were also experienced. A negotiating process was involved in the allocation to women of extra work in agriculture and livestock production - not necessarily overt, but articulated in this way by women

themselves - whereby it was understood that an exchange was involved. Women were prepared to take on new tasks in order to make possible men's greater engagement in monetized activities and generate cash for making increased purchases of goods for family consumption. They saw this as a welfare trade-off rather than as something negative. **An exclusive focus on women in environmental relations:** An analysis of the effects of AKRSP's women-directed activities is illuminating in this connection. Women have held out for activities that benefited them at the same time as improving their position in relation to men; on the other hand, they had little interest in activities whose benefits, while also real, did not carry over in this way.

AKRSP has supported a number of special project activities for dissemination to women through the WOs, mostly in activities that fell within women's remit within the gender division of labour. Among them were the introduction of labour saving apricot kernel crushing machines, poultry programmes, fruit orchards and vegetable growing (not including potatoes, which are longer established in the area). In each case equipment, seed or young animals were supplied and current inputs were provided at cost and advice on production methods given.

In addition WOs, like VOs, provide financial services, setting up deposit taking schemes in individually denominated accounts. These savings then serve as security for the loan facility that AKRSP affords all VO/WO members.

For the purposes of this article we examine two types of activity: the provision of improved technology for a female specific task (apricot kernel crushing) versus support for new productive activities under women's control (poultry raising and vegetable growing). As noted, the first was tried out for a couple of years at the end of the 1980s but dropped for lack of support and interest. The second, by contrast, have been very successful. There has been a large increase in the poultry flock in Hunza and Nagar over the past ten years and large increases in the area laid to vegetables, especially in the higher altitude, single cropping villages (Bhatti 1992).

Both poultry and vegetable growing are beneficial to the agro-ecological system by adding to the supply of organic matter for soil improvement by way of poultry manure, green manure and fodder (from vegetable waste and residue).

Both poultry and vegetable production also help women meet their household provisioning obligations by significantly improving the quantity and quality of food intake for their families. Although some people deplore the diversification of the diet (particularly the reduction in the share of the hallowed fruit, apricot, in the total diet, though it remains very considerable), most recognize it as a nutritional improvement. The production of eggs is particularly valuable, for household incomes otherwise allow for only a low level of consumption of protein (in milk and milk products).

In narrow economic terms, vegetables in particular are highly profitable. They are less labour intensive than production of wheat, purchased inputs are less costly, and realized prices give a clear margin of advantage (in imputed financial terms, of the order of 15 per cent higher profit) (Bhatti 1992; Lockwood 1994). The share of vegetables in total farm production is a significant factor in explaining variations in household incomes (Bhatti 1992).

It may well be that, along these dimensions, poultry and vegetable production generates more immediate benefits than the mechanization of kernel crushing. That project ran into some technical problems with the devices, which were said to be awkward to use (World Bank 1987). There is no resistance to mechanization *per se* in these communities; new threshing machines are already widely used by men. Moreover, adoption of a labour saving device in a key task in the agricultural cycle (since apricot kernels are an important source of energy and of income) would have freed up labour time for more profitable activities and so hastened the increase in household incomes generally.

Such failed project experiences often conceal other issues. Problems of access as between households are sometimes at stake. In this case, however, the WO provided an equitable means of access, which in practice has not been strongly discriminatory within villages as between WO members and others. Nor did the crushing machines threaten to remove a rare opportunity for socialization among women (as is often found to be the case in introduction of pipe water schemes, for example). Women are not secluded in this region, they do a lot of socializing and often work in groups, carrying out cultivation tasks on different farms in sequence, rather than separately on their own plots.

On the other hand, women's resistance to the new technology makes sense in terms of the political economy of gender relations. The crucial feature of the activity was that, unlike poultry and vegetable production, it did not offer women any individual benefit within the gendered agro-ecological system. The savings in women's time that would have been won would have been redirected to increase total household income, which is subject to male control and discretion in expenditure. Poultry and vegetable production, by contrast, offered an avenue whereby women could for the first time control the proceeds themselves, because the products can be sold or bartered locally. Eggs and vegetables are bought for cash by local hotels and restaurants on the KKH and accepted in exchange for services (notably as payment of school fees to teachers). Other crops (wheat, maize, fresh or dried fruit, potatoes) are all sold in wholesale markets in Gilgit town, a journey of two hours or more away by truck. Women do not have access to distant marketing of this kind.

The availability of local outlets for disposal of produce and the existence of a 'sheltered home' for the cash revenues that the WO account represents allow them for the first time to express their expenditure priorities independently (e.g. to support education of a daughter) and to engage, as agriculturalists, in the money economy. All the forces in the system otherwise act for men to monopolize the community's interaction with the rapidly growing money economy. Women's assessment of their interests is clearly related to their position within the social relations of gender and to their need for access, alongside men, to the full array of livelihood options.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Local Customary Institutions as the Basis for Natural Resource Management Among Boran Pastoralists in Northern Kenya

Jeremy Swift

This paper argues, on the basis of a specific case of a pastoral economy in northern Kenya, that customary natural resource management rules and institutions may provide a better starting point for development policies and programmes than the more familiar technocratic/bureaucratic model hitherto adopted in African drylands.[1]

Stephen Sandford [1983:11-19] has described a 'mainstream' view about pastoral development, held by a majority of those professionally concerned with arid lands, especially officials in governments and international organisations (Sandford includes academics, but it is my impression that the academic consensus is now different). This view holds that: (i) most of the world's rangelands are suffering from desertification; (ii) in most cases the cause is overgrazing by domestic animals, caused mainly by an increase in the number of animals; (iii) the technology is available to combat desertification, but is not applied mainly because traditional economic and social systems of pastoralists, and especially systems of land tenure and the social systems which accompany them, militate against this; (iv) the solution is a combination of new organisational models, especially involving privatised tenure, such as commercial ranches or grazing blocks, where pasture use follows scientific advice about stocking levels and grazing rotation, implemented through a centralised bureaucratic organisation.

The record of this type of policy in Africa has been dismal, as any review of livestock projects shows. Land degradation, where it is taking place, has not been halted and has sometimes increased, livestock productivity has not grown although economic inequality has, and vulnerability to food insecurity and loss of tenure rights has increased. Faced with the failure of their policies, many major donors have stopped investing in livestock projects, and some now argue for a policy of benign neglect towards the dry areas on the grounds that little can be done there.

During this same period, anthropologists and others have documented the rich array of customary institutions regulating resource use in African pastoral societies. However, there have been few attempts to base modern policies of resource conservation and management on customary ways of doing things. There are clearly many difficulties in doing this, but the failure of alternative policies suggests at least that this option should be tried.

In this paper I outline the potential for this sort of approach in the case of the Boran pastoralists of Isiolo district in northern Kenya. I focus in particular on the issue of whether Boran customary organisations and rules exist which could contribute to new types of natural resource development policy.

Isiolo district

Isiolo, one of Kenya's arid and semi-arid districts, has a population of around 50,000 people, not counting a substantial population of Somali pastoralists who move in and out of the district depending on relations with the local administration. Of the more permanent inhabitants, about 20,000 people are urban; the rest are pastoral or agropastoral producers. Boran pastoralists make up the single most important group, and constitute, in the absence of the Somalis, well over half the district population.

Rural production systems

The rural population is divided into three main production systems: the Waso pastoral production system based on the flood plain of the Ewaso Nyiro river, and comprising about half of the rural population of the district; the **charri** pastoral production system based in the dry scrubland away from the river; and the agropastoral system based at small irrigation schemes along the river, combined with smallstock herding. The **charri** and agropastoral systems contain approximately equal numbers of people, together making up the other half of the total rural population of the district. Beyond the Waso and the **charri** are extensive grazing areas mainly used by Boran and the Somali herders in the wet season. In addition to these rural populations, many inhabitants of Isiolo town and other small towns in the district have substantial herding interests.

[1] The work reported in this paper was conducted as part of the Isiolo Livestock Development Project (ILDP), itself a part of the Embu-Meru-Isiolo (EMI) Arid and Semi-Arid Land programme, funded by the Kenya government and the UK Overseas Development Administration. Fieldwork was carried out by the socio-economic team of the ILDP project team, led by Abdi Umar and Galgalo, whose important contribution is acknowledged here. Thanks are also due to Jim Sweet and Jim Macaffrey. Full results of the work are reported in Swift and Umar 1991.

Most Boran pastoral and agropastoral households in Isiolo live in camps, which are capable of being moved, although most moves are over quite modest distances. In the Waso pastoral system, the average camp contains about seven households and 36 people, and the great majority of camps have ten or fewer households. In the **charri** pastoral system average camp size is very similar; camps in the agropastoral system are slightly smaller.

Average household size is 5.1 people in the Waso, 4.4 in the **charri** and 4.3 in the agropastoral system. Rural population density is about two people/km^2 in the two pastoral systems, and double that in the agropastoral system.

Poverty

The development priorities identified by herders, and their participation in customary institutional mechanisms for natural resource management depend in part on their economic and social position within Boran society. Poverty in a pastoral society is a particularly important determinant of development perceptions.

Boran households may become poor as a result of a lack of herding skills, or as a result of a variety of contingencies, of which the secessionist **shifta** war of the 1960s and several subsequent droughts have been the most important in recent decades. There are four main overlapping categories of poor household in Boran society — the completely stockless, those on the edge of the pastoral economy, households headed by women, and households at vulnerable stages in their life cycles — and an attempt was made to quantify the most important of these.

In all three production systems there is a wide divergence between the wealthiest and the poorest households. In the two pastoral systems the richest households (under a quarter of all households) hold over half the livestock, while at the other end of the scale the poorest households (40-45 per cent of the total) hold only 10-14 per cent of all livestock. In the agropastoral system, 65 per cent of households fall into the poorest group, but hold less than a quarter of the livestock. In each production system, the average household herd in the wealthiest two ranks (out of six) is about ten times the size of that in the poorest two ranks. On average, Waso pastoral households are richest, agropastoral households poorest, with **charri** pastoral households in the middle.

The conclusion is that although households in all three production systems are, on average, comparatively poor, there are nevertheless considerable inequalities in livestock distribution, with a small proportion of households in each system quite well off, and much larger numbers of households in poverty. Using the Boran concept of a minimum herd (around five Tropical Livestock Units per household), it is estimated that about 26 per cent of households overall are below the minimum viable herd level. Waso households are best off in this respect, agropastoral households worst off.

Unsurprisingly, female-headed households are commonest in the poorest wealth rank, where they make up between 30 and 40 per cent of all households.

Boran perceptions of problems

The research included a local problem-identification methodology, used in conjunction with the wealth ranking, in order to measure the perceptions of different economic and social groups about development priorities. A high degree of consensus emerged, based not on differences between production systems or geographic areas, or even gender, but on wealth.

In all three production systems, emphasis was put on livestock, although in different ways. Households in rich and middle wealth ranks emphasised problems of livestock management, especially provision of water, grazing control and livestock disease. Poor households, on the other hand, emphasised their lack of livestock and the need for restocking. Even poor groups in the agropastoral system were more concerned with livestock than with agriculture.

Respondents had detailed views about specific livestock interventions, including new water points and veterinary dips, animal disease control priorities, and non-livestock problems, such as school and the need for alternative employment opportunities. The problems identified by women were similar to those identified by men in the same wealth rank, but with greater emphasis on domestic water; women as heads of household also identified particular problems they faced resulting from their inability to participate fully in many arenas where important decisions were made.

In all proposed development interventions involving natural resources, Boran respondents felt strongly that management institutions must be clearly defined, and that these should be based where possible on customary Boran institutions. There have been previous failed attempts at imposing grazing blocks in the district, and herders know something about group ranches as they operate elsewhere in Kenya; there was unanimous agreement that these were not appropriate institutional models for natural resource management in Isiolo.

In the light of these results, the question becomes: do customary models exist for the management of natural resources?

Customary Boran social and territorial organisation

Isiolo Boran society is organised along two main axes

of kinship (especially the clan system) and geography (especially the neighbourhood system); both these are still important daily forces in the lives of Isiolo herders today.[2]

Clans and the redistribution of livestock

Isiolo Boran are divided into Boran Guttu, themselves subdivided into two endogamous moieties or groups containing about 14 clans, and Sakuye, who have no moiety system and constitute about 12 clans. Boran clans meet regularly to decide on matters of common interest. Clans have elected leaders, **jalaba**, with limited decision-making powers but an extensive capacity for mediation and conciliation.

Boran clans do not have natural resource management functions as such, and indeed the way Boran camps are constituted and manage their livestock, described below, militates against such a role. However, Boran clans do have one key function relating to resources. This concerns the redistribution of livestock.

As is the case in all pastoral societies, animals are a key production resource for the Boran, and are subject to complex rules of ownership. Households acquire animals by a combination of preinheritance, and gifts, as well as through purchase and exchange. But there is a crucial set of circumstances in which clans themselves redistribute livestock within the clan in an effort to reestablish the viability of households whose animals have fallen below the minimum herd.

The periodic meeting of the council of each patrilineage discusses the situation of such poor households within the patrilineage. Those who are considered deserving — that is, who have not squandered their animals, but have lost them through disease or other unavoidable catastrophe — are identified as recipients of animals, and individual rich households are identified as donors. A detailed list of donors and recipients is drawn up, together with their contributions, and after full discussion the meeting takes a formal decision to redistribute those animals from rich to poor households. Clearly the present general impoverishment of Isiolo Boran society has made such clan-based animal redistribution more difficult, since there are far fewer rich and many more poor households, but the principle is still followed by most clans.

As reported above, the main development priority of poor households emerging from a detailed survey was for restocking, to enable poor households to resume a full-time pastoral production enterprise. Restocking and credit projects have not been particularly successful among pastoralists in many parts of Africa, although the need for them is clear. The existence of a well-established customary redistribution system targeted at poor households among the Boran makes feasible new ways of undertaking such restocking, by targeting credit or animals at lineages through their councils of elders, rather than directly to households. This shifts the considerable administrative costs (a difficulty with all restocking schemes) onto the recipients, and suggests a potentially fertile way of rethinking restocking policy.

Spatial organisation and natural resource management

The most basic Boran production unit is a household within a camp. Decisions about livestock management are made by the household head, often in consultation with other livestock owners in the camp. Within a camp, household heads are generally related through descent in the male line, or through marriage. Camps usually contain representatives of several clans. There is no position of camp chief with executive powers, and all adult male household heads attend key meetings. When livestock are scarce, all the milk cattle of a camp may be grazed together as a single **hawicha** milk herd; dry or **fora** herds from the camp are also managed as a single unit, often joined together with the dry herds of other camps for protection and companionship. Camps move with variable frequency and distance. Milk herds in general stay close to the camp while dry herds may move far away, especially in the rains.

Most Isiolo Boran recognise as a unit the group of people (perhaps 1-12 camps) normally inhabiting a particular local dry season area (known as **arda**) with well defined geographic limits. Although not a formal institution, **arda** members meet regularly to discuss matters of common concern, including questions of natural resource use and management.

The largest recognisable unit of resource management in Isiolo Boran society is the neighbourhood or **deda**, which groups together a number of **arda**. **Deda** are quite stable geographic areas, well-understood by the Boran and respected by herders as traditional resource management units. **Deda** members meet regularly and often coordinate their dry herd movements. **Deda** meetings take decisions by consensus, and although respected elders are listened to with special attention, any herd owner can speak.

Not all of Isiolo district is divided into **deda**; most of the areas bordering other districts are used as wet season grazing areas by the inhabitants of several **deda** and by pastoralists from neighbouring districts. Boran rules about natural resource management are not applied with such rigour in these wet season areas, and conflicts over grazing and water use are common. **Deda** correspond in some cases quite closely to

[2] Isiolo Boran society has been described in some detail in the work of Dahl [1979] Dahl and Sandford [1978], and Hogg [1981], on which the following summary description is based.

administrative sub-locations, in other cases less well.

Some categories of water point are also subject to collective management, with detailed rules of ownership and use, management committees and office holders delegated to oversee orderly watering. This is particularly effective in the case of seasonal and permanent wells and boreholes; it used to be true of pans and dams, but is no longer. In effect this means that watering at the former type of waterpoint is well controlled, and that the use of pasture served by such water points is managed through the watering committee and through the more general discussions at the **deda** committee. In addition to this, important grazing reserves for milk herds only are maintained around all the primary schools in the district.

The development priorities of rich and middle households, reported earlier, were mainly focused on new sources of water, on better control of grazing, and on other questions of livestock management including animal disease; a key concern about all of these was how they were to be managed. As the discussion in this section shows, there are customary Boran institutions performing some of these roles already, which could provide a starting point for institutional innovation to this end. It is not necessary to design entirely new institutions to do this.

Conclusions

These findings do not provide an answer to the problem of how to design institutions to manage natural resources, but they do suggest a starting point very different from that adopted in many natural resource management policies. That starting point is the customary institutions already operating in the society concerned.

In some places, such customary institutions will not exist or will have been transformed beyond usefulness; in others they may be in the hands of small unrepresentative groups. But in many cases, perhaps more than we imagine, there are existing customary institutions performing the same sort of role as that outlined above in the case of the Boran. In this case the task becomes easier: it is to provide the framework and incentives to enable such institutions to function more effectively and to evolve in desirable ways. This probably means providing statutory support and a contemporary legal framework to facilitate conflict resolution. In some cases it will be important to encourage a movement towards greater representivity (especially in the Boran case by including women in decision-making meetings).

The way in which this might evolve is suggested by the hybrid (part customary, past statutory) institutions which already exist in Isiolo, especially the school committees (which among other things regulate school grazing reserves) and the borehole committees (which manage water access and grazing around boreholes). These are statutory committees operating effective natural resource management on the basis of customary Boran procedures and rules; as such they provide one model of how more effective natural resource management can be achieved in places like Isiolo.[3]

[3] Hogg [1990] has made comparable proposals to use some aspects of customary Boran institutions as the basis for development organisation in Ethiopia.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Institutional Change in the Syrian Rangelands

T. Ngaido, F. Shomo and G. Arab

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1 Introduction

Bedouin pastoral communities in West Asia and North Africa have developed different mechanisms for coping with rainfall variability and seasonal feed resources (Masri 1991; Metral 2000; Nesheiwat 1991). Amongst these strategies, transhumance and nomadism were the most important production systems used by Bedouin communities to access feed and grazing resources in cropping areas and other rangelands located regionally, nationally or internationally. Each of these grazing niches was, however, governed by sets of access and use rules and regulations that helped the affected communities mitigate the effects of feed shortages in their local pastures and ensure their livelihoods (Ngaido 2000). As such, the reliance on reciprocal institutional access-options for seasonal grazing was the dominant feature of these livestock production systems.

Agricultural policy reforms favouring agricultural growth over sustainable livelihoods and traditional production strategies prompted the encroachment of cultivation on rangelands and the sedentarisation of traditional Bedouin communities. This process, which transformed Bedouin livestock production systems and weakened or even destroyed many traditional institutions, caused heightened ecological and livelihood uncertainties.

The diverse and rapidly changing policy and legal environments within which many rural communities and producers live call for a broader understanding of how these global issues affect production and livelihood strategies. In the past, Bedouin production systems were mainly perturbed by environmental crises such as droughts. They were able to determine the probability of occurrence of such phenomena, which were termed in Arabic as *khamsawi* (drought occurrence every five years) or *ashrawi* (drought occurrence every ten years). Today, pastoralists face feed shortages every year and their institutional structures and mechanisms, which allowed them in the past to ensure their livelihoods, are insufficient to respond to such processes.

State rangeland policies have contributed to the undermining of Bedouin resource management institutions. The article postulates that the changing national development paradigms contributed

to the heightening of parallel types of uncertainty which have challenged traditional Bedouin institutions and forced an increased reliance on individual market-access institutional options.[1]

The first section of this article discusses the different rangeland policies and their effects on Bedouin sheep production systems. The second section evaluates the present feeding systems and quantifies the effects of institutional and market access-options on feed costs. The final section offers some conclusions.

2 Rangeland Policies

During the past 40 years, the Syrian rangelands have been the focal point for government interventions, including the assertion of state ownership over rangelands, transformation of herding communities into agropastoral communities, and reorganisation of tribal-based systems into cooperatives. These different policies have had a huge impact on Bedouin livestock production and livelihood strategies. The following analysis will focus on the relations between land policies and rangelands, and assess the impacts of these different policies on the resource base during three main periods.

2.1 Land reform policies and settlement of pastoral communities (1958–69)

State appropriation of rangeland resources and sedentarisation of the nomadic population were major measures of land reform policies in Syria.[2] Land reform policies, which were geared towards settling Bedouin families and transforming them into agropastoralists, resulted in a loss of control over tribal lands (Nordblom and Shomo 1995). People were not able to resist national government's policies and many tribal leaders adhered to the 'plough the land and settle' policy (Masri 1991). During this period, the majority of pastures located in the arid zones (200–350 mm rainfall) were converted to crop production (Jaubert 1993). Moreover, the nomadic communities and institutions experienced many changes that affected their pastoral production strategies. The most important changes were the shift from camel to sheep (Masri 1991) and the transformation of their nomadic lifestyle to a more settled life, with the integration of agriculture into their production system. This process of change was also accompanied by an extension of cultivation on the best pastures because very little land was confiscated from landowners, and rangelands were used to satisfy land demands of new settlers.

2.2 Regulating cultivation in the rangelands (1970–92)

In the 1970s the government introduced new regulatory measures to stop the degradation of rangeland resources. The first attempt was to prevent appropriation of rangelands and prohibit cultivation of non-irrigated steppe lands (*Badia*).[3] Land ownership of non-irrigated rangelands was limited to owners who registered and titled their lands before 20 July 1970, and farmers who obtained land through appropriation, possession or transfer according to the 1958 land reform law. These different dispositions granted private property to some Bedouin households. Farmers and families who cultivated on their village or city boundaries before 1970, or planted trees of at least five years old on their rainfed lands, were allowed to cultivate the land.[4] However, the priority given to cropping by the government in its agricultural plan pushed the cultivation frontier into more marginal areas.

In addition, different measures were taken to formalise the use of non-irrigated rangelands by issuing licenses that required owners to grow cereals on 80 per cent and shrubs on 20 per cent of their lands.[5] The issuing of new cultivation licenses and new extensions on non-irrigated steppe lands was stopped in 1988,[6] although Bedouin households were given the option to rent state non-irrigated steppe lands for a minimum of 10 SYP[7] per ha on rainfed lands, 150 SYP per ha on irrigated, and 100 SYP per ha for lands planted with fruit trees.[8]

In general, this period was marked by an extension of cultivation into the rangelands and the individualisation of common range resources. These different policies transformed Bedouin communities into agropastoralists with short transhumance to the cropping areas. Most of the tribal grazing networks were disrupted and unused, and barley production was implemented

to generate additional household income, the remainder going to animal feed.

2.3 Protecting rangeland resources (1992–present)

The extension of agriculture into more marginal areas and the increasing degradation of rangelands prompted the government to prohibit crop production under rainfed conditions. For example, the Prime Minister requested governors to observe strictly the prohibition of cultivation on non-irrigated steppe lands, which would be used for natural grazing and shrub plantations. It was argued that preventive measures would be taken against transgressors according to existing laws and by-laws. The main objective of the conservation policies was gradually to replace barley cultivation with shrubs. The government doubled the charges on appropriated lands from 10 SYP per ha to 20 SYP per ha on rainfed agriculture,[9] although in practice these new fees did not prevent people from appropriating and cultivating large areas of land. Finally, the government took major decisions to ban cultivation on rainfed lands in 1994 and on irrigated lands in 1995.[10] The ban on cultivation was a clear indication of the prioritisation of rangeland conservation.

Over a period of forty years, Bedouin communities have been asked to change from their transhumant and nomadic production systems to agro-pastoralism and from agropastoralism back to transhumant and nomadic production systems. The recent demands, which call for a return to traditional uses of rangelands, do not account for the depth of transformation that these communities have undergone. The perception of common tribal pastures is lacking in many communities, as each extended family considers appropriated lands as their private grazing site. Even after the ban on cultivation, informal site boundaries continued to dictate access and use of rangeland resources. A major impediment to returning to traditional livestock production systems is the fragmentation of most of the institutions, mechanisms and practices that were the mainstay of transhumant and nomadic production systems in the past. The following section presents a case study of the Jub-Jamaa community and the strategies used by community members to access additional feed resources.

3 Transformation in a Bedouin Community

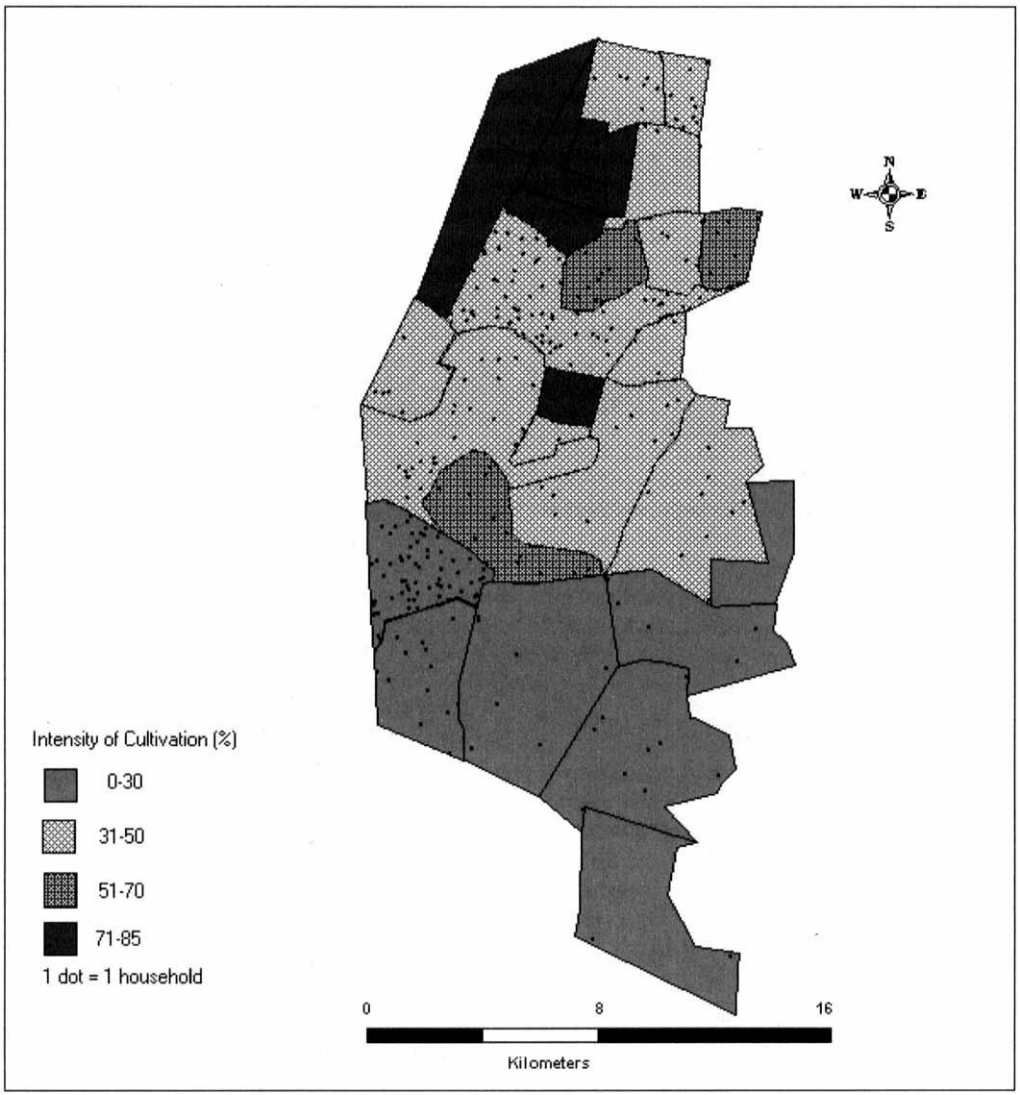
Government policies have favoured the individualisation of the Jub-Jamaa area into family controlled grazing and cultivation sites (Figure 1). The community pastures were divided into 26 sites ranging from 238 to 3424 hectares, with 38 per cent of the 31,283 ha of the community lands being continually cultivated. The community is composed of 352 households (2,918 people) owning around 53,500 sheep. Large disparities were found in sheep ownership and land-holdings.[11] These disparities in capital assets have important implications for the capacity of households to cope with the ban on cultivation.

A sample of 69 households was selected to assess household production strategies. Households were clustered into three groups according to their flock size. The first group (Group I) was composed of 35 households (51 per cent) owning less than 110 sheep; the second group (Group II) was composed of 25 households (36 per cent) owning between 110 and 300 sheep; and the third group (Group III) was composed of 9 households (13 per cent) owning more than 350 sheep.

Mobility was one of the major features of livestock production in Syria until the settlement of the nomads and the growth of barley production (Bahaddy 1980; Nordblom and Shomo 1995). Surveys were conducted in 1999 to monitor the migration patterns of all community members (Figure 2). Transhumance patterns were very different from traditional ones. In the past, transhumance was a collective decision, and traditional institutions played an important role in negotiating access to resources. Currently, each household head makes his/her own arrangements on when and where to go. For example, households from the Jub-Jamaa community generally move to the Aleppo province, but during drought years they move to the coastal area and mountains, where they can find crop residues, natural pastures and working opportunities as labourers (Figure 2).

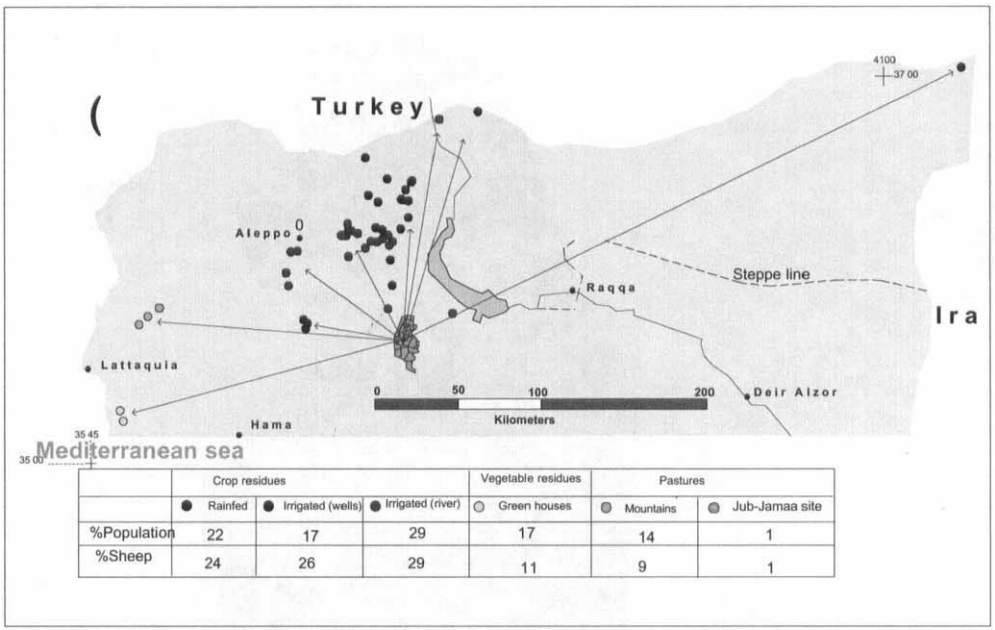
Livestock feed includes native pasture, crop residues and hand-feeding materials (concentrates, straws, etc.). Such feed resources can be accessed through

Figure 1: Level of Cultivation and Sheep Pressures in the Jub-Jamaa Community before 1996



markets and local institutional arrangements and social networks. All sheep breeders use concentrate feeds, which constitute the bulk of the market feed resources, to supplement their animal diets at different times of the year. The main sources for concentrates and other hand-feeds are livestock cooperatives and local feed markets. The high costs of concentrate feeds push many households, which cannot afford to feed their sheep with mainly concentrate, to rely on other feeding alternatives. In spring, for example, many households move to agricultural areas to rent crop residues. The selection of the place depends on the social relations with the farming communities, quality and price of crop residues, distance from home base, water availability and proximity of markets. Generally, each tribe has traditional cropping areas to which they move each year (Bahhady 1980). One member of the migrating group would first visit the areas to assess the quality of the residues and negotiate the grazing contract.

Figure 2: Transhumance Sites for Households of the Jib-Jamaa Community, Aleppo Steppe, Summer 1999



	Crop residues			Vegetable residues	Pastures	
	Rainfed	Irrigated (wells)	Irrigated (river)	Green houses	Mountains	Jub-Jamaa site
%Population	22	17	29	17	14	1
%Sheep	24	26	29	11	9	1

Depending on their relationship, however, farmers may permit herders to defer payment until they sell their fattened sheep.

Such flexibility is very important for sheepowners, because it allows them to sell their fattened lambs at better prices. Large sheepowners were the dominant group that used crop residues, and spent 53 per cent of their time grazing crop residues, while small and medium sheepowners spent 40 per cent and 38 per cent of their time, respectively. The average daily rental cost of crop residues per flock was 92 SYP for small, 184 SYP for medium, and 460 SYP for large sheepowners.

Bedouin households and communities had in the past developed a large array of reciprocal access arrangements allowing members of neighboring tribes to use their pasture and water resources. These reciprocal arrangements were well respected because they confirmed tribal claims and strengthened traditional social networks (Ngaido *et al.* 1998). These reciprocity arrangements were important risk-sharing devices for overcoming environmental variability (Behnke *et al.* 1993; Metral 2000; Oram 1995). These institutional access-options enhanced access and use of resources in other areas, and maintained and sustained nomadic and transhumant pastoral systems, especially during drought years.

Survey results showed that 70 per cent of small sheepowners used social networks and spent on average 64 days free-grazing in other rangeland areas and pastures. Fifty percent of medium sheepowners used such arrangements, spending on average 34 days. Large owners, by contrast, did not use their social networks to gain access to free grazing. This suggests that access to other pastures is an important element of small and medium breeders' production strategies, because they do not always have readily available cash to purchase feeds.

4 Conclusions

Rangeland policies have transformed Bedouin livestock production systems and Bedouin institutions that, in the past, managed rangeland resources and helped sustain Bedouin livelihood strategies. These changes have altered the capacity of Bedouin communities to manage their resources

and limited the capacity of collective action institutions.

In the community of Jub-Jamaa, every sheepowner thinks primarily about their own strategy. Small and medium sheepowners used both market and traditional institutional options to reduce feed costs, while, besides the use of their site pastures for grazing, large sheepowners mainly relied on purchased feeds and rented crop residues. These different strategies suggest that networking is an important tactic for gaining additional grazing resources, particularly for poorer sheepowners.

Over a period of 40 years, successive government policies have transformed the institutional basis of Bedouin range-management systems. Sedentarisation, accompanied by increased reliance on agriculture, has resulted in new institutional arrangements for accessing livestock feed resources, based on a mix of market mechanisms and reciprocal relationships between communities. Such a swing has increased the array of uncertainties that Bedouin people must deal with to include not only ecological uncertainties, such as drought, but also other uncertainties relating to market conditions, social networks and government policy. Different social groups – in particular contrasts between richer, larger flock owners and small and medium flock owners – face and respond to such uncertainties in different ways. The attempt to introduce a reversal in policy, encouraging a return to those more nomadic forms of traditional pastoral livelihood, have introduced yet more uncertainty that existing institutional arrangements are ill-equipped to deal with, suggesting the urgent need to rethink institutional and policy approaches in the Syrian rangelands.

Notes

1. The study draws from research conducted by the M&M project in the Jub-Jamaa community, which is located in the rangelands of the Aleppo province. The study, which started in 1998, included community mapping using Geographic Information System (GIS) to delimit the community boundaries and evaluate the level of cultivation. This was subsequently followed by a complete census of the community to determine household wealth indicators (sheep, land, tractors, etc.).
2. Law No. 161.
3. July 20, 1970, Decree No. 140.
4. March 19, 1973, Decision No. 13.
5. November 11, 1987, Decree No. 96/T.
6. September 17, 1988, Notification No. 15.
7. 1 US dollar is equal to 46 SYP (Syrian pounds).
8. May 1, 1992, Circular No. 9.
9. September 20, 1993, Circular No. 2/MD.
10. December 6, 1994, Circular No. 4553/1 and December 3, 1995, Decision No. 27.
11. Large sheepowners (38 households), which had more than 350 heads, owned on average 614 sheep and previously cultivated 36.5 hectares. Medium sheepowners (83 households), which owned between 150 and 350 sheep, had on average 215 sheep and 24.75 hectares. Small herd owners (231 households) owned under 150 sheep and had on average 54 sheep and 15 hectares.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Climate Change and the Challenge of Non-equilibrium Thinking

Ian Scoones

1 Introduction

Climate change is happening, that much is certain. But in what way? How much? And with what impacts? Complex, non-linear models try to predict trends and patterns, but, inevitably, each model is different, parameters are difficult to estimate and the precise impacts remain uncertain. We live in an uncertain world, one where the knowledge about both likelihoods and outcomes remains uncertain (Stirling 1999). The striving for increased predictive power over the consequences of climate change has yielded results in the past few decades. We clearly know a lot more than we did. But this is not enough to allow climate science to inform people to direct the future. While global circulation models and forecasting approaches will improve with better technology, more empirical data and faster number-crunching capacities, the nature of climate–ecosystem interactions is such that non-linearity and the complexity of dynamic interactions means that uncertainty will always be present. This article explores the implications of this, drawing lessons from the drylands of Africa, where non-equilibrium thinking has challenged conventional approaches to pastoral development.

2 Living with uncertainty: lessons from the drylands

Highlighting complexity, non-linearity and non-equilibrium dynamics has major consequences for thinking about responses to climate change. We can learn a lot from settings where uncertainty has always been part of day-to-day life and survival: where systems are not at equilibrium, where sometimes chaotic, often stochastic, dynamics prevail and where predictability and control are false hopes. The pastoral rangelands of the world are such places. Here, there is a temporal variation of rainfall and so forage production is high and the spatial patterning of available fodder resources is enormous. Pastoralists and their herds and flocks have responded to this and over the ages, have developed an array of strategies that allow them to live with this uncertainty.

In the early to mid-1990s, a group of range ecologists, livestock specialists and social scientists gathered together to examine the reasons for the failure of pastoral development in Africa.[1] Again and again, development initiatives in the dryland pastoral areas tried to replicate solutions more suited to wetter, more predictable climes. Fences were erected to control grazing movement, stocking rates were controlled, bush was cleared, water points were drilled and supplementary feeding pens were established. This was supposed to bring a more ordered, predictable form of livestock production amenable to the market and to external management. Yet repeatedly, over many decades, such projects and programmes failed. Why was this?

The applied science and practice of rangeland management underlay these initiatives. This was developed in the temperate grasslands of North America in the early part of the last century, as a way of boosting the cattle economy. It assumed that predictable rainfall patterns would result in predictable grassland production and this in turn could be managed according to the theories of vegetation succession, propounded by Frederick Clements, to result in predictable meat and milk production. In this original context it worked well. Only later did it become the standard formula for range management the world over. Pastoralists were not the beef ranchers of the Midwest, and the drylands of Turkana, Karamoja, Borana and the Sahel were not the same. As the authors in the volume *Rangelands at Disequilibrium* (Behnke *et al.*

Table 1: Emerging perspectives: implications for development thinking

Theme	Conventional views	Emerging views
Livelihoods and resource management	Single use, sectoral view of resources; resources as commodities; production focus	Multiple users, complex and diverse livelihoods
Institutions	Static, rule-based, formal, clear boundaries, fixed, exclusivity	Dynamic, overlapping, heterogeneous, socially defined, emergent from adaptive practice, flexible
Legal frameworks	Formal legislation: fixed rules and procedures	Evolving law in practice, multiple systems, legal pluralism
Development planning and policy	Blueprint approach; linear policy model	Adaptive planning, flexible, responsive, learning; non-linear policy: negotiation, adaptation, discretion key
Knowledge/power	Science as arbiter, single source of authoritative knowledge; conflict, dissent and debate underplayed	Multiple sources; plural and partial perspectives; conflict, dispute and dissent inevitable; negotiated understandings
Risk and uncertainty	Measurable risks and predictable outcomes; assumptions of "normal", "standard" patterns	Uncertainty and ignorance; temporal variability and spatial diversity
Governance	Separation of levels: local vs global; rules and formal institutions of governance	Integration of levels: multi-level governance, messy interactions, negotiation of outcomes

Source: Mehta (1999) and Scoones (1995)

1993) showed, the underlying assumptions of equilibrium range ecology were fundamentally flawed in many parts of Africa and over most time periods. The resulting solutions – whether in terms of range management, animal husbandry, marketing strategy, resource tenure or pastoral administration – were often wildly inappropriate. Such management, institutional and policy solutions were more suited to equilibrium conditions, not to the conditions of uncertainty found most often in the rangelands.

In the subsequent book *Living with Uncertainty* (Scoones 1995), a series of authors explored the implications of taking a non-equilibrium view for a range of themes. The results were startling. The standard way of thinking about a whole host of issues – from tenure to marketing, from fencing to veterinary care, from service provision to fodder management – had to be radically rethought (see Table 1). With a non-equilibrium perspective, things looked very different. And, according to Jim Ellis (1998), systems where equilibrium conditions do not apply, exist in very large swathes of Africa where the coefficient variation of rainfall amount has historically been at or over 30 per cent.

Of course such perspectives were nothing new to pastoralists (or indeed dryland farmers and agropastoralists carving out a livelihood in similar settings). They could have told the planners and policy makers working earnestly on pastoral development initiatives in the dry rangelands that their grand designs would not work. But their understandings of their own setting and the ecological and social dynamics that govern it were

dismissed. Pastoralists were backward, ignorant and in need of development. And for many planners, development meant managed, controlled, predictable, stable, single function systems. The straight fence lines, the rotational grazing, the settled homesteads and the meat market orientation was what development was about. Modernity was an equilibrium notion for both colonial and post-colonial planners.

3 From equilibrium to non-equilibrium thinking: challenges for management, planning and policy

So what did the "new" thinking in range ecology suggest for management, planning and policy? Table 1 highlights some of the implications, contrasting with the equilibrium perspective. Of course such dualistic contrasts hide the shades of grey that inevitably exist, but the bottom line message is that, if you take non-equilibrium thinking seriously, which you must where conditions of climatic uncertainty prevail, then a different approach to development intervention must be constructed, with fundamental shifts in our understanding of institutions, governance and policy as a result (Mehta 1999; Mehta *et al.* 2001)

4 Implications for climate change responses

If climatic uncertainty and variability are on the increase – more droughts, more floods, more storms, more dramatic snow falls, more heatwaves – as all models seem to suggest, then non-equilibrium conditions are on the increase and, like the pastoral development specialists of the African drylands, we must shed our blinkered equilibrium views and solutions and search for alternatives that allow for "living with uncertainty". While recognising that climate uncertainty and variability is here to stay, almost no matter how effective mitigation measures might be, the now familiar "adaptation" argument often does not go beyond providing mechanisms for early warning and so rapid response and relief when disaster strikes (although see Adger *et al.* 2001 for a more nuanced discussion).

Popular and often policy images of climate change though tend to grab the headlines with a drama and this can guide intervention responses, sometimes in a misleading or inappropriate way. The media profile of climate change has grown with public awareness of the issue, but tends to reinforce a view of climate change being associated with an event, a disaster, or a drama (e.g. a devastating flood: people up trees and in boats; helicopters rushing to help out victims, etc.). The disaster narrative is continued in the assessment of impacts: "x" per cent increases in global temperatures will result in the loss of "y" thousands (or millions) of species with dramatic effects on the ecosystem, biodiversity and human survival in the long term. While droughts, floods and dramatic biodiversity loss are all causes for concern and legitimate foci of response, there is a less dramatic storyline that needs to be better understood.

As discussed by Devereux and Edwards in this *Bulletin*, it is the across-year and within-season variability in rainfall patterns that are set to increase. This may not result in dramatic events every year (although these may occur with increasing frequency), but perhaps more significantly for overall impact, such shifts in patterns of variability will mean a shift to a more non-equilibrium dynamic over ever larger areas. This will result in less predictability for farming and livestock keeping and the need to change coping strategies for all those dependent on rainfall and the land for their livelihoods. Even in dryland areas where such unpredictability has been the norm (Hulme 1996), this will have major implications for livelihood sustainability.

Opportunistic approaches to livestock management or dryland farming have worked well in the past. A seasonal downturn in rainfall or a mid-season drought could be compensated for by ingenious, but well-tried responses – moving livestock, cutting browse, harvesting water, shifting crop mixes and much more (Davies 1996; Scoones *et al.* 1996; Mortimore 1989). Cyclical patterns of rainfall availability allowed periods of drought to be offset by periods of plenty, when herds and flocks grew again and stores of grain were established. But, if climate change predictions are correct, without the respite of good years among bad, high rainfall periods among low, the longer term dynamics of livelihood sustainability becomes severely compromised.

This is particularly so when combined with other factors. A major drought today appears to have a much larger impact than it did even in the 1990s and certainly the 1980s. Take southern Africa over the past few years; while the dire predictions of the

aid agencies thankfully proved to be exaggerated, the food crisis that struck the region in 2002–03 was by any standards severe. Yet the climatic trigger for crop failure and livestock death was far smaller than the droughts of 1991–92 and certainly 1982–84. The resilience of the livelihood system had been lost. The contrasting explanations for this cannot be detailed here – climate impacts interacted with health conditions (especially HIV/AIDS impacts), asset levels (availability of land, livestock and fit, health labour to cope), economic factors (notably the consequences of structural adjustment on the wider macroeconomy) and governance questions (see, e.g. Wolmer and Scoones 2003). But what is clear, is that the sustainability – or resilience – of livelihoods had been undermined.

5 Sustaining livelihoods in the face of climate change

Today in many parts of the world, climate change, exacerbated by other factors, is undermining the capacity of people – and particularly poor people living in marginal areas – to cope with change and sustain livelihoods over the long term. What have been the responses to this unfolding situation? At the local level, many responses have been observed, as people rethink livelihood strategies reducing dependence on risky agriculture or livestock production. Changes in livestock species mix (from cattle to goats), crop choice (from maize to sorghum) and overall livelihood strategy (from agriculture to migration or off-farm income diversification) have been observed in many settings in Africa and elsewhere (Ellis 1998; Scoones 1998; Reardon 1997; Bryceson *et al.* 2000).

But often, development responses from external agencies – whether governments, donors, or non-governmental organisations (NGOs) – have not caught up with this dynamic. They remain stuck in a static and stable vision of a full-time farmer or livestock keeper, rather than seeing the more dynamic, diversified livelihoods necessarily emerging. Again the equilibrium thinking of control, predictability and managerialism prevails. Rather than thinking in more holistic livelihood terms (in parallel to the changing tactics and strategies of rural people themselves), development thinking often remains in an old-style sectoral mode, where the baggage of equilibrium thinking holds sway.

And intriguingly, this even occurs with interventions designed to respond to climate change specifically. While not originally seen as a direct response to global climate changes, but now firmly part of the adaptation/response menu, the plethora of early warning systems that have been set up across Africa in particular often fall into the same trap. Using the most sophisticated of satellite technology, Geographic Information Systems and predictive models, early warning systems attempt to predict droughts (or other climate events) and offset the likelihood of – or at least warn people about – imminent food crises and potential famines. Yet evaluation after evaluation shows how such technologies do not give the results hoped for. There is a "missing link" between the information provided (often increasingly accurate) and responses on the ground (Buchanan-Smith and Davies 1995). Farmers or pastoralists just do not believe such results and fail to respond accordingly.

For example in the 1997–98 drought period, the result of a long predicted El Niño–Southern Oscillation (ENSO) event, in Zimbabwe, the warnings produced by the national early warning systems and promulgated by extension workers, local councillors and in the newspapers and on the radio, went unheeded. People did not sell their livestock, nor switch change their cropping choices. Farmers said they just did not trust the government and the aid agencies. They knew how to deal with drought and would do it in their own way. Yes, they had heard of this "ENSO thing", but this was 'a hot wind originating from western countries which prevents cloud formation. It is believed to be 'made by some scientists' or 'a wind originating in South Africa which is laden with disease' or 'a strange animal living in the waters ... when it comes out it causes a strong wind disturbing cloud formation and resulting in lack of rain' (Scoones *et al.* 1998: 43). These are not intended to trivialise our informants' lack of scientific understanding of the impacts of the southern oscillation. It instead highlights the importance of taking local understandings of how to respond to uncertainty seriously and link formal, external response mechanisms to that, rather than impose an externally driven, science-based culture of prediction and control. Even if the predictions are correct – and for this particular ENSO effect, they were reasonably so overall for the region, but less so at the micro-scale, the scale where livelihoods are played out – then it does not mean that people will respond in the way suggested. Rather than

struggling to achieve certainty in an uncertain world, perhaps the best response is to embrace the consequences of uncertainty and rethink responses more radically.

6 Non-equilibrium thinking: challenges for development thinking and practice

Opportunism, complexity, flexibility and dynamic adaptive responses, however, are not part of the standard development lexicon. Conventional bureaucratic responses find such concepts difficult to deal with. Weberian bureaucracies require prediction and control, where top-down direction driven by centralised expertise is the rule. The alternative centred on more local-level, integrated, participatory learning and adaptation, with responses evolved through trial-and-error and sequential adaptation is seen as messy and complex and difficult to administer (Keeley and Scoones 2003). The problem is that fuzzy logic, complexity theory, scenario/future search analysis, learning approaches and adaptive management are not part of standard civil service or development agency skill base and so do not inform the bureaucratic response. Plans and projects exist through log-frames and milestones with all the assumption of prediction and control. Uncertainty is eliminated from the frame, hidden beneath a mirage of surety and precision. It is perhaps no wonder that projects and plans fail. The lessons from the drylands discussed in this article suggest that with climate change, this problem is going to increase. Surprise will always creep up on the best-laid plans. Planners, managers and policy makers, just as dryland farmers and pastoralists in Africa, must learn to live with uncertainty.

Note

1. Two workshops were held to discuss these issues, the first dealing with ecological questions (Behnke *et al.* 1993) and the second dealing with the institutional and policy implications of non-equilibrium thinking (Scoones 1995). This followed on from much important earlier work on a similar theme (e.g. Sandford 1983).

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Pastoralists, Patch Ecology and Perestroika: Understanding Potentials for Change in Mongolia

Robin Mearns

Introduction

An alternative view of pastoral livelihood systems has begun to emerge in recent years that places much greater stress on the need to understand ecosystem dynamics. It draws particularly on empirical work in African drylands as well as theoretical debates around environmental change. One such influence is the notion of 'patch ecology', focusing attention on the strategic importance from a management point of view of high quality resource patches within the landscape.

This view has important implications for pastoral development policy and practice. It acknowledges that indigenous resource management strategies with low external inputs are geared towards the incidence of 'ususual' stresses, rather than being adapted to some 'average' set of conditions [Ellis and Swift 1988]. Key resources — such as localised, moist depressions in dry areas — play an important role in such strategies [Scoones 1990]. In most pastoral contexts, customary land tenure arrangements have evolved to regulate herders' access to these resources [see Swift, this *Bulletin*]. Development practices that fail to recognise them may reduce rather than enhance pastoralists' control over their own livelihood security. Instead, macro-level leglislation should seek to build on and facilitate customary management practices at the local level, rather than aiming to supplant or otherwise constrain them.

This article considers the relevance of these ideas in the context of contemporary efforts to reform the Mongolian herding economy under perestroika. For Mongolia to manage this major economic transition while protecting some of its notable achievements in the sphere of social welfare is a challenging task in its own right. But arising out of a unique history and political economy, Mongolia's experience also offers potentially valuable lessons for dryland development elsewhere, especially in Africa [Swift and Mearns 1991]. Contemporary glasnost and perestroika have made more real than ever before the possibility of gaining a better understanding through field research of Mongolian pastoral management institutions.

Mongolian development and environmental change

Mongolians see themselves much as we in the West see them: a proud people descended from Chinggis Khan, 'born and bred on horseback', and herding animals on the vast, empty steppes of central Asia. This strongly felt sense of national identity with livestock herding is one thing that is not about to change under the contemporary imperatives of perestroika. What is now in question is precisely how that herding economy will be managed.

With a total human population of only two million occupying a land area almost the size of Western Europe, Mongolia can hardly be said to face environmental degradation significant on a world scale. A quarter of the population live in the capital Ulaanbaatar, and about half live in rural areas as members of herder cooperatives, leading a still essentially nomadic lifestyle. The 2.6 per cent average rate of population growth over the last 40 years has been largely absorbed by even more rapid urbanisation, although this has slowed during the 1980s [Central Statistical Board MPR 1986]. But the apparent abundance of pasture at an aggregate level masks important local production constraints and seasonal bottlenecks. In an economy where food security is so intimately linked to livestock production, Mongolians rightly perceive that they cannot afford to be cavalier about prospects for sustainable rangeland production in the long term.

Discussions around the issue of rangeland degradation are already taking place at central level in a climate of growing environmental awareness in Mongolia. The Mongolian Nature and Environmental Protection Association is one of the largest of the mass organisations now proliferating in the country, having run campaigns since 1972 [Academy of Sciences MPR 1990], and has been joined by a new Green Party. Even making allowance for the imported influence of Eastern European 'green politics', where environmental groups played an important role as surrogate opposition parties in shaping events leading up to the momentous political upheavals of 1989 [Redclift 1989], there are undoubtedly perceptions of real trends of locally important environmental change in Mongolia.

Options currently under consideration in Mongolia for reforming land tenure policy — regarded as one of the principal ways to increase productivity in the rural sector — need to be designed with a view to long term ecological sustainability. On the principle that prevention is better (and cheaper) than cure, the current situation at least provides a certain room for manoeuvre in policy terms. Now is the time to strengthen or introduce land management practices to ensure future sustainable production, using a full range of administrative, legal and economic policy measures. Such an experience could in turn suggest ways forward for policy reforms in other countries, especially in Africa, where pastoral livelihoods are already threatened by land alienation and environmental degradation.

The Mongolian economy has been transformed over the last 70 years. Considerable investments in the industrial sector, especially in mining, power and construction, have resulted in a major increase in the share of these industries in both GDP and national employment. Per capita GNP in 1989 stood at around US$660 [Sanders 1989], which puts Mongolia on a par with Egypt, Zimbabwe and other lower-middle-income countries.[1] Agricultural employment has fallen as a proportion of the total, from 61 per cent in 1960 to 34 per cent in 1985 [Central Statistical Board MPR 1986]. While the relative contribution of agriculture to GDP has declined from 62 per cent in 1940 to 17 per cent in 1985 [Academy of Sciences MPR 1990], agricultural production and exports have increased in absolute terms. The rural sector remains of major importance to the national economy, and contributes many of the raw materials on which the industrial sector is based (wool, hides, etc.), as well as supplying food.

Mongolia covers a wide range of ecological conditions, from desert and the Gobi semi-desert region in the South, through extensive steppes in the East and central belt, to forest steppes and high mountains in the North and West, where there is also a lower-lying valley of lakes. Common to all areas is a sharply seasonal, continental climate. Annual mean temperature variations are in the order of 40 °C to 50 °C, with maximum and minimum temperatures of over 40 degrees above and below freezing. Most of the annual precipitation falls in the summer months, but is generally very low. It varies regionally from 300-400mm in the mountains to less than 100mm in the Gobi and desert regions. Over a period of 44 spring-summer periods for which there are continous records, the Gobi has experienced up to 14 successive drought years [Academy of Sciences MPR 1990]. Some precipitation falls as winter snow, which covers the ground for around 5 to 8 months of the year, again varying regionally. The growing season is necessarily very restricted.

Less than 1 per cent of Mongolia's land area is classified as arable. There was almost no crop production before the 1921 revolution, but the area under cereals increased rapidly as state farms were set up from the 1940s onwards. In 1941 less than 30,000 hectares were sown to cereals, expanding to 790,000 hectares by 1985 [Central Statistical Board MPR 1986]. Some 70 per cent of the cropped area was in private hands in 1941 but during the 1950s private cropping disappeared. Around 60 per cent of the total cropped area is under cereals (primarily irrigated wheat grown under heavily mechanised conditions on state farms), the remainder being sown to fodder crops (barley, oats and millet) and relatively small amounts of potatoes and vegetables. Agricultural collectives have a much smaller share in overall crop production than the state farms, but grow a larger proportion of fodder than of cereals.

The harsh climate also places severe constraints on livestock production. For much of the year forage is abundant on open pastures, but during the harsh winter/spring period it is scarce or covered by snow. Stocking rates under existing management regimes are therefore low, with the winter carrying capacity of open pasture as the apparent limiting factor. There may be limited winter nutrition supplements of cut hay and fodder, but their availability is a key constraint to livestock production in particular areas and during critical periods. Large numbers of animals have to be slaughtered around October/November at the risk of cutting into breeding stock and adversely affecting herd composition.

Total livestock numbers for the five major species (sheep, goats, cattle/yak, horses, and camels) have remained stagnant at around 23-25 million since the 1960s. Trends in productivity indices for individual animals (including liveweight, birth and death rates) and livestock products have been disappointing from this time onwards [Swift 1990]. A likely explanation for this poor performance in productivity despite considerable resources devoted to the livestock sector is the shortage of herding labour, in addition to the seasonal animal fodder gap.

Historical evolution of the herding economy

Mongolian social scientists claim, with some justification, that the Mongolian People's Republic is the only country to have made the transition from feudalism to socialism with no intervening phase of capitalism. The evolution of herding management institutions, and contemporary efforts to liberalise the economy, need to be seen in this historical context. It

[1] Mongolia's GDP was previously reported as being much higher, owing to differences in the way national income was calculated. In fact even US$660 is likely to be a significant over-estimate under present conditions. Mongolia should properly be considered a low-income country by international standards.

points up the enormity of the challenge of building a structure in which prices reflect real marginal costs. For example, now that Mongolia has to pay for imports of fuel from the Soviet Union in hard currency, it will no longer be able to carry hay as air freight from fodder-surplus to fodder-scarce regions, as has been known to happen in recent years. Table 1 provides a thumbnail sketch of the major periods in modern Mongolian history, within which to situate important moments in the evolution of today's management structures.[2]

Table 1 **Major periods in the modern history of Mongolia**

1680s-1911	Period of Manchu-Chinese imperialist domination over stratified, feudal society, with Lamaist-Buddhist religious structure in parallel with secular hierarchy.
1911-1921	Period of Mongol autonomy following independence from Qing Dynasty in 1911. Struggles for power led eventually to Bolshevik-inspired revolution in 1921.
1921-1990	Mongolian People's Republic (MPR) under the control of the Mongolian People's Revolutionary Party (MPRP): period of Soviet-influenced, socialist central planning.
1990-	Multi-party elections in July 1990 officially ended 'leading role' of the MPRP within MPR. Rejuvenated MPRP still forms majority government but with goal of building a 'state-regulated market economy'. Moves towards perestroika include developing economic relations with the West.

During the feudal period nomadic herders were serfs bound to the particular geographical fiefs (**sumun**) in which they happened to be born and were forbidden to leave. The **sumun** were administrative units below the level of 'banners', individual banners fell within four overall provinces (**aimag**), and the whole structure was lorded over by the Manchu Emperor. All boundaries were officially demarcated, and the master set of maps kept in Peking. Society was rigidly hierarchical, with largely hereditary ranks. The **sumun** were controlled either by aristocrats claiming descent from Chinggis Khan, or by Buddhist monasteries under high lamas or 'Living Buddhas'. Aristocrats and high-ranking officials made up some 6 per cent of the male population.[3] A further 44 per cent were lamas, in a society where this was the only rank not strictly inherited.

There were two broad classes of serf: the imperial subjects of particular **sumun**, liable to corvée labour, taxes and other levies (26 per cent of the population); and the personal retainers (**khamjilga**) of the aristocracy and serfs of lamas, both of which were inherited ranks (17 per cent in total). The Living Buddhas' property in land and livestock was exempt from taxation, and their personal serfs (**shabi**) were exempt from corvée. Overall it was a highly exploitative system based on a stagnant economy, at least towards the end, although the herding economy must have been relatively efficient to support such large numbers of unproductive lamas.

Under these confined conditions, pastoral management was not so much nomadic as rotational. Pasture rotations were of two kinds: seasonal (transhumance), and according to the animals grazed. Different animals have different grazing habits — sheep, for example, crop so close that horses and cattle cannot get at what is left — so efficient grazing management requires species segregation. Traditionally this had led to spontaneous cooperation among herding families, each specialising in a different herding task, but sharing a mutual interest in quality control. They were allowed to keep private animals in addition to those belonging to their 'herdlords'.

The aristocratic herdlords determined the whole complex of pasture allocation and assignment of families to duties. The restricted range of movement possible in a single **sum** meant herders often had to manage as best they could with mixed grazing on the same pasture [Lattimore 1962]. Voluntary collectivisation under later socialist management retained and gave fuller rein to many of the traditional forms of cooperation and ownership, following failed attempts at full collectivisation. Mongolian scientists today still have great respect for what we might term 'indigenous technical knowledge' in herd management skills [e.g. Purev 1991], as documented in Sambuu's substantial volume 'Advice to Herdsmen'.[4]

There was relatively little change in this stage of affairs during the period of autonomy following the expulsion of the Manchus in 1911, beyond granting former state serfs freedom of movement. In practice, this changed herding techniques very little. The pre-eminent position of the Church was if anything strengthened, and the **khamjilga** system persisted until 1923.[5]

[2] This historical overview is based on the following sources: Bawden [1989], Brown and Onon [1976], Humphrey [1978], Lattimore [1962:1980], and Rosenberg [1981].

[3] Figures given here are for 1918, and taken from Humphrey [1978].

[4] Jamsrangiin Sambuu was leader of the MPR (Chairman of the Great People's Hural) 1954-1972. The National Research Institute for Animal Husbandry bears his name.

Continuing privileges in the early years of the Republic following the 1921 revolution enabled well-connected Mongolian aristocrats and former officials, and some lamas, to become quite rich. The system permitted private enterprise, so as to supplant the Chinese near-monopoly over trading. This period of petty capitalism (the 'Right Deviation') persisted until 1928 or so when leftist purges took place against such perceived counter-revolutionary tendencies. But this was followed by a period of political 'over-correction': the 'Left Deviation' (1928-1932).

The Left Deviation saw forced collectivisation, the forced secularisation of lamas, the confiscation and destruction of monastic property, and widespread expropriation of private property. Petty traders and the middle strata of herders suffered punitive taxation as class enemies not unlike kulaks. By the end of 1930, 30 per cent of all poor and middle herding households had been made members of collectives. The alienation of private owners led to a collapse in national livestock numbers. An estimated 6-7 million animals died between 1929 and 1932, many of them slaughtered by their owners rather than be collectivised [Swift 1990].

At this time the Soviet Comintern advised caution, and warned against moving prematurely towards higher socialist forms of organisation (e.g. communes). The mistakes of the Left Deviation were admitted under the 'New Turn' of 1932. From this period, gradual steps were taken toward voluntary collectivisation, gathering momentum only by the late 1940s and 1950s. Cooperation between herding households — building on traditional institutions at local level — was encouraged by pooling funds, supplemented by state loans, for such activities as boring wells, purchasing hay-making equipment and building winter shelters for animals. Coercion was strictly avoided, although there were continuing purges against higher ranking lamas. Various measures were used to induce lower ranking lamas to join collectives, such as giving them entitlement to a certain number of animals from the monastery herds, and training them in productive skills. In 1955 a decisive measure was adopted to strengthen the growing collectives (**negdel**), by introducing a ceiling on private livestock holdings.

Labour shortages were chronic. Wealthier herders increasingly identified their livelihood security with **negdel** membership, as they found it difficult to employ wage labour to help with their private herds. A sophisticated system of labour incentives had evolved by the late 1950s, relying on 'socialist competition' to reward contributions to group performance. By 1959 virtually all of Mongolia's herding households were members of **negdels**.

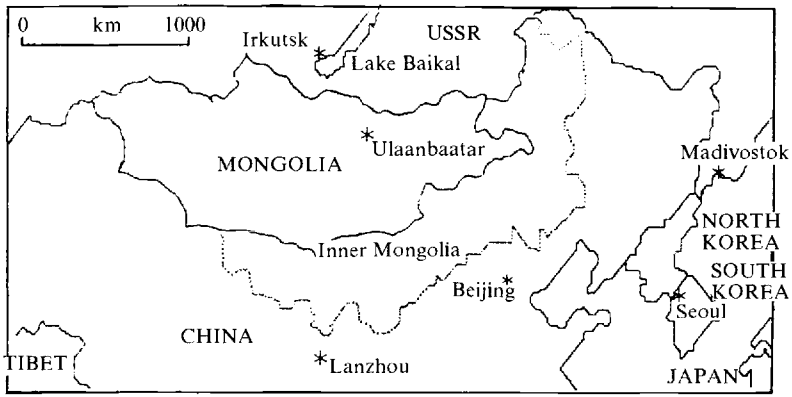
[5] Even following the 1921 revolution, the Mongolian People's Republic was not officially proclaimed until 1924, after the death of the then monarch, the Urga Living Buddha. Urga was the centre of Buddhism in Mongolia, and the present capital Ulaanbaatar is built on the same site.

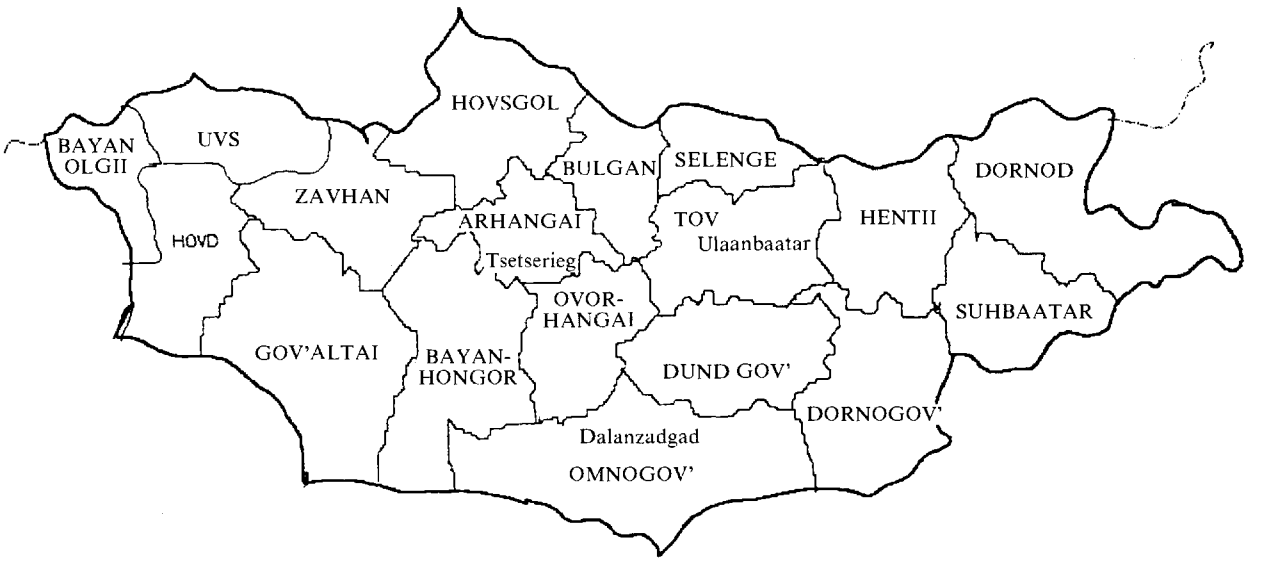
The 70 years under Soviet-influenced command socialism have led to substantial improvements in material standards of living for the great majority of Mongolians. The enthusiasm today for the market economy, and official condemnation of earlier mistakes (especially during the Left Deviation and the excesses of the 1930s Choibalsan regime) in the post-glasnost political climate [Enhsaikan 1990], should not detract from the real achievements made during this period. Investments in winter shelters and hay-making machinery have greatly improved the prospect of survival for young animals during their critical first winter. The collective economy has guaranteed herding households an equitable income — even paid holidays and pensions — and easy access to goods and services. Mongolia has achieved almost 100 per cent adult literacy, and since the 1920s has doubled life expectancy from 30 to over 60 years, through unique education and health care systems. These and veterinary health care services use a combination of static and mobile facilities to provide services to a rural population the majority of whom are still pastoral nomads.

There are 18 **aimag** (provinces) under the present system (shown in Figure 1), each subdivided into **sumun** (districts). All land is owned by the state. The **negdel** collectives, sharing the same territorial boundaries as their **sumun**, are further divided into brigades, teams and **suur** (encampments). The last of these is the basic unit of production, consisting of between one and four households which cooperate in daily activities. Animals belonging to the **negdel** are allocated to brigades and **suur**, which must meet specified production targets (number of young animals, quantity of dairy products or wool). **Suur** members are paid a monthly salary, with bonuses or deductions according to whether targets are exceeded, met or underfulfilled. Individual **suur** are generally allocated only one species of animal by the collective, reflecting traditional forms of cooperative task specialisation. Attempts at a much greater degree of labour specialisation during the 1960s and 1970s have now been abandoned.

In addition to the animals they are allocated by the **negdel**, households are allowed to own private animals. Until early 1990 a ceiling applied to private herds (75 animals in most of the country, 100 in the Gobi). Households look after their own animals at the same time as the **negdel** herds they are responsible for, and are allowed to dispose of the products as they wish. They can consume them, or sell them to the collective, to state enterprises, or to other households. Production targets are set nationally in 5-year plans, and translated into annual targets at **aimag** and **negdel** (or state farm) levels. Individual **suur** which fail to meet their targets are required to make up the shortfall from their private herds or by buying from other households. Similarly, a **negdel** that underfulfills its

Figure 1





plan target must buy from its members' private herds or from another **negdel**.

It is important to distinguish Mongolian pastoral collectives from 'true' cooperatives. Although they initially developed out of local forms of cooperation between herding families, they have in fact grown into large organisations — each usually with several thousand members — on a territorial scale similar to British counties. In terms of labour organisation and ownership relations, the **negdels** have always been quite distinct from the state farms, at least in principle. **Negdel** members are not paid a salary for fulfilling their allocated duties, in the way state farm employees or workers in state enterprises are, but are paid for meeting production targets, plus bonuses or less deductions for over- or under-fulfillment. **Negdel** members did not until very recently enjoy the same benefits or standards of living as state farm employees. In practice however, responsibility for performance lay not with the **negdel** but at a higher level; they were effectively under state control.

Towards perestroika

In December 1989 demonstrations took place in Ulaanbaatar, led by the Mongolian Democratic Union and influenced by events in Eastern Europe, calling for a major shift to a multi-party political system and to embrace the market economy. By May

1990 the communist Mongolian People's Revolutionary Party (MPRP) appeared to seize the political initiative by adopting major internal reforms itself. The 'leading role' of the MPRP was formally abolished, and the constitution revised to allow multi-party elections, to adopt a presidential system, and to create a new Small Hural as a legislative and supervisory parliament.

Mongolia's first free elections took place on 25 July 1990 with a popular turnout of 92 per cent. The MPRP, with 60 per cent of the vote, captured 86 per cent of the seats in the Great People's Hural, while the opposition gained only 14 per cent of the seats with 40 per cent of the vote [Heaton 1991]. At the swearing-in ceremony on 4 September of the newly elected President Ochirbat, the Secretary-General of the MPRP, no mention was made of communism, Marx or Lenin.

The new period of glasnost (**il tod**) also led to a revival of Mongolian culture. The historical figure of Chinggis Khan, long seen as reactionary, was rehabilitated, although not unequivocally. The traditional script, abolished in the 1940s, is to be reintroduced and taught in schools and used in all official correspondence by 1995. Religious freedom has been granted and Buddhist monasteries have been reopened.

These political and social reforms were both made possible and prompted by increasing unrest in the Soviet Union, and growing disquiet with the domestic economic situation. A third of Mongolia's GDP is spent on imports from the USSR, including all petroleum products, over 90 per cent of imported machinery and capital goods, and 70 per cent of consumer goods. The national debt to the USSR is estimated at 9 billion roubles (US$16 billion), from accumulated long term credits that fund over two-thirds of total investment in the economy. There is deep resentment of this brake on economic reconstruction within Mongolia, and disagreement as to how the value of the debt should be calculated. The Soviets have agreed to reschedule debt repayments but not to reduce the capital sum [Sanders 1991]. The high level of direct Soviet involvement in the Mongolian domestic economy is now being challenged. Workers at the joint Soviet-Mongolian Erdenet copper mining complex, for example, threatened strike action in spring 1991 if it is not handed over to overall Mongolian control.

The broad aims of perestroika are to replace economic management by administrative fiat with a 'state-regulated market economy'. Major steps towards economic reconstruction have now been taken, although there is still a long way to go before this is achieved. Table 2 summarises some of the main legislative changes.

Great emphasis is placed on the need to increase export earnings, and especially to export more finished goods by processing domestically more of Mongolia's raw materials from livestock breeding and mineral extraction. A Japanese-built cashmere and camel-wool garment factory in the South Gobi, which exports 98 per cent of its production for hard currency, is taken to be a model for future economic cooperation.

Efforts are also being made to diversify Mongolia's trading structure to include new partners in the West. The Soviet Union and other CMEA countries still account for the vast majority (over 95 per cent) of Mongolia's exports. Since summer 1990 however, there have been major trade delegations from the United States, Britain and France, and particular priority is placed on building links within the Asia-Pacific Region, including Japan and South Korea. Mongolia has already joined the World Bank, the Asian Development Bank, and the IMF. Diplomatic relations have been established with the European Community. It was granted observer status in the Non-Aligned Movement in 1988, with a view to full membership in 1992 when the last Soviet troops are due to be withdrawn.

Table 2 **Major legislative changes in Mongolia since 1989**

January 1989	Law on the State Enterprise	Financial autonomy granted to individual enterprises.
January 1990	Law on Cooperatives	**Negdels** became 'true' cooperatives.
March 1990	Law on Foreign Investment	Investment encouraged in any branch of national economy. Priority given to export industries, manufactures, infra-structure and tourism.
December 1990	Property Law	Legislature voted in favour of private ownership, including land, by citizens and foreigners.

Potentials for change in the herding economy

Of most concern here are the proposed reforms on property and land tenure. Under the new property law a Commission on Privatisation has been established, with the Prime Minister as head and representation from various ministries including finance, labour and agriculture. The Commission is charged with working out the detail of policy reforms, and the draft law is scheduled to be ratified by the Small Hural in autumn 1991.

A major concern, voiced by many Mongolian livestock specialists, is that the herding economy should be restructured in ways that retain and build on the best aspects of collective resource management through the **negdels**, as well as on traditional forms of cooperation such as family contracts [Enhsaikan 1990]. One important reason for this is found in the logic of regulating access to valued key resources in the herding landscape, a notion which finds strong support in the literature on 'patch ecology' and dryland management [Scoones 1991].

No single herder or **suur** group requires access to key resources all of the time. It is at particular times that they are of most value in a management sense. For example, research on upland sheep grazing ecology under similar ecological conditions in Scotland has shown that lambing productivity can be increased significantly if ewes are allowed onto patches of improved pasture for just a month or two in the year, during lactation and in the pre-mating and mating period [HFRO 1979]. In a single bad year or in a series of them, the significance of key resources is heightened.

The key resources of strategic importance vary according to ecological characteristics in different parts of the country. In the dry Gobi and desert region for example, the distribution of water points, moist depressions (affecting the incidence and quality of grazing and browse), wells, and salt licks (**khojar**) largely determine the location of suitable **suur** sites. The location of borehole wells is important everywhere during the winter. At higher altitudes and in other areas susceptible to snow, herders are known to value particular patches of grazing land on the windward sides of hills, where snow is blown away sufficiently for animals to graze the grass beneath. Apart from regional variations, the strategic importance of particular key resources is also likely to vary over time, both seasonally (and in 'unusually' harsh winters, or **zud** years), and during periods of drought of several years duration.

Access to such key resources by different **suur** groups needs to be regulated over time with a reasonably equitable outcome. This has an ecological as well as a social basis: it is quite simply the most efficient and sustainable way to utilise dryland environments. Extensive livestock herding systems rest on this principle of flexibility, using a variety of collective tenure arrangements to ensure that key resources are not controlled by only a few herders to the detriment of the system as a whole.

There is a danger that, if contemporary land tenure reforms in Mongolia proceed in an uncontrolled manner, the key resources will be the first to be privatised. Such selective privatisation would carry high costs both privately and socially. Privately, because income disparities could be expected to grow, as recent experience of decollectivisation in Inner Mongolia has shown [Sneath 1991]. Socially, for two reasons. First, it could lead to lower productivity in the livestock sector as a whole, thereby placing the process of perestroika at risk. Second, it would result in less efficient utilisation of ecological resources, thus increasing the risk of land degradation. Even if customary resource allocation practices were not entirely equitable in practice, as is likely, they were at least flexible. Conversely, a process of selective land privatisation would tend to constrain management options severely at the local level.

While there are sound arguments in favour of certain collective property arrangements in the herding economy, the current tendency of policy reforms more generally is firmly in the direction of privatisation. In relation to industrial enterprises, the minister of trade and industry since September 1990, Sed-Ochiryn Bayarbaatar, is reported to have stated that 'talk about cooperatives, leasing, etc. is useless now' [Sanders 1991:23]. But mechanisms of precisely these kinds are likely to prove most appropriate in efforts to reform pastoral land tenure policy. Proposals currently being considered include the leasing of areas of pasture, with rent to be paid by state farms or **negdels** rather than individuals.

It is widely perceived that good herders were effectively penalised under collectivisation, despite the bonus schemes. The same voting rights accrued to a herder joining a **negdel** and contributing 400 animals as to one contributing only 40 animals. Under the 1990 Law on Cooperatives, **negdels** are envisaged as being much more independent organisations, operating without interference — or help — from the state, and within which it is expected that profits will be shared according to individual **suur** performance.[6] This brings **negdels** much closer to being 'true' cooperatives than they have been up to now. Given the present size of the collectives and problems of accountability, it may be more appropriate to establish the brigades — rather than the larger existing **negdels** — as the primary level of 'cooperative' organisation.

[6] Much of the detail in this section is based on personal communication with Danzangin Radnaaragchaa, Minister of Agriculture, 13 February 1991.

Little is actually known about the precise mechanisms of pasture and other key resource allocation at the local level, at least in a form which can usefully be fed into the policy process. Policy research of this kind should aim to gain an understanding of both the formal criteria and the informal bargaining processes that determine who gets access to what resources and at what times. Recent anthropological research in Inner Mongolia (China) has shown that cadres in local party cells are often able to use their positions to manipulate such decisions to their own advantage or to the benefit of their kin or valued contacts. These formal power structures at the local level frequently parallel social hierarchies along other lines such as 'wealth' (broadly defined) or status [Sneath 1991].

In the Mongolian People's Republic there have also been substantial overlaps of effective power between the three parallel structures of the state. These structures were the party (MPRP) that decided policy, the government administration (e.g. **sumun** or **aimag** authorities) that presided over its implementation, and the institutions of economic production (**negdels**, state farms, state enterprises) that actually executed it. Although these structures were separate on paper, the same individuals tended to hold powerful positions in more than one of the three 'pillars of the state'. The chairman of the **sum** and the **negdel** for example, was necessarily the same person. This has changed under reforms as of 1990 in which state and party functions and personnel have been formally separated [Faber 1990]. But many questions remain unanswered, for example how far these power structures ever affected resource allocations at the local level, and to what extent they still do; how disputes are arbitrated in practice; and to what extent customary, informal bargaining procedures were, and perhaps still are, important.

Environmental considerations are already reflected in proposals for land reform, in recognition of the danger that uncontrolled privatisation could lead to land degradation. To encourage careful husbandry, the evaluation of arable land quality is already being carried out by the Ministry of Agriculture, with the intention of extending to the more extensive pastoral land resources at a later stage. If land is subsequently damaged following its allocation to a particular cooperative group, those families will be liable to pay compensation. It is unclear as yet at what level primary responsibility will be taken for sustainable management, to whom compensation would be payable, or what will be the precise mechanisms of land allocation. For state farms, privatisation can be expected to advance quite rapidly; smaller businesses such as individual dairy farms could well become separate accounting units within state farms.

Also being considered are proposals to supplement existing income tax with a property tax. Since the property law of 1990, the ceiling on private animal ownership has been lifted, which has been reported to have led to a slight increase in total livestock numbers [Sanders 1991]. Animals are also being transferred from **negdels** back to private herds, and in due course it is expected that there will once again be herders outside the **negdel** system altogether. The government will continue to fix prices for the major livestock products and other principal commodities, but they will apply only to state farm or collective herds. Prices for private animals and their products will be liberalised.

Under another recent proposal, Mongolians will each be entitled to buy shares up to a certain limit in various state assets, including state enterprises and factories.[7] A parallel 'share offer' has even been suggested as an alternative to 'privatising' the collective herds, in which **negdel** members would be able to hold shares in the herds rather than owning a number of individual animals outright. This is unlikely to gain much support however; the reproductive character of live animals sets them apart from other 'capital assets'.

Conclusion

In deciding the precise character and timing of land tenure and other policy reforms in Mongolia's rural sector, productivity considerations are clearly of the utmost importance. Growing economic hardship during 1991 — food and energy shortages, rising unemployment, an increasing budget deficit — may yet threaten the relative political stability that has so far been achieved, and jeopardise Mongolia's prospects of successfully managing the difficult transition to a more open, market economy.

But in the herding economy, reforms that make sense in terms of economic efficiency can also make sense on environmental grounds. This argument has already been validated in the industrial sphere in Mongolia, where a national gold mining enterprise has recently been set up at Dazaamar that will operate with ecologically clean technology [Sanders 1991]. Evidence from recent African drylands research suggests that the strategic importance of particular resources in the herding landscape is likely to be matched by more or less formal rules to decide who gets access to what resources and when. It is of course important to analyse the local political economy of such decision rules or bargaining processes, to see if particular groups of people stand consistently either to gain or to lose.

The precise nature of these forms of tenure in the Mongolian context is a subject for field research, in order to inform the ongoing policy process. Limited empirical support is already available in the small literature in English on Mongolian history. In keeping with the Mongolian inclination to build on the best

[7] *The Guardian* 8 June, 1991.

aspects of traditional management, such institutional forms may continue to be viable (and politically feasible) alongside newer forms of ownership including individual title. If this is so, and if they do prove to support careful resource husbandry at the local level, then using such tenure arrangements as a basis for policy reforms is also a strategy for promoting environmentally sustainable development in the Mongolian herding economy.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Why are Rural People Vulnerable to Famine?

Jeremy Swift

It is now generally accepted by researchers (although not by governments) that famines are caused as much by act of man as by act of god. But our understanding of famine is still quite rudimentary, and what little we know is rarely translated into policies to prevent or control famine. Few people would argue that we clearly understand what makes people vulnerable to famine, or that we can predict that one group will be vulnerable while another will not.

It is not even clear, when different people talk about famine, that they are talking about the same thing. Those who suffer from famine have a more exact vocabulary than those who analyse it. Turkana herders in northern Kenya distinguish 'years in which people died' from years of less severe shortage [Swift 1985]. In Darfur, the former contingency is known as 'famine that kills' [de Waal 1987] and in Hausaland, northern Nigeria, as the 'great hunger' [Watts 1983], to distinguish it from events in which there is hardship but no large-scale mortality. Social and economic analysts on the other hand, tend to lump all major food shortages together as famine, and populists use the term for any general shortage of a desirable good, as in 'book famine'.

There is even some doubt about what exactly a famine is. Famine is traditionally seen as a food or subsistence crisis, resulting from an absolute shortage of food, or an inability by some groups to gain access to food. Rcently however, de Waal [1989] has put forward a 'health crisis model' to replace this 'starvation model', arguing that most modern African famines, especially Darfur in 1985/86, are in fact crises of epidemiology and susceptibility to disease, caused only indirectly — if at all — by a food crisis. I will assume here, without making the point in detail, that health crises and food crises are in fact closely related, indeed that a more general crisis — a social and economic crisis — is involved. I assume that the danger of famine is of a sudden, catastrophic and prolonged consumption deficit, accompanied by a surge in disease, and by major social and economic disruption. The order in which these occur and their relation to each other is an urgent current research priority, but it is not the subject of this article. Here I use consumption deficit as a proxy for this complex of dislocations.

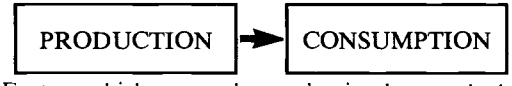
Vulnerability is not simply another word for poverty. Poor people are usually among the most vulnerable, but understanding vulnerability means disaggregating poverty. Landless labourers and people in informal urban service trades, whose income in most years may be as high or higher than poor farmers, are often more vulnerable than the latter to a drought or other disruption of the rural economy. Share-croppers or even bonded labourers may be less well off most of the time than small farmers, but have a better guarantee of a subsistence minimum in bad years. Small pastoralists may have a reasonable cash income and high nutritional standards most of the time, but are especially vulnerable to disruptions of the livestock market or to epidemic animal disease.

In this article I analyse what makes people vulnerable. This involves a further distinction between two levels or categories of causation of famine. I distinguish here between the *proximate or intermediary variables*, which are the direct links to famine, and the *indirect or primary factors*, which are the more general ecological, economic or political processes determining whether communities thrive or decline. Drought, animal or plant disease, urban bias, agricultural pricing policy, civil war and many others are primary factors in determining vulnerability, but they act in different and often complex combinations through three proximate factors: production, exchange and asset processes. It is the role of these proximate variables that is described here, since they offer a way of classifying and understanding how vulnerability is created and maintained, and possibly how it can be reduced.

Production Failures

Our first understanding of famine was that it is caused mainly by production failures. We may picture this as a simple cause and effect chain as follows:

Diagram 1



Factors which act on the production box, and which can lead to consumption failure, include drought, flood, or animal and plant disease. Vulnerability is increased or decreased by general ecological potential (low potential leads to low and variable production and thus to higher risk of production and consumption failure), technology, crops and cropping

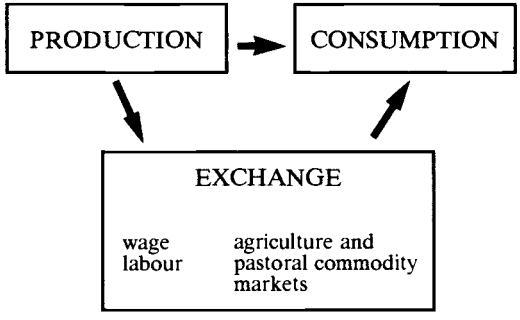
strategies, and the possibility of alternative income-generating strategies. In this production-based view, famine vulnerability is mainly the result of uncertain production, and famine is directly caused by production failure, due for example to drought (the African famines of the 1910s, 1970s and 1980s), to animal disease (the African famines of the 1890s, following a rinderpest pandemic), to plant disease (the Irish potato famines), or even to the refusal of farmers to cultivate (one official view of the Ukrainian famine of the 1930s).

Exchange Failures

Building on the insights of Indian famine commissioners since the 1860s, Amartya Sen showed in a classic book, *Poverty and Famines* [Sen 1981], that famines could, and often did, take place where there was no production failure, or where food was readily available. He identified failures in the exchange or market mechanisms as a key cause of famine among poor people. Sen argued that the value of poor people's production activities or endowments — their labour, cash crops, or animals — is liable to collapse in relation to staple food prices. When this happens, poor people starve, not because there is no food available (the production failure view), but because they cannot afford to buy food: the wage labour rate or the value of their animals or cash crops is too low in relation to food prices for them to acquire enough calories. We may think of this as a failure in terms of trade, or an exchange rate failure. Sen's case histories show that exchange rate failures of this sort are an important trigger for famine in Africa and Asia.

The two main sources of terms of trade vulnerability for the rural poor are the wage labour market and commodity markets for agricultural and pastoral products. We may add these to the diagram of the famine causal chain.

Diagram 2



Sen's analysis identified some important sources of vulnerability. He showed for example that, especially in South Asia, agricultural wage labourers and people in small scale service trades are particularly vulnerable because of the sensitivity of their wage rates to changes in the wider economy. In Africa, with the possible exception of Sudan, this is not so much the case because of the much smaller proportion of people in such employment; African casual and informal sector urban wage labour markets seem less volatile and immediately responsive to external shocks and production crises such as droughts. In Sudan however, variability in seasonal agricultural wage labour rates is an important source of vulnerability.

On the other hand, in Africa it is the pastoral economies that form a major population group vulnerable to terms of trade failures. African pastoralists now get a large part of their subsistence through market exchanges or barter deals. West African pastoralists almost all get more than half their total calorie intake in cereal form, acquired by the sale or barter of animals or animal products. In Sudan and east Africa, the proportion is more variable, with some pastoral groups still heavily dependent for calorie intake on milk, meat and sometimes blood produced within the household, although even these groups depend much more on cereal markets in bad years. Pastoral terms of trade under normal circumstances mean that calories of animal origin are considerably more expensive (usually in the range of two to five times more) than calories of vegetable origin. This means that pastoralists can usually get cereals at a substantial discount in exchange for animal products through the market.

It does however make pastoralists especially vulnerable to changes in the normal animal-to-cereal price ratios. If animal prices fall (because animals are in poor condition, or many herders are selling, or few people want to buy), pastoralists face an exchange crisis even if the price of cereals does not rise, although the same forces that bring down animal prices are likely to push up cereal prices. All recent African famines in pastoral areas have been characterised by this price scissors effect. Of course, such failures in the exchange box in the diagram above are compounded by failures in the production box. Often the same events — drought or animal disease — trigger failures in both boxes at once, with a synergistic effect on consumption patterns.

Sen's analysis has made a major contribution to our ability to understand how famine works, and by focusing attention on exchange or terms of trade relationships helps identify the people and communities most vulnerable. But it leaves several important questions without an answer:

(i) Although exchange rate failures can be an important famine trigger, in fact they do not help very much in understanding or predicting the *timing* of the onset of the sudden collapse in people's ability to feed themselves, and they offer

very little explanation of the apparent cumulative vulnerability of some communities. The breakdown in a community's ability to provide for itself, or in the ability of some members to provide for themselves, often happens some time after the failure of exchange or terms of trade relationships, just as it may occur one or two years after the onset of drought. Indeed the collapse sometimes takes place when the production and exchange situations appear to be improving. It seems as though there is a threshold of individual and community impoverishment, not immediately explained by production or exchange factors, at which the ability of households or communities to survive collapses. In a wider sense, the explanation is an ahistorical one, unable to cope with changing vulnerability over time except by pointing to changing exchange or terms of trade risk. In fact, Sen's analysis treats each crisis as a new event, unrelated to earlier or later crises.

(ii) Sen does not adequately explain the *differential vulnerability* within some communities or between similar communities apparently facing similar production or exchange failures. Two examples will illustrate this: (a) in the west African Sahel, some pastoral communities such as the Twareg are divided into ethnically stratified groups of free people and former slaves; these groups may now be equally poor, but they do not seem to be equally vulnerable to famine; (b) refugees in camps near capital cities (for example Khartoum) are not as vulnerable as refugees in rural camps (for example in south Kordonfan or Darfur), even though the former have no more resources than the latter, and are equally affected by exchange failures.

(iii) Sen's work has the virtue of focusing on the differential role of poverty within communities, but has problems as an analytic tool since it looks mainly at households; it does not help very much in analysing *differential vulnerability between individuals within households*, nor to certain aspects of vulnerability of *entire communities*.

(iv) The work does not help us understand apparent differences between communities in their *expectations of government assistance*. Ethiopian villagers apparently readily move to the roadside or to administrative centres in times of crisis; Sudanese villagers in Darfur and most Sahelian pastoralists do not. Such differences are an important part of vulnerability and are also crucial to planning a relief effort, but exchange failures do not have an explanation.

(v) Sen's work does not explain the behaviour of many households faced by famine, who may go to considerable lengths to *preserve their assets* at almost any cost. The case of households which send some members to relief camps where mortality is known to be high, rather than further deplete their assets, or refrain from cutting down valuable trees or selling their last animals are well documented [see for example de Waal (1987) on Darfur]. Indeed, people in relief camps, despite the degradation and health dangers, commonly hoard relief food in order to acquire further assets, or to delay the moment when they have again to live from productive assets.

(vi) The work does not satisfactorily explain what happens *after a famine*, when production and exchange relationships return almost to normal, although some households and communities remain much more vulnerable than others in ways production or exchange failures cannot satisfactorily account for.

(vii) Sen's work treats *war and civil disturbance* as external to the model. Yet clearly civil war and other major disturbances are crucial to understanding vulnerability and famine in situations as different as Ethiopia, Sudan, Mozambique and Kampuchea.

Sen is aware of these problems. The main statement of his argument in *Poverty and Famines* tries to deal with them by broadening the field of concern to the concept of entitlements, rather than the narrower notion of exchange or terms of trade relationships. Entitlements, as defined by Sen, include all the productive resources owned by a household, including its labour power, and all its tangible assets; Sen also includes, although almost as an afterthought, social security provided by the state. However in his detailed analysis of cases, he deals almost entirely with production and exchange failures, concentrating on the relative role of each in the genesis of particular famines. Under the label of entitlements, he is in fact concerned with wage labour rates and livestock prices relative to grain prices.

As Sen himself states, his analysis is a sophisticated poverty analysis, and famine vulnerability is treated as synonymous with poverty. In his view (a) vulnerability to famine is a direct function of relative poverty, and (b) relative poverty is a direct function of a household's ownership of tangible resources or endowments (labour, land, animals), and the rate at which it can exchange these for food.

We may ask whether either of these propositions is entirely true. Are the poorest people, and only the poorest people, the most vulnerable to famine? Is their poverty — defined in terms of the ownership (in a liberal, market economy sense of ownership) of mainly physical endowments — the main cause of their vulnerability? I think this may not be so, as I will attempt to show in the following argument. In particular, perhaps we need to introduce a better

concept of risk — risk of future catastrophic collapse of consumption — into the definition of vulnerability.

Assets

Can we improve our understanding of vulnerabilty and famine by including in the model a more detailed analysis of the role of assets in a wide sense? This means separating out the terms of trade part of Sen's entitlement analysis, confining it to questions of exchange rate failure, and then analysing in more detail the other types of entitlement hinted at by Sen. By assets in this context I mean a wide range of tangible and intangible stores of value or claims to assistance which can be mobilised in a crisis. A preliminary list of household assets relevant to famine vulnerability might be as follows, subdivided somewhat arbitrarily into investments, stores and claims:

(i) **Investments**

— *human investments*, including investments in education and health;

— *individual productive assets*, including animals, farming equipment, houses and domestic equipment, land, trees, wells;

— *collective assets*, such as soil conservation or water harvesting works, irrigation systems, access to common property resources.

(ii) **Stores**

— *food stores*, granaries etc.;

— *stores of real value*, such as jewellery, gold;

— *money or bank accounts*.

(iii) **Claims**

— *claims on other households within the community*, for production resources, for food, labour or animals;

— *claims on patrons, big men, chiefs or other communities* for help in need;

— *claims on the government*;

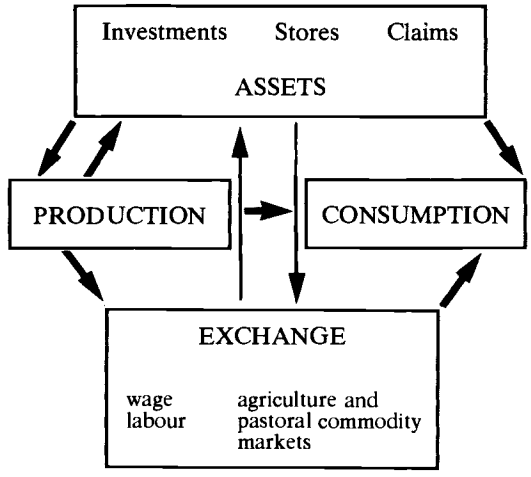
— *claims on the international community*.

Assets in this broad sense (including investments, stores and claims) are created when production leads to a surplus beyond immediate consumption requirements, and households use this surplus, willingly or unwillingly, to invest (including investment in better education or health), to build up physical stores of all sorts, and to 'invest in claims' by putting more resources into the community or government. This last category covers a wide range, including stock friendships, common among African pastoralists, whereby animals are loaned between kin and friends, other sorts of loans and gifts, traditional tribute and tax payments, contributions to community funds and resources, and the payment of taxes and other contributions to government.

Many of these assets are cashed in when households face a crisis: production assets are sold, granaries are emptied, jewellery is sold, bank accounts emptied, loaned animals recalled, labour debts called in and community support mechanisms activated. The sequence in which these assets are called in at different levels of crisis is an important theme for famine research. The sequence is mainly determined by the status of different categories of asset. Investments and stores are generally resources under the individual control of households, and can be mobilised by that household alone or in conjunction with others (in the case of collective assets); claims, on the other hand, refer to a range of wider social and political processes, whose activation depends on some level of collective decision.

Assets create a buffer between production, exchange and consumption. Production and exchange activities create assets, and in case of need assets can be transformed back into production inputs. Alternatively assets can be transformed directly into consumption, or indirectly through an exchange mechanism. The diagram below adds assets to the picture of casual pathways between production, exchange and consumption.

Diagram 3



The notion of claims in this respect is shorthand for a variety of redistributive processes within smaller and larger communities, ranging from households and extended families, through shallow kinship groupings to major lineages, and up to the level of traditional and modern political formations. At the simplest level, groups of kin and friends help each other with food,

labour or other resources. Such gifts and loans are made with varying expectations of reciprocity, but all involve an implicit recognition that membership of a community involves both an obligation to share resources, and a right to support from the community in case of need. In some cases this idea of reciprocal support goes so far as to throw doubt on the comparability of customary notions of private property with the classical liberal economy view, which is an important part of Sen's concept of entitlement. In many African pastoral economies, for example, the idea of private ownership of animals, especially large stock, is tempered by an ideology of collective clan property in the same animals, through which the clan as a whole has the duty and the power to redistribute animals from wealthier to needier people in a crisis.

At higher sociological levels, within both traditional and modern polities, the notion of claims merges with ideologies of community redistributive taxes (such as the *zekkat* now common in one form or another in Islamic Africa) designed to ensure survival of the poor in a crisis. The range of traditional institutions achieving the same end — collective work parties, shared meals, community granaries, rainmaking ceremonies or collective prayers in times of food shortage which include the redistribution of food or money from richer to poorer — is very large in Africa. At a different level, destitute members of one community may go to other communities to beg for work or charity. An undocumented and largely unanalysed aspect of recent famines is the way many slightly less poor rural communities have helped slightly poorer communities to survive — an act of apparent altruism explainable in terms of risk-aversion in a longer perspective.

Claims on government are a particularly interesting case. In many types of rural society, payments or labour services to a dominant traditional political authority do create an expectation of a social contract, under which the political authority is expected to help in a crisis by redistributing food. The way this operated to avert famine has been well documented by Cissoko (1968) for the Songhay empire in the Niger river valley in Mali for the century or so before the chaos caused by the Moroccan invasion at the end of the 16th century. Traditional political authorities in many parts of the African dry belt continue to fulfill this function to a limited extent, and at an anecdotal level there are many stories of prosperous chiefs ruining themselves to keep their followers alive in the recent droughts; at the very least this suggests an ideology of sharing in a crisis.

This is not a plea for a pre-colonial 'merrie Africa' in which everyone shared and there was no famine. The model proposed here is close to Watts' (1983) reformulation, in respect of famine vulnerability in the Sokoto Caliphate in northern Nigeria, of the moral economy argument of Thompson (1971) and Scott (1976). The risk-avoidance strategies of pre-capitalist rural societies extend beyond agricultural and pastoral techniques into social and political mechanisms which include, at one level, more formalised expectations about the role of patrons or elite classes in ensuring peasant subsistence needs in a crisis. This normative subsistence guarantee spreads throughout the peasant universe in widening circles of responsibility, from the household, to extended kin, to village or pastoral clan patrons or superior classes, and ultimately to the state itself. This model does not suppose that villages or pastoral clans are corporate entities without class or status divisions; indeed, the moral economy emerges as the outgrowth of class struggle over the subsistence minimum and surplus appropriation. Governments, elites or the wealthy control the poor but depend on revenue derived from them. Within a common field of force, the moral economy is necessary to the survival of both ruler and ruled [Watts 1983:104-9].

Colonial and post-colonial governments in Africa have not been very clear about their responsibilities in this respect. The growth of commodity production and market relations has strengthened food security in some aspects, but has also undermined the redistributive guarantees of the pre-colonial economy, replacing them with an uncertain market mechanism. As modern government has taken over the powers of traditional political authorities, it has expropriated the assets of rural people (including their stores, physical investments and collective investments). It has also imposed a substantial tax burden, offering in theory in return some social security in the most general sense. But although no colonial or post-colonial government in Africa would presumably deny a responsibility to keep its citizens alive in a famine, few would go as far as the 1880 Indian Famine Commission report, which stated:

> . . . there can be no doubt that a calamity such as famine . . . is one which in a country such as India wholly transcends individual effort and power of resistance. It accordingly becomes the paramount duty of the State to give all practicable assistance to the people in time of famine, and to devote all its available resources to this end.
>
> [quoted in Drèze 1988:13-14]

To what extent people feel they have a claim on government in a crisis is unclear. Urban people certainly do, and successfully exercise that claim. Rural people seem much more ambiguous and varied in their responses: some do appear to call on government not to let them starve, others do not. It would be an interesting research question to relate this to the tradition of effective central authority and high tax payments. Do communities, for example in the central Ethiopian highlands, where there is a long

tradition of this sort, have a greater expectation of government support in a crisis? Do they call in their claim more readily, abandoning efforts at self-help much earlier than communities where there is no such tradition, such perhaps, as Darfur (in terms of its expectation of the Sudan central government) or many Sahelian pastoral groups?

Reducing assets (including claims) makes households and communities more vulnerable, and the analysis could probably be extended to processes within households, particularly in respect of gender and intergenerational assets and claims. But this vulnerability will not be easily visible. Even tangible assets, such as granaries or livestock are often concealed to avoid expropriation by government, and many assets are intangible. People may survive for a year or more of crisis by cashing in physical assets and calling in claims, and then exhaust them so that their ability to survive appears suddenly to collapse, perhaps even at a time when production or exchange relations are improving.

The poorest people have fewest assets, so in general the poorest households reach the threshold of collapse much faster than others. Within socially-stratified communities, low-status groups have fewest claims, and so may reach the threshold faster than their other asset holdings might predict. But low asset status is not necessarily synonymous with greatest poverty. The urban poor, and refugees in camps close to large towns, though often very poor, do seem able to exercise effective claims on the government for perferential assistance, in a way poor rural people generally can not.

The way nearly destitute people try desperately to protect their assets in itself suggests something of their importance, both for survival in a crisis, and for recovery afterwards.

Historical Changes in Vulnerability

The asset status of rural communities does not remain static, and the way it evolves is a prime determinant of changing vulnerability. To illustrate this, I look at the case of Sahelian West Africa, shown in Diagram 4.

It is difficult to summarise complex historical trends into a single score, but we must try. Taking first the production box, and considering processes in the 20th century only, we may make the following estimates. Climatic factors have been quite mixed, as has general ecological potential, with dry periods causing regression of vegetation and crops, and wet periods their recovery. Agricultural technology has probably on balance had a beneficial effect, although the pattern with crops and cropping is less clear, with some improved food crops but very uneven experience with cash crops. The possibilities for off-farm production activities have probably substantially improved. In summary, the production box probably deserves a mixed plus-minus mark.

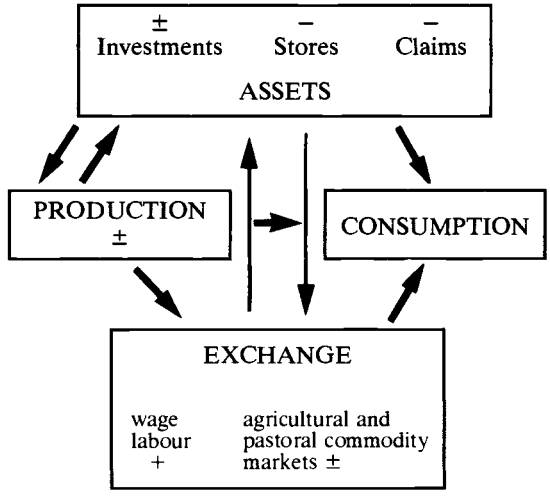
In the exchange box, wage labour possibilities have probably substantially increased. The picture for commodity markets is more uneven. Pastoral markets have improved markedly, even though terms of trade remain vulnerable. In agricultural markets, cash crops have offered much wider income-generating opportunities, although prices have varied; food crop markets have generally declined. The exchange box also gets on balance a plus-minus mark, perhaps with more plusses than minuses.

The picture for the assets and claims box is more complicated still. Human investments, in health and education mainly, have probably improved, but most other investments have declined, especially collective investments in production-enhancing technologies and common resource management; investments deserves a plus-minus mark.

Stores and claims on the other hand, have declined in a fairly unequivocal way, with the exception of claims on the international community, which have only worked late and inefficiently. Both deserve negative marks.

The picture of historical changes in famine vulnerability, with the estimated marks for positive or negative changes in vulnerability, is shown below.

Diagram 4



Such an exercise is very superficial, although no doubt it could be done more rigorously. It does, however, suggest that there has not been an equal increase in vulnerability in all boxes of the model. The situation has in fact been very mixed. However, if these marks make any sense, the assets box has seen a clear decline,

meaning greatly increased vulnerability from this source. Is this a real marker to one of the reasons for increased vulnerability to famine in such Sahelian populations?

Put another way, has the increased economic integration of the traditional Sahelian economies with wider markets, and the corresponding decline in local circulation of goods and services, achieved important economic benefits for most producers, but at the cost of significant increases in two sorts of vulnerability: increased dependence on market transactions with corresponding vulnerability to terms of trade failure, and a reduction in physical assets and effective local claims, inadequately compensated by a non-functional social contract with central government?

Conclusions for Famine Policy

The analysis of assets and claims does appear to add something to our understanding of famine vulnerability additional to the insights from analysis of production and exchange failures. It gives a clearer idea of the way famine is generated, who suffers most, the chronology of economic and social collapse, and the thresholds at which different groups become utterly destitute. It explains why war and civil unrest, the most obvious break in the moral economy and abrogation of claims by government, are a crucial cause of vulnerability. It also explains more about household and community strategies to avoid famine and rebuild a life afterwards. It answers most of the questions raised earlier about entitlement theory.

Perhaps it also helps us to ask more appropriate questions about the apparent difference between recent African and Indian famines. Those who are most vulnerable to famine in India (especially agricultural labourers and petty commodity and services producers) are not necessarily the most vulnerable in Africa (with the possible exception of Sudan). Income failures for such people seem the most important cause of Indian famines. Is this true of Africa? Are assets more important to the survival of rural people in Africa than they are in India, and asset failure thus catastrophic? Are claims to community support more effective in Africa most of the time, but the situation resultingly catastrophic when such support breaks down?

Perhaps most significantly, does the Indian government now accept claims on it by starving people, as the 1880 Famine Commission urged it should, and so do something about them (through famine codes, employment guarantees, fair price shops, cattle camps), in a way that African governments do not?

If this way of looking at famine vulnerability has some virtue, it has clear implications for policy. A policy to reduce vulnerability would not then necessarily be the same as a policy against poverty, although it would have much in common, nor would it be the same as a food policy, although a food policy should include a policy on reducing vulnerability. A vulnerability policy should include actions in the fields of production, exchange and assets. Some potential policy areas would include:

(i) Early Warning

Low asset status in rural communities would be a particularly good indicator of vulnerability.

(ii) Exchange Interventions

Interventions in the wage labour market (through employment guarantees), and in commodity markets (through price support) would reduce vulnerability.

(iii) Improving Assets and Claims

The main problem is how to rebuild the asset status of rural communities in both tangible and intangible assets. Making it easier for people to invest in health and education would help — few households with one educated member starve, perhaps precisely because such people can effectively activate claims for assistance from the government. Government can assist recapitalisation and collective investments in productive technologies. Cereal policy, instead of emptying household and community grain stores, should help keep them full; the same should apply to bank accounts, other stores of value, and perhaps even to new forms of insurance. Policy should revitalise and strengthen systems of claims and responsibilities, starting with a clearer and more effective view of government responsibility and the legitimacy of claims against it in a food crisis, but extending to and including systems of local community support.

There are also lessons for emergency relief and food aid. Rehabilitation of rural economies after famine means not only reinstating their production status, and ensuring that their exchange and terms of trade relations are acceptable. It also means the much longer tasks of rebuilding their asset status, and their own social frameworks through which claims and asset sharing are organised. At present, relief tends to undermine local organisational capability by imposing procedures dictated by an understandable desire for efficiency, donor accountability and short-term cost-effectiveness. But local community structures are by-passed whenever relief food is distributed to those who qualify on a nutrition status criteria, or food-for-work is organised in labour gangs for projects decided and administered by the relief agency. If local organisational capacity is an important resource in making communities less vulnerable, actions such as these, even if they save lives in the short run, contribute to greater vulnerability in the long run. Food aid in particular, in relief programmes, should be used not only to save lives but also to protect assets; in

rehabilitation programmes, food aid should be used more explicity to rebuild household and community assets, and to rebuild local organisational capability.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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FOOD SECURITY: LET THEM EAT INFORMATION

Margaret Buchanan-Smith, Susanna Davies and Celia Petty

1 INTRODUCTION

Insufficient information to predict famine was widely seen to be a central reason for the failure of national governments and the international donor community to prevent famines in Africa in the mid 1980s. Since then, there have been substantial improvements in the development of purpose-built information systems to predict famine. Many new famine early warning systems (EWS) have been set up, but the goal of famine prevention remains elusive. At least in the Sahel and Horn of Africa, the information now provided is not being used adequately to trigger timely and appropriate response. These EWS have tended to be evaluated internally, for the validity and timeliness of the information they produce with little account taken of what happens to the information once it enters the decision-making process. It is only by situating EWS in the wider political and institutional context within which they operate, that obstacles to the effective exploitation of the information to trigger response can be addressed.

This article summarizes the results of research into how early warning (EW) information is used in relief response planning in five African countries (Ethiopia, Sudan, Chad, Mali and Turkana District in Kenya). The research sought to investigate why more information has not always led to better response. Results indicate that famines are not necessarily hard to predict. The challenge is how to prevent them; information tends to play only a peripheral role in the process of famine response. The central policy challenge is no longer to develop ever more sophisticated indicators, nor information systems capable of tracking and analysing them. To realize the benefits of EWS, constraints on the response side of the equation must be tackled.

The main findings of this analysis of the use of EW information are:

- that better generation and use of information do not automatically lead to greater use of the knowledge thus gained;

- that the transition from provision of information to the use of knowledge is especially complex when multiple actors are involved in information generation and in decision-making, and when the decisions involve high profile famine relief activities;

- that the process of negotiation between the main actors and the terms and conditions under which this takes place are central determinants of whether and how knowledge is used;

- that inappropriate, often centralized, bureaucratic structures can block knowledge flows, or render them irrelevant;

- that the political value of information (in turn determined by the political environment) far outweighs its accuracy, timeliness, relevance or accessibility when assessing why or whether it is used;

- that the coincidence of war and famine in much of Africa raises the political stakes of famine EW information and its use even higher;

- that the economic value of information (for example, intervening early and thereby reducing the high cost to donors and government of late response to famine) has been inadequately documented, but is also very difficult to calculate accurately.

In many respects, EWS are caricatures of how information and knowledge are - or are not - used in development planning. The necessarily incomplete information provided, pressure for timely use of information and the inevitable conflicts of interests over allocation of famine relief and its high profile all conspire to make this case an especially problematic one. But precisely because famine prevention is so inextricably bound up with the use or misuse of information, the case offers insights into other, less clear-cut cases of information use to trigger public action.

2 BACKGROUND

The study period (May/June 1990 to November/December 1991), was a year of drought across much of the Sahel and Horn of Africa, with early indications that food crises would be widespread.

Table 1: Characteristics of case study countries in 1990/91

CHARACTERISTICS	ETHIOPIA	SUDAN	CHAD	MALI	TURKANA, KENYA
Level of development of EWS	medium to high	low	medium	high	high
Centralized/ decentralized EW and response system	centralized	centralized	centralized	centralized	decentralized
Donor/government relations	poor, until coup in 1991	poor	good	good	good
International profile of famine prevention activities	high profile	high profile	low profile	low profile	medium profile
Insecurity/conflict affecting food security	yes (civil war, coup)	yes (civil war)	yes (coup, limited)	yes (coup, limited)	yes (livestock raiding)

Many EWS were being tested for the first time. The five countries studied were chosen to reflect differing EWS and predictive capacities; political and cultural environments; institutional arrangements for response; and national positions of influence or impotence *vis à vis* western donor countries. Table 1 summarizes the principal differences between the five countries. Four of the main donors of humanitarian relief to Africa were also included in the study: the World Food Programme (WFP), the European Community (EC), the United States Agency for International Development (USAID) and the Overseas Development Administration of the UK (ODA).

The analysis of how EW information is used concentrates on the EWS themselves, and on two groups of decision-makers: governments and donors, the key players in relief response planning and negotiations. It is they who control resources and who exercise power, particularly the international donor community which provides most of the emergency relief to the Sahel and Horn of Africa. (Indeed, it should be noted that donors have played a major role in providing funding and technical support to many EWS, including those in Chad, Mali and Turkana). Potential beneficiaries of timely response - famine-prone people themselves - should be crucial actors in the formal EW/response process. Their 'interests' are, however, usually negotiated over from a distance. Although they have their own well-developed information and response mechanisms, there is a wide gulf between them and the formal EWS response decision-making. This article focuses on the formal systems.

The main characteristics of EW and decision-making in each of the five countries studied are summarized in Table 2. The nature of the decision-making process is a reflection of the political context within which it is operating. Thus, where donor/government relations were strained, as in Sudan and Ethiopia, there was little transparency in decision-making, and donor agencies set up parallel structures to government. In Mali, in contrast, where donor/government co-ordination over EW and response was rooted in long-standing collaboration over cereal market liberalization, negotiation over response took place in a comparatively cooperative and well-planned context. The analysis presented here incorporates, rather than ignores, political influences.

The research investigated information use within multiple bureaucracies with very different characteristics and working to a range of political agendas which are themselves changing. This article analyses some of the key triggers and barriers to information use, especially those encountered during the year of investigation - 1990/91. However, it should be noted that relationships between providers of information and individual administrators are built up over time, and there is inevitably a degree of instability and unpredictability. Most of the bureaucracies in question are well-developed and do have a degree of flexibility within the constraints we describe.

3 WHAT ARE FAMINE EARLY WARNING SYSTEMS?

Famine EWS can be defined as systems of data collection to monitor people's access to food in order to provide timely notice when a food crisis threatens

Table 2: Characteristics of early warning systems and decision-making in five countries in 1990/91

CHARACTERISTICS	ETHIOPIA	SUDAN	CHAD	MALI	TURKANA, KENYA
1 Availability of EW information					
(a) nationally/ in-country	medium	low	high	high	high
(b) internationally	medium	medium	high	high	high
2 Significance of informal information channels	high	high	medium	low	low
3 Significance of 'disaster tourism'	medium	high	medium	low	low
4 Predictive capabilities of EWS	medium	medium	medium	medium	medium
5 Single vs. multiple indicator use:					
(a) in EWS	multiple	multiple	multiple	multiple	multiple
(b) in decision-making	single	single	single	single	single
6 Transparency of decision-making	no	no	yes	yes	yes
7 Parallel donor decision-making system to government system	yes	yes	no	no	no
8 Existence of programmed response options	no	no	no	yes	yes
9 Geared to free food aid distribution response	yes	yes	yes	yes	no

and thus to elicit response (Davies *et al.* 1991: 6). The first major drive to establish EWS in Africa occurred after the 1972/73 famine in the Sahel, which the international community failed to recognize in time. As a result, EWS were set up to service existing donor and UN food aid institutions and to mobilize the international food aid system; this has remained their *raison d'être* ever since. The second era of famine early warning in Africa, marked by even greater investment in EWS, occurred after the severe famines of the mid-1980s, when lack of information was often blamed for the lack of timely response. However, despite some significant advances in technology and a far greater understanding of the dynamics of food crisis, there have been few changes in either the underlying assumptions on which EWS are built, or the structural relationships between donors and recipients of food aid - between resource-rich and resource-poor states.

During the 1980s, there has been a paradigm shift in the theory and understanding of famine, at least amongst 'outsiders'. Narrow definitions of famine, based on increases in mortality have been broadened to take account of the social and economic collapse within acutely food insecure communities. By the 1990s, famine in Africa falls into two broad categories: famine triggered by drought; and famine triggered by war and its impact on local populations, sometimes in conjunction with drought. The hardest to predict - and also the most severe - are those founded on the troika of war, drought and underlying impoverishment. Famines linked to conflict have specific EW needs, including indicators of political and military activity, on which little progress has been made so far. Their consideration is beyond the scope of this short article.

Most progress has been made with regard to drought-related EW. Design of EWS in this context has evolved as our understanding of the causes of food insecurity has advanced from a preoccupation with food supply to recognition of factors associated with access or entitlement to food. Thus, a minimalist approach to EW, using the single-indicator national food balance sheet as a proxy for food security status, has shifted towards a more multi-dimensional, maximalist approach using socio-economic indicators to provide information about access to, as well as availability of, food. Other developments include advances in measuring the vulnerability of different population groups to food crisis or famine, and monitoring people's coping strategies in the face of drought as indicators of how seriously they are affected and of their options to alleviate its consequences.

The shift away from a minimalist approach to EW is to be welcomed. Where famines are **not** linked to endemic conflict (e.g. in the Sahel and much of southern Africa), minimalist EWS risk being redundant for much of the time, capable only of detecting major collapses of food economies, which occur perhaps once every ten years. On the other hand, the maximalist school argues that famine prediction will only ever be sustainable - or, indeed, of any real use - if it is incorporated into wider information systems which can serve multiple planning needs.

While ever more sophisticated EWS are developed in Africa, some authors argue that the problem needs to be approached via a much broader democratization of information flows within society as a whole. Drawing especially on the experience of India, the most effective EWS is thus held to be a free press (Drèze and Sen 1989). This is certainly important, but the role of the media as a form of **early** warning should not be exaggerated. Since 1984/85, when the western media exposed the famine in Ethiopia, donors have been more reluctant to ignore the potential threat of media coverage in their own countries. But only full-blown famines are newsworthy, when the visual images are guaranteed to shock and the crisis is sufficiently large scale to make international news. Thus the media can be most effective at triggering response when it is already too late.

In 1991 there was some coverage in the western media of the food crisis in North Sudan, focusing especially on the fraught political negotiations which surrounded the relief operation. Putting western and Sudanese politicians on the spot, in radio and television interviews, exerted some pressure to speed up the delayed relief operation, but not until well into 1991, when the Gulf War no longer dominated the media - too late for food relief to arrive in Sudan in time.

4 RESPONSE

Response to prevent famine can be defined as additional resources (over and above normal developmental aid, including programme and project food aid), which are channelled to famine-prone people in order to assist them in withstanding the effects of declining access to food. In almost every case, such response is limited to emergency food aid, usually

distributed as free food rations to vulnerable populations or sometimes via food-for-work programmes. Most relief resources for countries in the Sahel and Horn of Africa are provided by the international donor community. The following two sections therefore focus on the international humanitarian relief response.

Most famine relief seeks to save **lives**. Emergency food aid is intended to protect the consumption of people threatened by starvation. The system is most successful in reaching vulnerable people who are already far down the famine spiral - somewhere between destitution and death as shown on Figure 1 (see next page). Genuinely timely response would, however, seek to preserve **livelihoods**, intervening much earlier in the spiral at a stage between livelihood insecurity and destitution, as represented in Figure 1. This rarely happens in practice.

The results of the research in Sudan, Ethiopia and Chad in 1990/91 show a very poor record of late response, and an inherent weakness of emergency response procedures.

In each case most relief aid reached the country, let alone the potential beneficiaries in remote regions, after the hungry season during which assistance was needed most. In Chad, one of the worst cases, the time lag between recommendations for relief being made and international food aid arriving in country was 12 months. The arrival of the food coincided with a bumper harvest.

There are few examples of EWS linked to pre-programmed response options. In the case study countries, these are limited to the Turkana Drought Contingency Action Plan at sub-national level and the Stock National de Sécurité at national level in Mali. There are obvious advantages to these systems: above all, they eliminate the time-lag required to mobilize international relief resources. The case of Turkana in 1990/91 shows the advantages of choosing the most appropriate response from a range of possible options. But setting up a pre-programmed response system is difficult to achieve. It requires a long-term commitment of resources on both the donor and government sides - hence good relations between them - to maintain both a contingency plan and institutional preparedness in between periods of need.

5 BARRIERS TO INFORMATION USE

Prior to the development of EWS in Africa, it was implicitly assumed that the provision of systematic EW information could oil the wheels of decision-making processes and reduce conflicts of interest between actors involved in food crisis prevention in an impartial manner. The way in which information was perceived has been likened to a 'silver bullet', which could solve problems by itself, irrespective of the wider institutional, social, economic and political constraints to intervention (de Kadt 1989: 504). This is a seductive idea for governments and donors, but it does not work. The failure of EW to trigger timely response is testimony to this misconception. As information has become more widely available, there is a growing awareness of constraints to information use which are external to the EWS and over which it has little control.

Table 3 (see page 75) summarizes the principal barriers to, and triggers for, information use identified in the five case study countries. A significant number of these are directly related to the ways in which information is used.

The notion of information being used as an 'escape-hatch' for inaction is a common phenomenon in the tale of EW. To some extent, the quest for ever more sophisticated and detailed early warning data is testimony to this: 'we cannot act until we are sure **who** is at risk and why'. This can be a convenient way of evading action when decisions are tough and the political climate is not conducive to response.

The following are some of the major barriers to the use of early warning information, borne out by the results of the research in the five countries studied.

Accessibility of information

Much of the thrust towards developing information systems to predict famine was premised on the misapprehension that a lack of information was the principal obstacle to prevention. Attention has therefore focused on the technical aspects of prediction. But poor rural people who are vulnerable to famines have always had highly developed information systems to help them to predict and plan for food shortages. Such intelligence networks are central to their survival (Davies 1993). Predicting severe drought-related food shortage has rarely been a problem of an absolute lack of information, but rather a question of who has access to it, who controls it and who owns it.

The boom in famine EWS since the mid 1980s in Africa has improved decision-makers' access to information which they can understand, although most of these EWS still do not tap the indigenous knowledge of famine-prone people, relying instead on arms' length indicators, such as market prices, crop assessments and nutritional measurements.

Figure 1: The downward spiral of famine

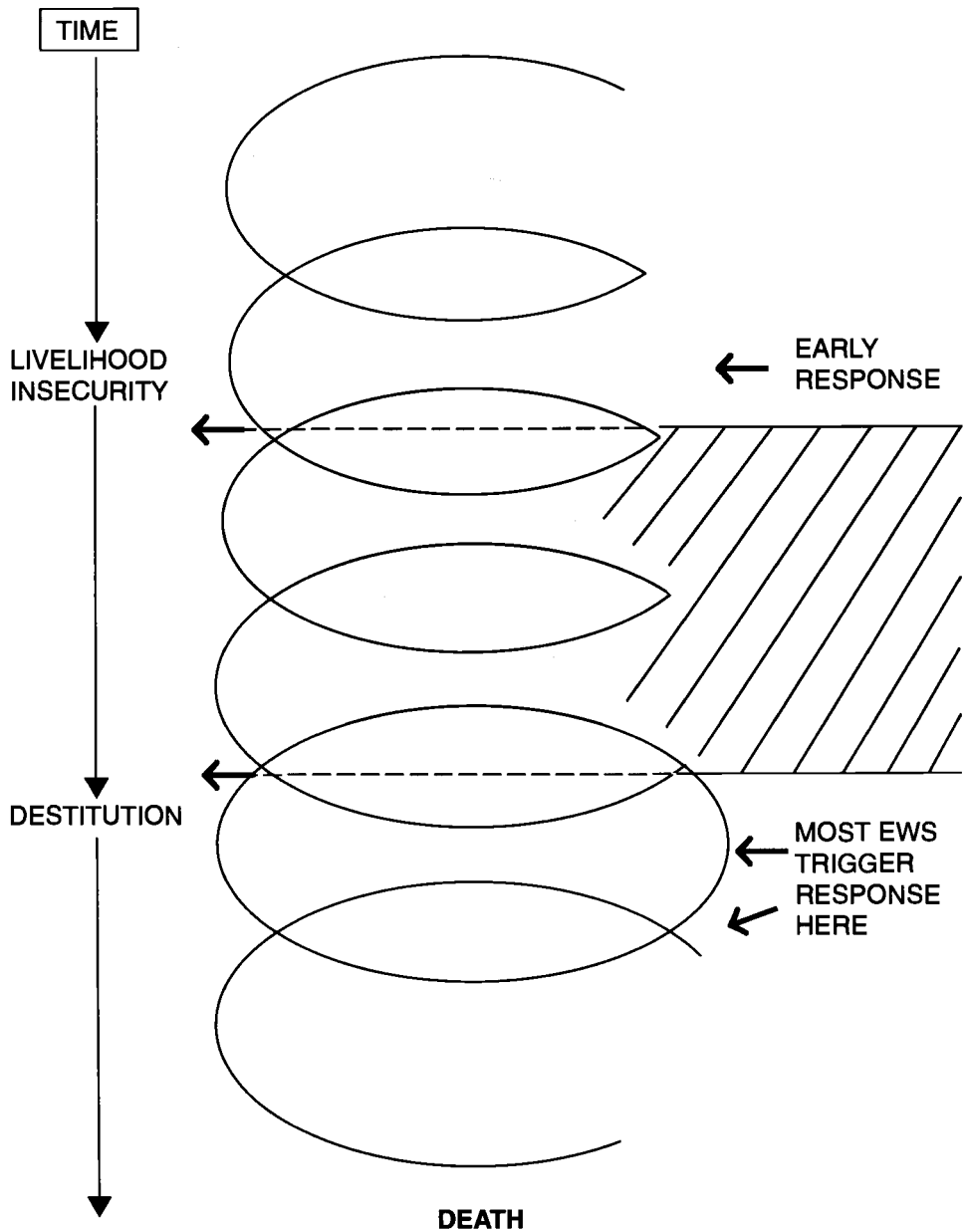

Table 3: Triggers and barriers to response process to EW in 1990/91

TRIGGERS/BARRIERS	ETHIOPIA	SUDAN	CHAD	MALI	TURKANA, KENYA
1 EW practitioners involved in decision-making	no (except within govt)	no	no	no	yes
2 International EW information as trigger to response decision-making	yes	yes	yes	yes	no
3 National EWS information used for targeting	limited	limited	limited	yes	yes
4 Crisis indicators as trigger	yes	yes	yes	no	no
5 Influence of western media	yes	yes	yes	no	no
6 Transparency of decision-making	low	low	high	high	high
7 Bureaucracy and logistics of international relief delivery system as a barrier	yes	yes	yes	no	no
8 Logistics of national relief delivery system as a barrier	yes	yes	yes	no	yes
9 Pre-programmed response options facilitate response	no	no	no	yes	yes
10 Flexible response options	no	no	no	no	yes
11 Donor co-ordination	good	poor	good	good	not relevant
12 Donor-government relations	very poor	poor	adequate	adequate	adequate
13 Conflict as a barrier to response	yes	yes	no	no	no

What is EW information used for?

In theory, EW information is used to inform decision-making and to trigger a response designed to prevent famine. In practice, how it is used depends on the user's agenda. The most common discrepancies in how EW information is interpreted occur between international donors and national governments. The former may wish to minimize the allocation of scarce relief, or be reluctant to provide it to a government towards which it is ill-disposed. Meanwhile, it may be in the interests of an impoverished national government to maximize food aid receipts which are a valuable external resource. As a result, the same EW informa-

tion may be translated - even manipulated - into very different assessments of needs by each actor. This was the case in both Chad and Mali in 1990/91. A further complicating factor for foreign NGOs is that they are invariably the preferred agents of donors for delivering emergency relief. Food aid allocations may correlate more closely with the geographic area of operation of an NGO, than with evidence of need provided by the EWS.

What kind of information triggers response?

On the information generation side, attempts have been made to adapt methodologies to reflect the diversity of drought-induced famines. Similar changes have not been made with respect to the type of information which is used to trigger response. Busy decision-makers swamped with information tend to gravitate towards simple, straightforward messages - often rather crude indicators. Those controlling response tend to remain preoccupied with supply-side factors, with a narrow emphasis on identifying required levels of emergency food aid. Thus, at international donor level, the principal source of EW information used by senior bureaucrats in their annual bid for food aid allocations remains the FAO Harvest Assessment and the national food balance sheet constructed on the basis of it. This occurs despite the availability of more detailed data from national EWS which address some of the distributional aspects of access to food as well. The harvest assessment is quantitative and tends to be used as if it were not controversial, despite widespread recognition (not least by FAO) that the Harvest Assessment is a highly approximate indicator. Using the Harvest Assessment in this way can lead to information from national EWS being held in abeyance until the Harvest Assessment (which tells only part of the story) is completed and agreed. This was the case in Chad in 1990.

Credibility of information

Information must be seen to be credible by all negotiating parties involved in the allocation of scarce resources. Much of the energy devoted to developing ever more accurate, reliable and timely indicators to forecast shortfalls in food supply and access to food, has been directed towards a quest for (usually quantified) objectivity. Such objectivity is inevitably tenuous given the difficulties associated with collecting accurate information in many famine-prone areas, and the complexity of the causalities of famine. Indeed, it is rarely an 'objective' assessment of the accuracy of the data which ultimately determines the credibility it is accorded. Credibility depends on more specious determinants, such as:

i) **Who 'owns' the information**: an information system which is entirely 'owned' by national government is less likely to hold sway with international donors than one in which they too have a vested interest. They do not trust it. Instead, they rely heavily on assessments carried out by the international donor community, usually by UN agencies. These assessments possess the critical requirement of the international stamp of credibility; hence the emphasis placed on FAO's Harvest Assessment. The irony is that the information in these assessments is usually only as good as that of the national EWS on which they depend for data. But the international EWS is given the benefit of the doubt, whereas the national EWS is not (for example, in Ethiopia under the Mengistu regime).

ii) **Donor/government relations**: where relations are already strained due to political differences, there is immediately a heightened suspicion and mistrust on all sides about the interpretation of EW data, which is implicitly assumed to be politically biased. This may be complicated by conflicting assessments carried out by different parties which hardly communicate with one another. Better information can only go some way towards improving credibility, which is as much a function of wider relations of trust and co-ordination, as a characteristic of the information itself. The fundamental paradox of EW information is that it is least likely to trigger effective response when it is most needed: when donor/government relations are poor.

The influence of crisis indicators

Donor decision-making appears to be driven by downstream not upstream events. The urgency with which response is treated depends on indications that a crisis is already underway, thus losing the benefit of early warning. Evidence of human stress is most influential as a crisis indicator (high rates of malnutrition or increased mortality), even though these are not early indicators, but signs of the outcome of failure to respond in time. This is most true in countries where donors are least well-disposed to helping government, such as in Ethiopia and Sudan during 1990 and beginning

of 1991. The danger of this scenario is that a vicious circle is set in motion. If donors only respond to crises, those trying to trigger donor response bid up the severity of the situation to initiate some action. This can backfire, if the exaggerated prophecies are not fulfilled. In Sudan, for example, forecasts of numbers of vulnerable people were translated into predictions of 'megadeaths' if agencies failed to provide relief. The relief operation fell way below target, and the exaggerated prophecies did not materialise, so donors felt they had been misled, which may influence their willingness to respond next time. Under these conditions, everyone misses what is really happening as a result of the failure to provide adequate relief: a continuous undermining of people's ability to feed themselves, and increasing vulnerability to the next drought.

Aggregation of information

Most EW and response systems are highly centralized. EW information has to be aggregated to fit with this bureaucratic structure, thereby losing whatever understanding of local food economies, or of local people's coping strategies, the EWS may have detected. Decisions to respond and the mobilization of resources are often taking place hundreds (or even thousands) of miles from where help is needed, by people who are far removed from what is happening on the ground, with little sense of urgency.[1] The EW and response system in Turkana provides an interesting counter-example of a decentralized system, the potential advantage of which is that decision-makers are much closer to the action. They have a much better understanding of what is required and of how quickly it is needed, especially if livelihoods are to be preserved, rather than simply people kept alive. The Turkana system used this advantage in 1990/91 when EW recommendations were translated rapidly into firm decisions to respond. A deterioration of environmental indicators alone, before human welfare indicators deteriorated, was sufficient to trigger a response[2]. But a decentralized EW and decision-making system must be supported by decentralized access to relief resources if the full benefits of more timely and appropriate response are to be realized.

Political barriers to information use

The political context is a critical determinant of how EW information is used. An EWS cannot cut through antagonistic political relations, and guarantee a timely response. On the contrary, it becomes a pawn in political controversy and negotiation. Poor political relations can undermine or destroy the whole EW/response process, especially in situations where humanitarian relief is the only available resource due to the anterior breakdown of donor/government relations. Sudan in 1990/91 is a classic example. The Sudanese government was not prepared to admit the scale of the food crisis nor the need for international relief until well into 1991. Such a position would have undermined their policy of food self-sufficiency and increased their dependence on western food aid donors from whom they were trying to distance themselves. Meanwhile, donor agencies were reluctant to provide resources to a government towards which they were ill-disposed and were suspicious about how relief resources would be used, or mis-used, if they did not have complete control over them, a condition unacceptable to a government which resented being dictated to by western donors. The result was stalemate in the response planning process for a number of months.

Inappropriate bureaucratic procedures

It is in the nature of emergency relief that most decisions about its allocation cannot be pre-programmed. Examples of planned response mechanisms are rare and tend to operate in rather exceptional circumstances (as in Mali, for example, where EW and response are linked into wider structural adjustment initiatives). In-built bureaucratic rigidities militate against effective exploitation of EW of famine in many donor agencies which are set up to respond to famine, not to protect insecure livelihoods. Such rigidities include the timing of decisions about relief allocations which are over-reliant on internationally recognized assessments at the expense of earlier indicators available from national EWS, and which bear little or no relationship to the seasonality of the relief needs of the hungry and food insecure in Africa. Emergency and development activities are usually clearly compartmentalized within donor agencies, even though information

[1] On the other hand, targeting decisions may make greater use of local knowledge and information.

[2] It is noted, however, that the EW and response system did not work so effectively in Turkana in 1992, when the political climate was less conducive to timely response. Once again, this underlines the enormous significance of the political context of a famine prediction and prevention system.

may suggest that the distinction is inappropriate. Obstacles to timely response in donor headquarters are further exacerbated by planning constraints imposed by the financial year rather than the seasonality of hunger in Africa. Information cannot, by itself, alter the functioning of bureaucratic structures.

Lack of accountability

Lack of accountability in famine EW is illustrated by the role EW plays in other sectors, such as intelligence and forecasting systems for financial markets, or defence strategies for governments. What distinguishes these information systems from **famine** EWS is that the interests of the instigators and the users of the information generated are directly threatened if the information is incorrect or not exploited in a timely manner. In these circumstances, those who are responsible for EW have a vested interest in ensuring that the information system fulfils its prescribed function. By way of example, the profitability of a financial trading house is contingent upon market intelligence, of which a significant proportion is the ability to forecast future trends (Davies *et al.*1991). This internal accountability does not operate for famine EW in the Sahel and Horn of Africa. The potential victims of famine are neither those who request the setting up of an EWS, nor is it they who use the information to influence decisions. Even if they had access to the information, the capacity and power poor people have to make preventive choices on the basis of EW is severely constrained by lack of resources and of access to decision-makers and political systems. This is not to underestimate the importance of poor people's coping strategies employed to mitigate the threat of famine, but their ability to respond to signals additional to their own information networks is finite.

Governments have an indirect interest in preventing famine, but it is part of a wider political, social and economic agenda; famine-prone populations may be even more vulnerable in the absence of accountable political processes. Failure to react to EW entails a set of costs and perhaps benefits (e.g. greater quantities of emergency relief when a late response eventually occurs), which governments can assess at arm's length from the direct threat of starvation. The accountability of international aid donors is limited to western public opinion, which may act on behalf of southern famine victims, but this is a weak and attenuated link and is critically influenced by the access and interest of the media. The context within which famine EWS operate are divorced from the contexts about which they provide information.

Sustainability

The sustainability of EWS is questionable in several respects, especially in terms of their cost-effectiveness, utility and the priority attached to information systems. A discussion of sustainability and who pays for the system cannot be divorced from the issue of 'ownership' and credibility of information. EWS are generally projects set up with donor funding, sometimes - but not always - based on existing government structures. This is particularly the case in the Sahel and Horn of Africa. The implicit assumption is that eventually they will be taken over by government, but information systems - however useful - are rarely at the top of a resource-poor government's agenda. On the donor side, evaluations of the effectiveness of EWS are difficult to achieve: they tend to be limited to the internal mechanisms of the information system itself and do not address the response which they succeed or fail in triggering. Cost-effectiveness is even more troublesome: whereas direct costs are relatively straightforward to determine, opportunity costs are much harder to account for. These would have to be calculated according to the relative costs of late and timely response. The effectiveness side of the equation cannot be fully measured either, given that many of the obstacles to exploiting information are external to the system. Calculating the 'economic' value of EW information in a comprehensive way is uncharted territory, and highly problematic. However, to talk about sustain-ability of an EWS only in terms of cost partly misses the point. Who 'owns' the information is critical to how it is used, as described above, and this is a function of who funds the system. The evidence points to the advantages of a jointly 'owned' EWS, by both donors and government. If both have a stake in it, both have a vested interest in using the information.

6 CONCLUSIONS AND POLICY IMPLICATIONS

Developing more comprehensive information systems cannot improve famine prevention unless the response side of the equation is also tackled. There are no easy answers; fundamental improvements on the response side will inevitably challenge a wide range of political, financial and institutional relationships between donor and recipient states. The problem lies in (i) the political implications, in terms of ownership and control over resources, both within

and between states, and (ii) the economic implications: recurrent expenditure required to sustain a national food security system is often very high.

Although it is not difficult to set out criteria for establishing a more logical and efficient system for preventing famine, the obstacles tend to be political and economic rather than mechanical. Timeliness of the warning is often cited as one of the central obstacles to response, but in fact the more complex and serious barriers are rooted in the political economy of information use. The clearest message is that information - however accurate and timely it is - can only oil the wheels of the decision-making process.

Predicting famines is a necessary but insufficient precondition for famine prevention. Systematic information about the likelihood of famine is by no means redundant: without EWS the process of resource allocation is even more fraught with difficulty, as decision-makers are forced to rely on 'disaster tourism' and other forms of informal assessment, which are often wrong, late and incomplete. What then are the policy issues which need to be addressed to improve the use of information in famine prediction and prevention?

Early Warning should continue but its remit should be widened

EWS must be able to predict famines when necessary. But this objective should not determine everything that the information system does or is used for. The remit of an EWS should be extended beyond famine prediction. Food information systems, which can be used for a multiplicity of planning tasks, and are sensitive to the threat of famine through continuous monitoring, are more appropriate and useful to the food security planning needs of African countries.

EWS should be jointly-funded ventures

National and sub-national EWS are most likely to be used by all parties, and to be sustainable, if jointly-funded by donors and government, so both have a stake in the system. This is feasible where donor-government relations are good. Where they are not, co-operation over information is less likely to succeed.

End-of-year harvest assessments should play a less prominent role

Present decision-making relies too heavily on harvest assessments carried out at the end of the growing season, which results in late response by the international community. In the absence of food security reserves in-country, agreed end-of-year assessments leave little time to respond to food crisis. A phased response based on earlier assessment would facilitate timely action.

Information collection and use needs to be decentralized

A decentralized EWS can take better account of local variations in the food economy, can be more sensitive to local coping strategies and vulnerability to food stress, and hence can recommend more appropriate interventions. The management of EW information is usually less cumbersome if decentralized. Disadvantages of a decentralized EWS include problems of standardization of data, of co-ordination and the risk of providing too much detail for busy decision makers. In-country decentralization of decision-making means that decision-makers are closer to what is happening, interpretation of information is less distorted, and they usually have a greater sense of urgency to respond to a problem close at hand. Against this, such decentralization is impossible in a highly centralized bureaucracy, and if adequate personnel capacity does not exist at local level. There is little sense in decentralising EW and decision-making if control over resources and the capacity to respond are not also decentralized.

Sovereignty and accountability

Responsibility for famine prevention is seen to lie with national governments, but in practice, most African governments require additional resources from the international aid community to respond to widespread food crisis. Reaching agreement over food aid needs is not the only issue to be negotiated between governments and donors. The targeting and distribution of aid can also be highly contentious. National governments are in most cases reluctant to hand over to an external donor responsibility for the geographical allocation of resources, or for the identification of beneficiaries. Donors are similarly reluctant to let go, for fear that 'their' aid may be diverted for uses other than feeding the victims of famine. They remain accountable to their own sovereign institutions (Parliament, Congress etc.). Better EW information, even if it provides data relevant to targeting, can do little on its own to address the fundamental conflict between national sovereignty and ownership of internationally donated relief resources.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Communities, Commodities and Crazy Ideas: Changing Livestock Policies in Africa

Andy Catley, Tim Leyland, Berhanu Admassu, Gavin Thomson, Mtula Otieno and Yacob Aklilu*

1 Introduction

In the late 1990s a review of aid-assisted livestock projects included an assessment of sustained impact on poorer producers (Ashley *et al.* 1998). The review looked back over 35 years and analysed documents from more than 800 livestock projects funded by major donors, including the Department for International Development (UK), the World Bank, the US Agency for International Development, the European Commission, DANIDA, the Netherlands Development Cooperation and the Swiss Development Cooperation. The majority of these projects were based on a technical transfer paradigm in which constraints facing poor livestock keepers were to be addressed by the development and uptake of technologies, including new methods to control animal diseases, improve livestock breeds or raise production through a variety of other means. However, the lack of sustained impact on the poor was dramatic. In many cases, technologies were developed which livestock keepers either did not want or could not access due to weak delivery systems. In other cases, the benefits of new technologies were captured by wealthier producers. Partly in response to these problems, a second broad category of livestock projects evolved which aimed to strengthen the capacity of organisations to develop and deliver novel technologies and services to the poor. These projects focused on government organisations (veterinary and extension services, research centres) and aimed to promote more client-focused and decentralised approaches. A key project activity was training middle-level managers, researchers and field-level technicians. Again, the sustained benefit of these "organisational projects" was limited. New skills did not change the way organisations behaved, as the overriding institutional frameworks rarely provided incentives for addressing the specific needs of the poor.

Despite this rather gloomy picture a few projects did demonstrate substantial impact. These included new approaches to primary animal health care using privatised community-based animal health workers (CAHWs). Working in marginalised arid and semi-arid areas of East Africa, local problem analysis with communities led to the selection and training of CAHWs in areas where few veterinarians were willing to work. However, even these projects faced problems at a policy and institutional level – veterinary policies and legislation did not support CAHWs and were often vague or not implemented.

This article describes how workers at the African Union/InterAfrican Bureau for Animal Resources (AU/IBAR) addressed policy constraints to CAHW services in the Horn and East Africa. The AU/IBAR team developed and applied a range of lobbying, advocacy, networking and learning methods within an overall strategy which recognised the overtly political nature of the policy process. Over time, the team also targeted global animal health standard-setting bodies and began to apply their experience of policy process to a broader range of livestock policies (see Wolmer and Scoones 2005).

2 Policy process in Africa: the case of community-based animal health care

In the late 1980s several non-governmental organisations (NGOs) began to apply the principles of community participation and rural development

Box 1: Methods and Tactics for Policy Change

Seeing is believing
Some policy-makers have never experienced the isolation, harsh environment and limited services in pastoralist areas. Nor had they worked with pastoralists or appreciated their knowledge on livestock health and management. The simple act of witnessing CAHWs in action and talking to them was sufficient to convince many sceptics and remove their fears about community-based approaches.

Impact assessment
CAPE supported the creation of multi-stakeholder teams comprising pro- and anti-CAHW actors, and with representation from official policy-making agencies. These teams conducted participatory impact assessments of CAHW projects. Learning arose not only from the interaction with communities, but also from conversations and debate between team members. Results were fed directly back to government departments (Hopkins and Short 2002).

Peer-to-peer learning
Chief Veterinary Officers (CVOs) are heavily influenced by each other and the international standard-setting bodies. Some CVOs in Africa were already supporting CAHW systems and these proponents were used to influence other CVOs and encourage international standard-setting bodies to review guidelines on para-professional workers (Sones and Catley 2003).

Aim high
Governments and international livestock agencies tend to be deeply bureaucratic with hierarchical power structures. Decisions can be made by a small, select few. CAPE directly targeted and influenced these actors.

Regional and international perspectives
Regional and international bodies have a strong influence on national-level policy-makers. New policies are less likely to appear at country level unless they "fit" the international frameworks – particularly if these new policies relate to international issues such as trade. CAPE worked simultaneously at national, regional and international levels.

Publicise and communicate
People cannot support good ideas if they don't know about them. Different policy actors require different levels and detail of information. CAPE presented new concepts, field realities and impact findings in diverse written and visual media, targeted at different audiences.

to primary animal health care systems, particularly in pastoralist areas of East Africa. Renewed interest in indigenous knowledge was coupled with participatory assessment to prioritise problems and identify solutions to better animal health care. Communities were involved in the selection and support of CAHWs and participative training techniques were used. Practical CAHW training lasted 10–14 days and was suitable for both illiterate and literate trainees.

Although CAHWs proved to be popular with communities in under-served areas, the reaction of the veterinary establishment was often negative. Following restructuring and decentralisation of national veterinary services, governments were often unable to respond to livestock keepers' demands for clinical veterinary services. At a local level, government officers were predisposed to work alongside NGOs as they saw the advantages in terms of providing a much-needed service. However, there was resentment at central levels that NGOs were taking over the role of government and working independently to deliver animal health care. In addition, veterinarians raised numerous concerns such as the qualitative nature of participatory assessments for CAHW projects, the short duration of training and the training of illiterate people as CAHWs (Catley 2004). Retrenchment had also created large numbers of unemployed veterinarians and animal health assistants.[1] Re-employment of these workers by NGOs was often proposed as an alternative to CAHWs.

In the early 1990s, vets and NGO workers started to present the results of CAHW projects in professional meetings and faced highly personalised attacks about their support to "non-professional" community-based work. This reaction stifled open debate and learning about CAHWs, and in many countries these workers were not recognised by veterinary authorities or national legislation. At the same time, evidence of the impact of CAHW projects was starting to emerge (Leyland 1996; Holden 1997; Catley *et al.* 1998; Odhiambo *et al.* 1998). Despite this impact, policy reform was largely paralysed by the dominant anti-CAHW narratives and the influence of veterinary professionals and policy-makers.

In December 2000 AU/IBAR established the Community-based Animal Health and Participatory Epidemiology (CAPE) Project to promote the creation of supportive policies and legislation for CAHWs in pastoralist areas of East Africa. The positioning of CAPE within AU/IBAR allowed the project to benefit from IBAR's mandate to reform and harmonise livestock policies in Africa, and its close links to senior policy-makers. The project was supported by the Feinstein International Famine Center of Tufts University, whose Africa-based staff specialised in institutional and policy change.

From the onset CAPE focused on policy change. It developed specific policy change outputs and an output-orientated style of management which encouraged flexible activities and opportunistic responses to new policy spaces. Underlying this flexible management was an understanding that policy change was a political process, and that the concept of community-based approaches often prompted strong emotional and protective reactions from the veterinary establishment. An important strategy of the project was to recognise professional fears about CAHWs and design processes which provided new information and experiential learning and enabled informed debate between policy actors. In each country, we analysed the policy environment from an historical, technical and political perspective, and assessed the importance of different policy actors. Based on these analyses, different mixes of methods and tactics were used in different countries.

It was also recognised that the interpretation of data and information is a political event regardless of methodological rigour. Policy-makers' reactions to objective or "scientific" studies depend on their pre-existing perceptions, both on the technical subject matter and on the political incentives of the researchers and organisations involved. Different actors also want to access information in different ways. Whereas a Minister of Livestock would read a succinct two-page policy brief, an academic might prefer the same issues to be presented in a peer-reviewed journal.

After four years of focused policy change work in the area of community-based delivery systems it was evident that real institutional change was possible. For example, international standards in animal health are set by the World Organisation for Animal Health (OIE) under the umbrella of the World Trade Organization and the Sanitary and Phyto-Sanitary (SPS) Agreement. These standards are written and regularly updated as the OIE's Terrestrial Animal Health Code (the "OIE Code"). The OIE is a membership organisation of states and each state is usually represented by its Chief Veterinary Officer. In September 2002 CAPE presented a paper at an OIE seminar which used the principles and structure of the OIE Code to show how CAHWs could strengthen what the OIE defined as "quality" national veterinary services (Leyland and Catley 2002). In October 2002 CAPE organised an international conference to bring together the OIE, Food and Agriculture Organization (FAO) and senior veterinary policy-makers from around the world to discuss policy and institutional constraints to primary animal health care (Sones and Catley 2003). The project identified senior policy-makers and researchers from nine countries who had supported radical policy reform, and asked them to present their experiences. The conference recommendations included a call to the OIE to clarify the roles of the private sector and veterinary para-professionals in the OIE Code.

In February 2003 the OIE established an *ad hoc* group to examine how the code could better address privatisation and the roles of veterinary para-professionals. During the meetings of this group the concept of CAHWs as one cadre of veterinary para-professional was accepted. In May 2004 member states at the OIE General Assembly endorsed changes to the OIE code that defined veterinary para-professionals and guided national veterinary services on their use. These guidelines allow national veterinary services to recognise CAHWs, provided their tasks and training are recognised and regulated by a defined statutory veterinary body.

While the OIE was formulating new international

Table 1: Indicators and Progress for Institutionalising Community-based Animal Health Care in the Greater Horn of Africa, 2000–5

	Before 2000 (pre-CAPE)					December 2004 (post-CAPE)				
Country or area	**Support at field-level[1]**	**CAHW standards and guidelines published**	**Specialised CAHW Unit established in central government**	**Written policy on CAHWs endorsed**	**Enactment of pro-CAHW legislation[7]**	**Support at field-level[1]**	**CAHW standards and guidelines published**	**Specialised CAHW Unit established in central government**	**Written policy on CAHWs endorsed**	**Enactment of pro-CAHW legislation[7]**
Kenya[2]	+++	+	–	+	–	++++	++++	+++	+++	++
Ethiopia	+++	–	++[3]	–	–	++++	++++	+++++	+++	++++
Eritrea	+++++	–	–	–	–	+++++	–	–	–	+++
Somalia[4]	na	–	–	–	–	na	+++	na	na	na
Somaliland[5]	+++	–	–	–	–	+++	+++	–	–	–
North Sudan	+++	–	–	–	–	++++	–	+++++	++++	+++
South Sudan[6]	na	+++++	na	na	na	++++	+++++	+	+	+
Tanzania	++	–	–	–	–	++	–	+	+	++
Uganda	++	–	–	–	–	++	+++	+++++	++	++
Africa (AU/IBAR)	++++	–	na	–	na	+++++	++++	na	+++++	na
Global (OIE)	na	–	na	–	na	na	–	na	++++[8]	na

Key: '–' no progress to '+++++' completed; na – not applicable

1. Government officers may support or be actively involved in NGO projects at field level; this support is not always officially reported or acknowledged.
2. CAPE's predecessor (the PARC-VAC Project) was heavily involved in supporting CAHW guidelines and policies with the Kenya Veterinary Board. CAPE continued this work in Kenya.
3. A CAHW Unit was established in the MoA in Ethiopia as part of the Pan African Rinderpest Campaign (of IBAR). However, this unit was 'projectised' and not a formal part of the veterinary service structure; the unit was formalised with CAPE support in 2004.
4. A Somalia government was not established until late 2004 and it continues to be based in Nairobi, Kenya. CAPE drafted the CAHW Code of Conduct for the Somali Aid Co-ordinating Body (SACB), endorsed by members. Some zonal-level veterinary associations had endorsed the use of CAHWs.
5. CAPE worked with the Somaliland government, despite its lack of international recognition.
6. Pre-CAPE, this refers to rebel-held areas of southern Sudan and the guidelines developed by the UNICEF-Operation Lifeline Sudan Livestock Programme. The signing of a peace agreement in January 2005 gives official status to the Secretariat for Agriculture and Animal Resources (SAAR) of the Sudan People's Liberation Movement. Post-CAPE indicators reflect SAAR support to CAH services as of January 2005.
7. Post-CAPE, the OIE Code recognises CAHWs as a type of veterinary para-professional. An important principle of the Code is that all types of veterinary worker in a country should be licensed and governed by legislation.
8. This refers to changes in the OIE Terrestrial Animal Health Code, under the SPS Agreement of the WTO.

standards to enable veterinary para-professionals, CAPE was working with governments and statutory veterinary bodies to produce national guidelines for CAHWs. These guidelines included "standardised" training curricula comprising topics required by all CAHWs plus area-specific topics to cater for different livestock problems in different areas. The national guidelines also contained advice on topics such as community participation in CAHW systems, the need to address community concerns, and the need for official registration processes for CAHWs and the vets who supervise them. By 2004, the process of guideline and CAHW training course development was under way in Kenya, Tanzania, Uganda, Somalia and Ethiopia. Also, government veterinary services in four countries (Kenya, Ethiopia, Sudan and Uganda) had established new central units specifically for the promotion, coordination, privatisation and quality control of CAHWs (Table 1).

3 Policy process in Africa: the case of commodity-based livestock trade

For decades African countries and donors have invested huge effort and money into the eradication of livestock diseases. Apart from the dramatic impact of these diseases, another driving force behind eradication programmes was an overriding principle of the OIE Code: that absence of disease from a country or zone within a country is the best way to ensure safe trade in animals and animal products. Until recently the OIE Code included a list of the 15 most important animal diseases in the world, from the perspective of livestock trading. By late 2004, none of these diseases had been eradicated from Africa.

Based on experiences with animal disease eradication in Africa and the recent foot-and-mouth disease outbreak in the UK and Europe, workers at AU/IBAR began to reconsider options for livestock trade from a commodity-based perspective. It was already widely known that some livestock commodities, especially those subject to processing, posed no more than acceptable risk to importers.[2] Therefore, AU/IBAR argued that freedom from disease (in reality, freedom from infection) need not constitute an absolute requirement for safe trade in animal commodities (Thomson *et al.* 2004). As long as standards became available for specific commodities to ensure their safety in respect of most trade-sensitive diseases, a way could be found to enable trade in livestock commodities that was not dependent on the areas of production and processing being free from these infections.

The new concept was circulated informally within AU/IBAR and international livestock agencies but was not universally welcomed (in some circles it was referred to as a "crazy idea"). However, CAPE and a small group of economists and epidemiologists within IBAR and its parent body – the AU's Directorate for Rural Economy and Agriculture – quickly recognised the implications of the commodity-based concept in terms of improving Africa's capacity to trade internationally. Through a series of workshop presentations, the concept was explained to African colleagues and partners, and support began to grow.

In September 2004 *The Veterinary Record* (the Journal of the British Veterinary Association) agreed to publish a paper which argued that commodity-based livestock trade offered a more feasible and equitable route to international markets for African countries than the current international standards (based on disease eradication) (Thomson *et al.* 2004). The OIE reacted to the paper by defending the *status quo*, although acknowledging its accord with OIE principles (Thiermann 2004). However, AU/IBAR had already achieved strong political support from African Regional Economic Communities and AU member states to lobby for changes to the OIE Code. At the time of writing the OIE has proposed an additional Annex to the Code, but over time, it seems likely that a major reworking may be required. These changes need to include specific guidelines for commonly traded commodities which are currently not available, in addition to traditional OIE guidance on disease eradication and certification of disease freedom. Continued collaboration between IBAR and interested parties has identified deficiencies in certification processes that will need to be addressed at both international and regional levels if the commodity-based approach is to flourish.

4 Building African capacity in policy process

This article has shown how substantial policy and institutional change is possible at national, regional and international levels in relatively short timeframes. More supportive policies for community-based animal health delivery systems

will help to ensure wider application and sustainability of CAHWs, and therefore improved access to basic animal health care for livestock keepers in marginalised areas. Better international guidelines on commodity-based livestock trade will ease access to international markets for African producers, including pastoralists. For example, recent experiences in southern Ethiopia show how pastoralists can supply livestock directly to formal export markets (Aklilu 2004).

During the policy change described above, CAPE staff became increasingly aware of the inter-relationships between improved animal health and a wide range of other livestock policies (e.g. marketing) and non-livestock policies (e.g. conflict, land tenure). At the same time, the strategies of the Directorate for Rural Economy and Agriculture of the African Union had emerged and highlighted the need for institutional and policy reform. As a result, CAPE evolved into the Institutional and Policy Support Team of AU/IBAR in August 2004. One of the team's first tasks was to consult senior African policy-makers about their perceptions of institutional and policy constraints and needs. The initial round of consultation covered five countries in the Horn of Africa, and included interviews with Ministers and Permanent Secretaries, donors, international agencies and government livestock personnel. The report noted that:

> IBAR tapped into a rich core of concern among African legislators and senior policy-makers for the need to bring about change. Furthermore, this change must primarily be in policy process. Senior officials were frank about the dearth of policy in key areas affecting the livestock sub-sector, their frustration with the current institutional environment, their inability to formulate policy when events are rapidly changing, and the low level of awareness that appropriate policy formulation is a complex process that must involve various stakeholders. (AU/IBAR 2004: 7)

In the livestock sub-sector, many governments, donors and agencies are talking about policy change, but few people actually have the experience or knowledge of how to do it. The time is right for AU's Directorate for Rural Economy and Agriculture and IBAR to broaden its experience with community-based animal health and commodity-based trade policies, and to work with member states and Regional Economic Communities to address a wider range of policy issues. Based on CAPE's experiences, an important starting point would be to develop understanding and capacity in policy process in Regional Economic Communities and government departments, and then apply new skills to prioritised policy areas.

Notes

* In AU/IBAR the Community-based Animal Health and Participatory Epidemiology Project and its successor, the Institutional and Policy Support Team, were funded by the Department for International Development (UK) and the Office of Foreign Disaster Assistance and the Regional Economic Development Services Office, US Agency for International Development. Tim Leyland and Andy Catley were seconded to AU/IBAR from the Feinstein International Famine Center, School of Nutrition Science and Policy, Tufts University, USA. The Institutional and Policy Support Team is currently managed by Dr Berhanu Admassu and Dr Otieno Mtula under the supervision of the Director of AU/IBAR, Dr Modibo Tiémoko Traore.

1. Animal health assistants are diploma holders, trained in government institutions for about two years.
2. For example, the correct slaughter of cattle plus de-boning and removal of lymph glands from carcasses dramatically reduces the risk of meat transmitting foot-and-mouth disease virus.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Youth Participation in Smallholder Livestock Production and Marketing[*,**]

Edna Mutua,[1] Salome Bukachi,[2] Bernard Bett,[3] Benson Estambale[4] and Isaac Nyamongo[5]

Abstract Agriculture is a leading source of employment for rural populations in Kenya. Through a mixed methods approach, this study sought to investigate youth participation in smallholder livestock production and marketing in Baringo County. The specific focus is on how social norms and micropolitics enable or constrain participation of particular groups of young people. The study established that personal choice, preference for paid over unpaid labour and gender norms in asset access, ownership and control influence smallholder participation in livestock production and trade. This shows a disconnect between Kenya's youth policy which advocates for equitable distribution of employment opportunities and the reality at community level. Interventions that seek to improve livestock production and marketing, particularly involving young people, should therefore adopt strategies that recognise these norms as a first step to addressing social exclusion.

Keywords: Africa, transformation, empowerment, Kenya, Baringo, livestock production, livelihoods, participation, smallholder, markets, gender norms.

1 Introduction

In 2014, Kenya's agriculture sector employed three in every four workers in rural areas and contributed to 27.3 per cent of the country's gross domestic product (GDP), mainly from crops (19.7 per cent) and livestock (4.9 per cent) (MoALF 2015). Sixty per cent of the country's livestock is found in the arid and semi-arid areas which make up 80 per cent of the national land mass (MoLD 2008). The total monetary value earned from animal products in 2014 was US$464.5 million from beef, US$279.2 million from goat, US$375.0 million from mutton, US$331.8 million from poultry and US$1.6 billion from milk (MoALF 2015). There is growing demand for meat and milk fuelled by increases in population, purchasing power and urbanisation (Delgado *et al.* 1999; MoALF 2015). It is estimated that in developing countries such as

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Kenya, 48 per cent of food protein and 20 per cent of food energy is derived from livestock (FAO 2009).

Despite agriculture being the leading source of employment, young people are often said to prefer employment in non-farm sectors. Negative attitudes towards agriculture have been associated with drudgery, low returns, poor access to markets and market information, limited credit, lack of prestige compared to white collar jobs and awareness of the disparities between rural and urban life (Afande, Maina and Maina 2015; Leavy and Smith 2010). Other factors include non-involvement of youth in policymaking processes (Afande *et al.* 2015). In Kenya, the constitution classifies persons between 18 years and 34 years of age as youth (GoK 2010). This categorisation is used in the remainder of the article, but it is critically important to recognise that even within this age range there is a tremendous level of diversity across the broad range of social and economic indicators (Leavy and Smith 2010).

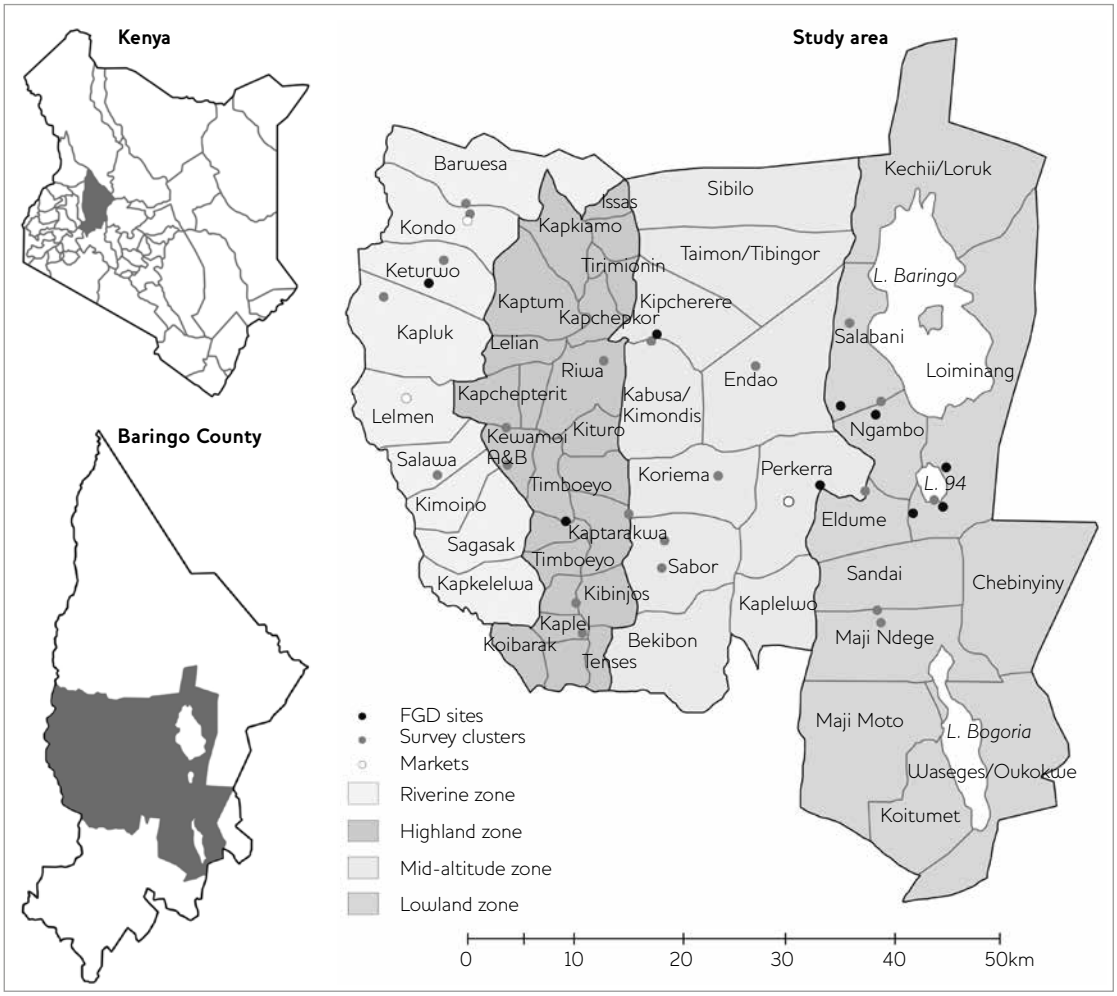
The Ministry of Agriculture, Livestock and Fisheries 2013–2017 strategic plan proposes to draw youth into agriculture through the introduction of new farming technologies such as irrigation and aquaculture (MoALF 2013). However, the plan does not explain how youth engagement in livestock production and marketing will be improved. Similarly, the national youth policy advocates for equitable distribution of employment opportunities but does not explain how that will be achieved in the livestock sector (MoYA 2006). The government's Vision 2030 recognises Kenya's youth as an important segment of the population and the livestock sector as key to Kenya's economic growth but does not state how the youth can gainfully engage in the livestock sector (GoK 2007).

The research reported here sought to explore the factors affecting youth participation in livestock production and marketing in Baringo County, Kenya, and the implications of these for youth employment and livelihoods. At the heart of the study is the question: who participates in livestock production and marketing, and what are the social norms and micropolitics around participation?

2 Materials and methods

Baringo County is part of Kenya's semi-arid regions, and in 2014 contributed to 2.4, 3.5, 2.2 and 2.1 per cent of the country's chicken, goat, cattle and sheep populations respectively (MoALF 2015). The study was conducted in three sub-counties, Baringo Central, Baringo North and Marigat, which make up the central part of the county (see Figure 1). The study site was divided into four ecological zones, namely riverine, highland, midland and lowland. The highland zone, defined as an altitude greater than 1,500 metres above sea level (masl), is the most favourable for crop and dairy farming. The midlands are at an altitude of 1,000–1,500 masl and have a high goat population. In the lowland and riverine zones, irrigated crop farming and livestock production are practised in the Perkerra Irrigation Scheme and along sections

Figure 1 **Map of study site**



Source Redrawn from authors' original, from the project titled 'Early Warning Systems for Improved Human Health and Resilience to Climate-Sensitive Vector-Borne Diseases in Kenya'.

of the Kerio River, respectively. The highland, midland and riverine zones are predominantly populated by Tugen people who are mainly agro-pastoralist, while the lowlands are populated by the pastoral Ilchamus people.

A cross-sectional, mixed methods approach was used. Quantitative data was collected through two surveys that included 335 household heads and 203 livestock traders respectively. The household survey focused on household demographic characteristics, livelihood activities, types and numbers of livestock kept, and quantities of milk produced. Each zone was subdivided into five clusters, and households were selected through stratified random sampling. The trader survey was conducted on six different market days in November 2015 in three main livestock markets within the study site. All traders in the market were surveyed.

Data collection focused on demographic characteristics, types and numbers of livestock traded and trading frequency. Household survey respondents did not participate in the livestock traders' survey.

Qualitative data was collected through focus group discussions and direct observation. Twenty-six focus groups were organised – half included only men and half only women. Each group had 7–10 participants, for a total of 231. Participants were selected purposively, with the following inclusion criteria: having lived in the county for at least one year, and being a livestock keeper or coming from a household that keeps livestock. The discussions covered livelihood activities, how individuals become livestock owners, types of livestock ownership, and division of labour in livestock production and marketing practices. Following Quisumbing (1999), dimensions of livestock ownership were categorised as management, access, withdrawal, alienation and exclusion. Direct observation techniques were used to collect additional data that would further contextualise the research findings.

Quantitative data was entered and cleaned with CSPro[6] and analysed with SPSS[7] using both summary and inferential statistics. Qualitative data was transcribed and coded into emergent themes using NVivo[8] and analysed using the content analysis method. All respondents were of consenting age and voluntarily agreed to participate in the study.

This study gives a snapshot of the context within which different people engaged in livestock production and marketing. The study did not investigate whether the livelihood activities the respondents engaged in were a result of choice or necessity, or whether they were considered as long-term or short-term activities. The results cannot be generalised beyond Baringo County.

3 Results

3.1 Demographic characteristics

A total of 335 household heads, comprising 260 males and 75 females participated in the household survey. Just over a quarter (27.8 per cent) were 34 years old or less, while the rest were 35 years or more. Three quarters of the young household heads were male (75.5 per cent) while the rest were female. Among household heads aged 35 years and above, 78.6 per cent were male and 21.4 per cent female. The vast majority of both young (88.6 per cent) and older household heads (79.7 per cent) were married. There was a statistical difference between the education levels of the young and the older respondents, with the youth having more primary, secondary and tertiary education ($\chi^2 = 28.810$, df=3, $p<0.001$). Among the youth, there was a statistical difference in education levels between the men and women (Fisher's test $p=0.013$), with more men than women having primary, secondary and tertiary education.

Nearly half of the traders interviewed (49.3 per cent) were 34 years old or less, and most of these were aged 25–34 years. Traders of all ages were overwhelmingly male (96.1 per cent overall). There was a statistical difference between the education level of young and older traders,

with more youth having post-primary education (χ^2 =26.948, df=4, p<0.001). The study participants were predominantly Christian.

3.2 Livelihoods and livestock

The main livelihood activities in this region are crop farming, livestock keeping, self-employment in supply of goods (such as firewood, water and food items), wage and salaried employment. As primary livelihood activities, household heads reported engaging in crop farming (50.2 per cent), livestock keeping (19.1 per cent), goods delivery (15.4 per cent), wage labour (9.5 per cent) and salaried employment (5.8 per cent). Their main supplementary activities were livestock keeping (52.1 per cent) and crop farming (32.1 per cent). Compared to their older counterparts, young household heads were more likely to engage in goods supply, wage labour and salaried employment than crop or livestock production as primary livelihood activities (χ^2 =10.610, df=4, p=0.031).

A clear majority of households (83 per cent) reported keeping livestock, with 29.7 per cent having goats, 29.1 per cent cattle, 25.6 per cent chickens and 15 per cent sheep. Heads commonly reported that their households keep more than one livestock species. The livestock are mainly of indigenous breeds: few farmers kept cross-breed cattle, favoured for higher milk production compared to local breeds. Households headed by young people had on average 11.1 tropical livestock units (TLUs),[9] slightly lower than the average for older household heads (13.0). Among the youth, male-headed households had more livestock TLUs (12.3) than female-headed households (9.4).

The animals were considered sources of food (meat, milk, blood, eggs and animal fat), medicine, income and prestige; as well as stores of wealth and means of social acceptance. For household heads, livestock keeping was considered an important indicator of wealth: households with few cattle, sheep or goats were perceived as poor and those with more were considered wealthy. The size of herds was also associated with the level of social capital and the respect extended to household heads and their families. Persons from households with a lot of livestock were more respected, had greater voice and were easily accepted as leaders. Inclusion and non-inclusion of women into groups locally referred to as 'merry-go-rounds' was partially determined by the members' perception of an applicant's individual wealth status, and thus livestock holdings mattered. 'Merry-go-rounds' are a form of rotating savings group in which members contribute savings at regular intervals with each member taking the pot in turn. Members with more livestock might be seen as less risky.

3.3 Sources of livestock and ownership

Men and women, young and old, reported sourcing livestock through purchase, gifting and loaning, as well as through the reproduction of animals already owned. Animals were purchased from friends, neighbours or from markets. The purchase was often done by the person that wanted the animal or a proxy assumed to be knowledgeable of prevailing market prices and skilled at selecting good animals.

Cattle, sheep and goat transactions were mainly handled by men, while chickens, eggs and milk were handled by women. A newer strategy of acquisition of cattle, sheep and goats by women was through the 'merry-go-round' groups.

Livestock were gifted to young persons as a result of good performance at school and at home. Boys were also rewarded for exhibiting bravery during circumcision, whereas girls were gifted animals upon getting married in a culturally acceptable way, and also after childbirth. Additionally, a bride's parents were gifted livestock by the groom's family (bride price). In some instances, the bride price was also shared with the bride's uncles and aunties, with the expectation that those who received these gifts would reciprocate when their children married.

Only sons were reported to inherit livestock from their parents, with the animals being bequeathed to the sons at a time of the father's choosing or after his demise. Traditionally, among the Tugen community, a father's livestock was only inherited by the firstborn son while the last-born inherited from the mother. However, this practice was reported to be in decline as sons press for equal shares of inheritance regardless of birth order. For girls, it was reported that inheritance of any kind of property encouraged insubordination and decreased the probability of getting and remaining married.

Sourcing livestock through traditional borrowing was reported as a last resort, when, for example, all other livestock had been lost. In this region, lack of cattle, sheep or goats is equated to nakedness, and the culture demands 'an individual borrows clothing to cover the shame'. Thus, an individual who does not have animals can borrow from one who has many, and utilise the milk in exchange for caring for the animal. Once the borrowed animal reproduces, the owner gives the caregiver a female offspring to start their own herd, then often repossesses the mature animal and any other young ones.

Livestock ownership was reported by men and women, but ownership has several different dimensions. For example, ownership claims are manifest in making decisions about livestock management (management); in determining who has access to livestock or their products (access) or not (exclusion), and which animals are sold, gifted or loaned, and to whom (alienation); and over the benefits accrued from the livestock and derived products (withdrawal). Management is the ability to make decisions on care of livestock. At household level, management of cattle, sheep and goats is primarily a male responsibility regardless of who or how the animal was sourced. Prior to marriage, cattle, sheep and goats belonging to male and female children are held in trust by their parents. According to focus group discussants, the majority of young women married aged 20–25 years while young men married aged 25–30, both well within the youth category. Upon marriage, most dimensions of ownership by young women are transferred to the new male head of household regardless of their age:

As a woman, you have nothing to say is yours. You won't say this livestock [cattle, sheep and goats] it is mine. (Female discussant, Litein4)[10,11]

As far as livestock [cattle, sheep and goats] are concerned, women do not have authority to own or sell them. (Male discussant, Lorok1)[12]

There are those women who can buy cattle, but when it reaches home it does not belong to the woman because the home is the husband's, there is no home belonging to a woman. The home belongs to the man. So everything in the home belongs to the man. The children and the woman are his. Everything in that house is his. (Male discussant, Litein1)[13]

Despite these cultural norms, women still source and keep cattle, sheep and goats. However, their security of ownership depends on maintaining anonymity of who sourced the animal:

If you come to brag at home that you have [cattle, sheep or goats] he gets angry. He can sell or slaughter them. (Female discussant, Litein4)[14]

He [the household head] does not want you to tell others that you have [cattle, sheep or goats]. Even if they are full in the home and he doesn't have even one you don't tell anyone. You let it look like they are his. (Female discussant, Litein1)[15]

Chickens, milk and eggs are considered to be of less value than cattle, sheep and goats; they are mainly managed by women, even young women.

The average milk volumes reported by young and old household heads were 1.4 litres and 1.7 litres respectively, with the milk mainly being used for domestic consumption. Among the youth, male- and female-headed households produced nearly equal amounts of milk, on average 1.4 litres and 1.5 litres respectively. In cases where the volumes produced were high and milk value chains were commercialised, management claims reverted to men except in female-headed households:

There is no time men say that chicken are theirs. If someone comes to ask me [the man] for chicken, they will not be given because I am not the one that deals with chicken. I cannot take chicken and say I want to give this one out. For small things you ask the mother/wife because it is women who deal with chicken. (Male discussant, Borowonin2)[16]

Men consider chicken, eggs, milk as something small. Women are then ones concerned about them and when they are sold, nobody will question. (Female discussant, Kipcherere4)[17]

If the cow [you have] is a cross-breed that produces 3–4 litres of milk or more, it is the man who will decide whether it will to be sold in a hotel or somewhere else. (Female discussant, Perkerra1)[18]

Access to livestock and livestock products is granted to all family members regardless of age. However, household heads can also deny access (exclusion).

In day-to-day activities related to the animals, men typically construct sheds, treat sick and injured cattle, sheep and goats, dip or spray animals infested with insects, brand or ear notch, castrate and slaughter. On the other hand, milking, caring for the sick, injured and those about to deliver, cleaning animal sheds and constructing sheds for young livestock are primarily female activities. Grazing and watering of livestock can be done by both men and women, who can be assisted by both male and female children. Girls do milking, while the care of chickens is left to women and children, with men rarely getting involved. Increasingly, women are involved in the treatment of sick livestock, particularly in households where the head stayed or worked away from home.

Decisions concerning the sale or lending of cattle, sheep and goats (alienation) and use of income generated from their sale (withdrawal) are predominantly made by household heads. Household heads may make these decisions before or after internal consultations with their spouses. Women independently make decisions on chickens, eggs and milk in non-commercialised systems. Consequently, in the study site, cattle, sheep and goats were considered male products while chickens, eggs and milk were for women, therefore influencing the types of livestock trade men and women engage in.

3.4 Market participation

Different livestock and livestock products are traded in different spaces and by different people. Cattle, sheep and goats are mainly traded by men in livestock markets where animals are publicly auctioned. Reasons provided as to why, despite a thriving livestock trade, only a few women participate include lack of market information and avoidance of male spaces:

> *Women do not know the price of cattle. So even if a woman is allowed to sell cattle, how will she sell?* (Male discussant, Kipcherere2)[19]

> *Women don't trade in the livestock [cattle, sheep and goat] markets. They shy away the livestock section of the market*. (Male discussant, Kipcherere1)[20]

Market participation occurs at two levels. There are traders who are either selling cattle, sheep or goats to raise income to meet household needs, buying livestock for domestic purposes, or offloading stock to minimise losses in the dry season. These are essentially needs-driven traders and they comprised 44.8 per cent of all traders interviewed. The other 55.2 per cent of traders were those who derived a livelihood from livestock transactions. There was a significant statistical difference between the cattle volumes transacted by young traders and older traders, with the older ones trading larger quantities (χ^2=9.935, df=2, p=0.007). For sheep and goats, there was no statistical difference in the volumes traded by young and old traders.

Most of the young male traders were aged 25–34 years, the age range within which most got married and assumed ownership of livestock. Of the eight female traders interviewed, only three were aged 34 years

or less, and two of these were aged 25–34 years. It appeared that half (4) were needs-driven and half (4) were regular traders. There was only one young female who worked as a regular trader. Three of the four regular female traders came from Trans-Nzoia County and Nairobi. They traded by negotiating with livestock owners before the animals were taken to the auction yard or by having male representatives or companions in the auction yard to help with sale or purchase. On livestock market days, women generate income indirectly from livestock trading through the sale of ropes for tethering livestock and ready-to-eat food items to the traders.

Livestock sales were not restricted to established markets and market days only. Traders and farmers also buy livestock at the farm gate for resale, slaughter and herd expansion. Potential sellers declare their intentions to neighbours and local butchers as a strategy for attracting buyers. The key benefits of selling at the farm gate as reported by focus group discussants are that a seller does not bear the cost of moving the animal and they could utilise their social networks as market sources. The key weaknesses of this strategy are that it results in lower returns compared to established livestock markets, and buyers might not always be readily forthcoming.

Chickens, milk and eggs are mainly sold by women at the farm gate or in local centres. Despite these products being considered of low value, sales were reported to be more regular than large stock. The incomes gained were used to meet small needs in the household such as food items, stationery and payment of school fees. Women valued these products because they could use their discretion in relation to when to sell, and exercise control over incomes earned:

> *When it comes to milk and chickens and eggs you don't have to ask. That is yours*. (Female discussant, Perkerra1)[21]

> *We [men] are just not concern with chicken, eggs and milk. Women sell them and use the money to solve small financial issues*. (Male discussant, Lorok1)[22]

4 Discussion

Overall, the study shows that livestock farmers and traders are not homogeneous groups. Social norms introduce differences in claims and privileges based on gender and age, inhibiting women's ability to gainfully engage with livestock. A detailed analysis of the differences in choice of livelihood activity, livestock sourcing, ownership and marketing highlights the norms and micropolitics that affect the participation of different social groups. Caution must be exercised, however, as it is not straightforward to distinguish between statements of community norms from those describing individual behaviour.

In the study area, young household heads reported a preference for self-employment, wage or salaried employment, while those aged 35 years and above mainly engaged in crop and livestock farming. This

suggests that while young people may be unwilling to provide unpaid agricultural labour in their household, they would provide it if it was paid. Young people's choice is informed by the need for regular income which small-scale crop and livestock farming do not offer. An important research question is whether the employment aspirations of the young household heads will shift more towards farming and livestock as they grow older.

Young household heads and traders had more primary, secondary and tertiary education compared to the older ones. The difference can be explained by improved access to learning institutions and growing parental appreciation for the value of formal education. An emergent research question is how the difference in education achievement will shape youth employment aspirations, engagement in livestock production and marketing, and parental expectations.

The study has demonstrated that there are gender differences in how men and women acquire livestock. The differences emerge in purchase, gifting and inheritance. Ability to purchase is determined by availability of the money to invest. A strategy adopted by women to circumvent financial constraints is purchasing through 'merry-go-rounds'. Through combining savings from different people, an individual is able to afford an animal that would otherwise have been difficult to buy. While men can purchase cattle, sheep and goats without consulting their spouses, women are required to declare their intentions beforehand. This opens up a possibility that the resources planned for livestock purchase are diverted to other purposes by the household head. Additionally, a household head can block or encourage purchase of livestock based on their considerations around land use. In the study area, women and girls rarely own land. They can, however, access it through their spouses or fathers but rarely have any decision-making capacity regarding its use.

Norms and practice around gifting of animals are interpreted flexibly, influenced by personal choice, cultural norms or implied expectation of reciprocity. A parent who feels that their child has excelled and deserves a reward gifts the child voluntarily. The parent whose son successfully undergoes a rite of passage is compelled by local culture to reward him with cattle, sheep or goats depending on their livestock endowment. When parents marry their daughters, the groom's family is expected to pay bride price. When a bride's parents share bride price with relatives, it is with the expectation that they will also receive a similar gift in future. It is clear that young people can benefit from gifting, but it is less clear whether gifting constrains participation of particular social groups such as young women.

On the other hand, only sons gain access to livestock and land through inheritance, but of course this can only happen when parents have livestock. By default, this practice excludes young women from sourcing livestock through inheritances. Even in the case of sons, inheritance is at the discretion of the parents: children have no control over the time

when a parent decides to redistribute their resources and cannot with certainty tell how redistribution will be effected amongst siblings.

The study suggested a clear delineation of the livestock species that can be owned by men or women. Livestock assumed to be of higher value such as cattle, sheep and goats are in the male domain, while chickens, milk and eggs are in the female domain. While women do own cattle, sheep and goats, this fact is usually kept hidden. Pursuit of livestock ownership is a potential source of intra-household conflict because it can be interpreted as a strategy to challenge the head's control over household assets. Nonetheless, women still pursued livestock ownership, an indication of the desire to be involved in production. While this norm does not exclude women completely, it certainly constrains their participation in large-animal activities. This constraint is probably even greater for young women.

No matter who owns them or how they were acquired, with the exception of female-headed households, decisions relating to management, alienation, exclusion and withdrawal of cattle, sheep and goats rest with men. This potentially inhibits women's participation in production of large stock and by extension, limits their ability to pursue livestock production as a means of livelihood. While women can claim ownership of milk, the quantities produced are very low, and availability is periodic (i.e. dependent on having a lactating animal).

Relatively few women are engaged in cattle, sheep and goat trading. According to prevailing social norms, livestock markets and marketing are predominantly male spaces and activities. Consequently, most of the women that regularly traded in livestock came from outside Baringo County, away from their home areas where cultural inhibitions would be greater. Further, because the animals the female traders purchased were either resold whole or as meat and were never considered as part of the domestic herds, the women gainfully participate in the trade and could exercise more decision-making powers over the gained resources. That there was only a single female regular trader aged 34 or less indicated that livestock trading was either not an accessible or a favoured livelihood activity among female youth, probably due to the cultural inhibitions experienced in the county.

5 Conclusions and implications

Agriculture and livestock will remain important sources of income and employment for many people in years to come, especially in rural areas where youth under- and unemployment rates are higher than urban areas (White 2012). Gainful participation in agriculture is determined by an individual's ability to manage the barriers to entry (Coles and Mitchell 2011). This study has demonstrated that coming from a livestock-producing community does not necessarily result in gainful engagement in livestock production. Participation can be inhibited by social norms and micropolitics that affect the choice of livelihood activities and access to other requisite resources such as land. While

the Kenya national youth policy advocates for equitable provision of employment opportunities for youth by creating enabling environments, the current study shows a disconnect between this ideal and the reality on the ground. This implies that programmes to promote livestock production and marketing should be carefully designed so that they do not perpetuate or deepen inequalities, particularly among the young. The programmes might consider implementation strategies that challenge existing barriers in ways that increase employment opportunities for male and female youth without attracting backlash from other groups. Further research should also be conducted to inform policymakers as to how increasing education among the youth will influence their employment aspirations and engagement in livestock production and marketing.

Notes

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6 Version 6.1, United States Census Bureau, Washington DC.

7 Version 22, IBM SPSS Statistics, Armonk, New York.

8 Version 10, QSR International, Melbourne.

9 The tropical livestock unit is a measure used to standardise across a number of different livestock species. According to Chilonda and Otte (2006), 1 cattle = 0.5 TLUs, 1 sheep and/or goat = 0.1 TLUs, and 1 chicken = 0.01 TLUs.

10 Interview, 3 August 2015.

11 The numbers relate to the order of focus group discussions (FGDs) conducted in an area; for example, Lorok1 means the first FGD conducted in Lorok and Litein2 means the second FGD conducted in Litein. The number is also used to distinguish between groups where two male-only FGDs or female-only FGDs were conducted per location.

12 Interview, 19 August 2015.
13 Interview, 31 July 2015.
14 Interview, 3 August 2015.
15 Interview, 31 July 2015.
16 Interview, 27 January 2015.
17 Interview, 18 November 2014.
18 Interview, 20 March 2015.
19 Interview, 13 November 2014.
20 Interview, 13 November 2014.
21 Interview, 20 March 2015.
22 Interview, 19 August 2015.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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This article has been reissued as part of *IDS Bulletin* Archive Collection Vol. 51 No. 1A May 2020: 'Fifty Years of Research on Pastoralism and Development'; the Introduction is also recommended reading.

Erratum

There were typographic errors in Table 1 on page 47 of Leonard, D.K. and Samantar, M. 'Reconstructing Political Order Among the Somalis: The Historical Record in the South and Centre', *IDS Bulletin* 44.1.

The table was published as follows in the original publication.

Table 1 **Attributes of peace initiatives in southern and central Somalia, 1991–2007**

No.	Region	Percentages of participation					
		Reg. auth. or pols	Reg. auth. only	Islamic	Diaspora	Interntl	Sub-clan Leaders (*isimo*)
93	ALL 10	48	40	26	5	17	16
28	All '95–'04	39	32	36	11	7	21
9	Hiraan		11	22	89		
8	Mudug and Galguduud	50	50	25	25		
5	Shabeele Dhexe	80	20	100	60	60	
10	Shabeele Hoose		100				
10	Jubba Dhexe	50	30	10			
25	Jubba Hoose	76	72	4	36		
12	Gedo	100	92	17	33	17	25
14	Bay and Bakool	29	14	43	7	14	

The table has been amended for publication in the Archive Bulletin issue Scoones, I. (ed.) (2020) 'Fifty Years of Pastoralism at IDS', *IDS Bulletin* 51A.

It now reads as follows.

Table 1 **Attributes of peace initiatives in southern and central Somalia, 1991–2007**

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5	Shabeele Dhexe	80	20	100		60	60
10	Shabeele Hoose			100			
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14	Bay and Bakool	29	14	43		7	14

Reconstructing Political Order Among the Somalis: The Historical Record in the South and Centre

David K. Leonard and Mohamed Samantar

Abstract The reconstruction of a larger polity in a violence-torn society such as Somalia requires negotiation of a new social contract between the superordinate body and the local units of governance that have provided citizens some degree of order throughout the conflict. In this article we show that the very different trajectories for state-building in the north and south of the country result in good part from different attention to this generalisation. The founding leaders in Somaliland and Puntland consulted extensively with the assemblies of elders and were able to create civilian constitutional orders. Military leaders in the south and central regions did not incorporate their elders into their political systems, even though they controlled similar amounts of territory to their counterparts in the north. Ultimately various Islamic movements did build on community-level governance and used it to successfully challenge the old 'warlords' but most of those allied with the Transitional Federal Government remain weak at the community base.

1 The dual social contract

Even though Somalia was composed of stateless societies before colonialism and much of the country has returned to that condition today, it did and does possess local systems of governance that provide social order (Leonard and Samantar 2011). With the collapse of the national government of Somalia that followed the successful revolution in 1991 against then President Siad Barre, the commercial centres, ports and trading routes from which revenues could easily be extracted fell under the control of militias organised by former army officers and their business allies. Although clan governance had been greatly weakened by Italian colonialism and was not important (at least among elites) in the major urban areas, it began to reappear as a principle of social organisation as Barre's government weakened in the 1980s. As the fighting for territorial control deepened after 1991, all the 'warlords' and businessmen came to base their alliances on sub-clan affiliations. For example, General Mohamed Said Hersi 'Morgan' (who ultimately came to control Kismaayo) initially was allied with other officers of the Ogaden sub-clan even though he was Harti, but ultimately he formed a Harti sub-clan alliance. Similarly, at the community level people reinforced their sub-sub-clan affiliations and relied primarily on their '*diya*-paying' groups[1] to assure their protection. Even though the elite level of militia organisation and the community-level of mutual protection both were based on segmentary patrilineages, the two did not always have close relationships.

We have argued elsewhere (Leonard and Samantar 2011) that the legitimacy of a post-conflict state in contemporary Africa relies on two social contracts – one within the community and another between it and the larger state. Traditionally social contract theorists (from Hobbes through Rawls) have used the idea of an imaginary social contract to argue about when and whether citizens *should* obey their state, in other words, whether they should accord it legitimacy. In contemporary discussions about Africa, however, the idea of the social contract has also come to include whether or not people actually *do* feel an obligation to their rulers and what they expect from them in return. The colonial state was based on the legitimacy inhabitants gave to their local systems of governance and then the bargain that was made between that 'traditional' order and the state itself – in other words a dual social

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contract. Mamdani (1996) has highlighted the importance of this two-tiered system of order in *rural* Africa. It is our observation that during periods of civil violence a similar dual contract is evident in the *urban* areas as well, with communities segregating along ethnic lines and choosing leaders (who are not necessarily traditional) to enforce internal order and mediate conflicts with other groups (see Mushi, this *IDS Bulletin*).

A second aspect of local governance beyond the sub-sub-clan and the *diya*-paying group is evident as well among the Somalis – the Islamic Sharia court. Somalis are gifted traders and devout Muslims. Throughout the period of their civil wars they have relied heavily on local Sharia courts to resolve their commercial and family disputes. These courts are rooted in the local community and in Somaliland and Puntland they are supported by the state/regional government as well. In the southern and central regions of Somalia, however, the 'warlords' failed to incorporate either the local elders or the Sharia courts into a governance order. This double neglect left them vulnerable to the Islamic Court Union and its successors when they developed in the early twenty-first century. The different strategies and trajectories of Somaliland and Puntland, on the one hand, and the 'warlords' of the south and centre of the country, on the other, is the story to which we now turn. (For a full development of the arguments in this section and the evidence supporting them, see Leonard and Samantar 2011).

2 The transitions in Somaliland and Puntland

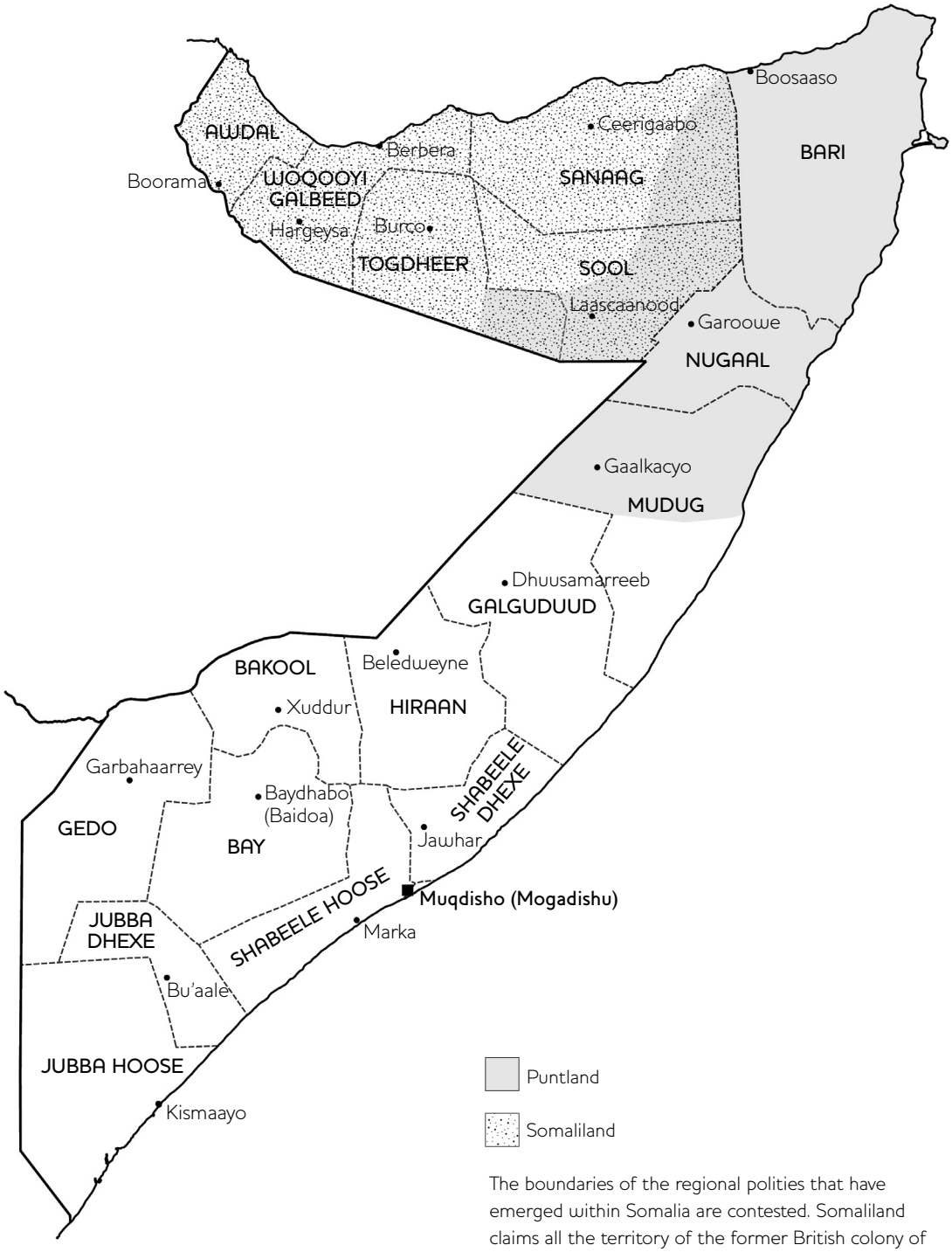
Somaliland and Puntland followed similar routes from being 'liberated' territories to the reconstruction of state structures and their stories have been well told elsewhere (Bradbury 2008; Mohamed and Nur 2008). Both regions were early in giving birth to exiled, clan-based movements in opposition to the Barre government and these parties quickly assumed local leadership after its fall in 1991. But the important point in terms of their ultimate stability and legitimacy is that in both cases the new systems of governance were validated and shaped through extensive, locally led processes of consultation with citizen assemblies of elders and their representatives (*isimo*).

Somaliland was proclaimed very quickly as an independent entity by an assembly of elders meeting at Burco on 18 May 1991. The consolidation of its governance structures took another two years of wide consultation, however. This led in 1993 to the formal appointment of sub-clan representatives to a national legislature and the selection as president of Mohamed Ibrahim Egal, who had been a prime minister of Somalia in the 1960s and initially had opposed Somaliland's return to separate independence. The new constitution of Somaliland provided for a two-house legislature. The 'upper', consultative, house is comprised of the founding leaders and representatives (*isimo*) of the elders. The 'lower', dominant, house was initially comprised of representatives selected by sub-clan assemblies of elders (who in the case of the Somalis are all adult males) but is now chosen by election.

The movement that established itself in power in Puntland had long been led by Abdulaahi Yusuf Ahmed, who had served in the Somali army before going into exile. After militarily expelling an Islamist extremist group in 1992, he became the dominant figure in the region. The incorporation of elders into the support base for his regime came later than in Somaliland, although it similarly involved extensive consultations. Puntland declared itself an autonomous region within the (non-functional) state of Somalia in 1998 and its Council of Elders, as the unicameral legislature, confirmed Ahmed as its president. There was fighting when Ahmed had his term as president extended in 2001, but the Council of Elders (which is still selected from the base by local assemblies of elders, rather than elected) remains a key part of Puntland's governance structure.

The foregoing sketches miss an important qualification, however, one that speaks still further to the importance of local governance. The administrative regions of Sanaag and Sool lie at the boundary of Somaliland and Puntland and are contested between them. They were parts of British Somaliland and on that basis are claimed by present-day Somaliland. Clan-wise, however, they are Darood and thus more naturally a part of Puntland, which also claims them. The residents of the regions have appointed different sets of senior elders who separately are accepted as representatives by each of the two proto-states (Hoehne 2011). These appointments of *isimo* are politicised and influenced by the governments of Puntland and Somaliland, but their centrality illustrates both the dependence of local

Map 1 **The regions and polities of the former Somalia**



The boundaries of the regional polities that have emerged within Somalia are contested. Somaliland claims all the territory of the former British colony of Somaliland. Of this area Puntland claims the eastern part of Sanaag, Sool and the Buuhoodle district of Togdheer region.

Redrawn from United Nations Map 3690 Rev 10.

Table 1 **Attributes of peace initiatives in southern and central Somalia, 1991–2007**

No.	Region	Percentages of participation					
		Reg. auth. or pols	Reg. auth. only	Islamic	Diaspora	Interntl	Sub-clan Leaders (*isimo*)
93	ALL 10	48	40	26	5	17	16
28	All '95–'04	39	32	36	11	7	21
9	Hiraan			11		22	89
8	Mudug and Galguduud	50	50	25		25	
5	Shabeele Dhexe	80	20	100		60	60
10	Shabeele Hoose			100			
10	Jubba Dhexe	50	30		10		
25	Jubba Hoose	76	72	4		36	
12	Gedo	100	92	17	33	17	25
14	Bay and Bakool	29	14	43		7	14

administration on the elders and their role in mediating potentially dangerous conflicts between larger political entities.

The northern regions of Somalia thus clearly affirm the conclusion (Gundel and Dharbaxo 2006) that

> the traditional leaders in Somalia are not only the prime force for stability and continuity in terms of regulating access to pastures, water and conflict resolution between clans but also, especially in Somaliland and Puntland, have been instrumental in establishing relatively stable structures of governance, jurisprudence and security.

3 The other Somali transitions

Why was the pattern of state reconstruction in the south and centre of Somalia so very different from what we observe in the north? Gundel and Dharbaxo 2006), whom we have just quoted, continue:

> The traditional structures in South Central Somalia are different and more composite, fragmented, weakened and confused than in the north, for a range of reasons:… [a] heterogeneous mix of… people… the colonial experience is different… the dynamics of the civil war in the south differed as well, resulting in an equally different impact on the traditional structures. Hence, the common attempts to superimpose, or project the well-described northern traditional structures upon the societies in the south are wrong.

We submit that this statement is partly correct while also missing a critical aspect of the sad political trajectory in the south. It certainly is true that the capital, Mogadishu (located in South Central Somalia),[2] was such a valuable commercial prize and had such a diverse clan demography that there was little prospect that it could have been handled through the northern pattern of relatively consensual consultations of clan *isimo* and gatherings of elders. But even the southern port of Kismaayo is no more ethnically homogeneous or commercially valuable than the Somaliland port of Berbera and the Puntland port of Boosaaso. It is true that the inter-riverine area around Baidoa incorporates intertwined clans involved in distinct livestock and crop production systems (with the latter much more easily disrupted by armed predation). But these clans had previously evolved complex and mutually beneficial systems of interdependent production. The ability of the otherwise very fragile Transitional Federal Government (TFG) of Somalia to survive in Baidoa until late 2006 suggests that viable inter-ethnic and inter-clan understandings were not impossible there. Thus these demographic and economic factors do not seem to us to have been absolutely determinative.

We believe that other aspects of the political history of the south and centre are also important in explaining its instability and failure to build effective legitimacy from below. The military and business leaders there were so intent on displacing one another and on extracting the commercial and revenue benefits that would come from expansion that they neglected to consolidate their legitimacy at the base until it was too late.

The evidence for our proposition can be found by analysing Interpeace's superb compilation of the 93 local peace initiatives that were undertaken in the south and centre of Somalia between 1992 and 2007 (Oker and Habibullah 2010). These accounts demonstrate that the elders in these regions consistently have been and are deeply engaged in local governance and in the negotiation of conflicts between local lineages. Only in the early 1990s and then again as the Union of Islamic Courts (UIC) was gaining strength in the early 2000s did these peace initiatives have international or regional government support. Whereas in the earlier and later periods claimants to regional authority were involved in 40 per cent of the local peace initiatives, between 1995 and 2004 they were engaged with only 32 per cent.

UN peacekeeping (UNOSOM) was involved in seven of the initiatives in the early 1990s but international support for local peace initiatives returned only after 2000 and then only nine times by a non-governmental organisation (Interpeace's Centre for Research and Dialogue), not directly from any donor or diplomatic organisation. Similarly there is very little (if any) evidence that elders were involved before 2000 in establishing and administering authority in the various regions of Somalia other than in Somaliland and Puntland, although they were central to all of the local peace initiatives. Prior to the inroads of the UIC and its offshoots (including al-Shabaab), control of the various regions was established by former officers of the army of Somalia (under Siad Barre) in alliance with businessmen who financed them and took advantage of the local monopolies over trade that they provided. These officer–business alliances appealed to sub-clan loyalties but did not seek validation from sub-clan elders or senior traditional leaders in establishing or executing their authority.

It is striking that none of the officer–business alliances in the centre and south of Somalia were able to survive – not even that of General Mohamed Farah Aideed, who for 15 years had control of as many regions as were core to Puntland or Somaliland and despite his group's outlasting the concerted efforts of US forces under UNOSOM-II to capture him. (He was subsequently killed in a battle but was succeeded by his ex-US Marine son.) Aideed was engaged in only two high-level regional peace initiatives, and Ali Mahdi, his major competitor, was involved in only two local ones. Politicians of some type were engaged in almost half of all the local peace initiatives, and claimants to regional authority were involved in 40 per cent. But this is a very low level of political engagement when one considers that the peace initiatives all concerned serious threats to order within a region's territory, thus showing considerable neglect of what Hobbes would have considered the core responsibility of the state – the security of its citizens. As we noted above, the largest degree of involvement by regional authorities was in the early and late periods, when there were military challenges to local control. In the interim period when outside threats dropped, regional leaders and their representatives concerned themselves with only 32 per cent of their local peace processes and thus squandered opportunities to enhance their legitimacy.

There is variation between the regions in the degree of involvement of political leaders in their peace initiatives. In Shabeele Hoose (Lower) and Hiraan there was none and instead all the peace efforts in the first were led by religious leaders and in the second by the symbolic traditional heads of lineages (*isimo*). On the other extreme, in Jubba Hoose, where control of the port of Kismaayo was at stake, there were 19 initiatives in the early and late periods of conflict and claimants to regional authority were involved in 58 per cent. Similarly 92 per cent of the peace processes in Gedo involved the regional leadership. It probably is no coincidence that Gedo is the region out of which the Jubba Valley Alliance (JVA) was able to launch the takeover of the two Jubba regions (and Kismaayo) in 2001. The JVA then engaged in a spurt of 13 local peace initiatives in these two regions after 2005, but by this time the UIC had already gained considerable strength in the area.

Puntland is similar to the south in having grown out of the initiative of a warlord who had business support, but in its case assemblies of elders *also* were involved intensively and extensively in regional governance and it twice even supported the peace initiatives of elders on its southern periphery. Both in Somaliland and Puntland these consultations seem to have given the new structures of authority a legitimacy and durability that were lacking in the centre and south.

Of course ultimately political Islam came to be the dominant contestant for control in the centre and south. It has shown the legitimacy and durability that the officer–business alliances lacked. The 2006 attempt of Ethiopia (with US support) to dislodge the UIC ultimately was unsuccessful. (When Ethiopia abandoned its attempt, the more moderate Islamists took leadership of the TFG but the radical al-Shabaab announced an alliance with al-Qaeda. It may be that the legitimacy and durability of the radical Islamists in their areas are not as solid as Somaliland and Puntland are in theirs, but this is hard to judge since the international environment has been hostile to the Islamists and more accepting of the two polities in the north.) It also is striking that in the cases in which external military forces have been able to dislodge radical Islamists in district capitals, the Islamists have nonetheless remained effectively in control in the rural areas. All of this suggests that political Islam is able to establish deeper roots in the social structures of the Somalis than military–business alliances can – unless the latter have involved elders and traditional senior leaders. During the period in which the warlords were neglecting the peace initiatives of elders in their areas the Muslim Sharia courts were engaged in their communities in the resolution of family and commercial disputes and we find them having been involved with 24 local peace initiatives (26 per cent of the total). Note too that in the middle period when the Islamists were consolidating for a challenge to the secular authorities, their involvement rose to 36 per cent. Variation within the south is revealing as well. Islamic religious leaders participated in *all* the initiatives in the Middle (Dhexe) and Lower (Hoose) Shabeele Regions and 43 per cent of those in Bay and Bakool. The Hawiye clan dominates in the former two and the Rahanweyn in the latter pair and these are the two clans that now show most allegiance to al-Shabaab. The early presence of Islamic peace efforts in Bay Region is particularly striking, as the TFG was headquartered there until 2006. Despite being dependent on Bay Region, the TFG leaders and the regional authorities there showed the lowest involvement (14 per cent) with local peace initiatives of any other area in the south and centre of Somalia.

The preceding analysis has important implications for the TFG and the prospects for its successor. The TFG structure of representation has been based on the cooptation of 'warlords' and traditional leaders whom they in turn have co-opted. It lacks the deeper roots in Somali society provided by political Islam's incorporation of *Imams* and by the extensive consultation with a fuller array of elders that Somaliland and Puntland undertook.

4 Conclusions

The economics, demographics and conflicts in the south and centre of Somalia all were such as to make the involvement of elders and other local structures in shaping and legitimating regional governance more difficult. Elders, sub-clan leaders and religious leaders were not missing, however. They were engaged in numerous initiatives to resolve and bring peace to local disputes.

Occasionally the international community or regional warlords and politicians supported these local initiatives, but usually they were preoccupied with reconstituting a national government and who would dominate it. They focused on fighting, negotiating with and co-opting the militia leaders and businessmen who put themselves in contest for national office, and for the international resources that could be expected to flow through a government of Somalia once it was properly constituted.

The consequence was that possibilities for consolidating regional governments and legitimating them with their populations were neglected. After the UN retreated from its early effort to build decentralised regional governments up into a national federation, communities were left to govern themselves.

This gap in local governance was taken up not only by sub-clan and other traditional structures but increasingly by Sharia courts as well. By the time the warlords contesting for national power

realised that their real opponents were not one another but the proponents of political Islam the opportunities to build a counter from below were lost in most of the country.

It may be that sub-clan elders and lineage leaders will be able to join with more moderate Islamists to defeat the radical versions of political Islam in much, and maybe all, of Somalia. The moral of the experience of the Somalis is clear, however. In a conflict country, the social contract that exists between citizens and their local governance structures not only does not disappear but becomes much more critical to the security of those at the bottom. A primary part of post-conflict reconstruction must be rebuilding the social contract between community governance structures and national ones. In some circumstances local governance may need to be reformed; not everything that is 'traditional' enjoys the support of its constituents. But citizens will rebuild and revalidate the state only from the bottom-up.

Notes

1 *Diya* groups are made up of about 100 adult males in a sub-lineage who exact and pay compensation for torts committed against and by group members (Lewis 1999 [1961]). Such use of ascriptive ties for security and advantage seems common when civil war forces a breakdown in formal governance structures.
2 See appendix for further detail about these regions.

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Appendix Region-by-region histories of political control in the south and centre of Somalia
Mohamed Samantar

The earliest resistance to Siad Barre's government came from groups in the north of Somalia – the Somali Salvation Democratic Front (SSDF, 1978, Darood clan and Majeerteen sub-clan) and the Somali National Movement (SNM, 1981, Isaaq clan), which eventually emerged as the dominant forces in Somaliland and Puntland, respectively.

In the south and centre of Somalia, groups of army officers struggled to displace and then replace Barre, financed by businessmen seeking monopolistic control of trade (ports, towns and routes). These 'parties' were not originally organised along clan lines, but in response to Hawiye clan efforts others gradually responded by clan affiliation as well.

Jubba Hoose (Lower)

This region includes the important port of Kismaayo. Initially it was controlled by a group of army officers who had been close to Siad Barre and were primarily of the Ogaden and Harti sub-clans of the Darood clan – the Somali Patriotic Movement (SPM, 1989).

At first General Mohamed Said Hersi 'Morgan', who was a son-in-law of Barre, was a part of this group, even though his personal sub-sub-clan was Majeerteen (Harti). Ultimately

'Morgan' broke with the Ogadenis in the SPM, who became the Somali National Front (SNF, 1991), and his Harti branch of the SPM displaced both the Ogadenis from Afmadow and the Somali National Alliance (SNA, Mohamed Farah Aideed, Habar Gidir of Hawiye, 1992) from Kismaayo. Morgan and Colonel Ahmed Omar Jees retained control of Kismaayo through 2001. Morgan's move against Aideed as well as Jees's realignment from the latter to the former occurred in the context of the UNOSOM-II campaign to capture and defeat Aideed.

From 2001 to 2006 the Jubba Valley Alliance (JVA, Marehan of Darood and Habar Gidir of Hawiye) under Colonel Barre Hiiraale had control with the support of the President of the Transitional National Government (TNG).

In 2006 the UIC took control. (One of the UIC leaders, who eventually became leader of the [radical Islamist] al-Shabaab faction, was Ahmed Godane. Although he is Isaaq from Hargeysa, the dominant clan in al-Shabaab is Hawiye.) For a short period after 2007 Ethiopian troops occupied Kismaayo but they were never able to displace the Islamists from the rural areas. Thus when Ethiopia withdrew al-Shabaab retook the city, which as of August 2012, has not yet been taken by the Kenyans (who have now joined the African Union forces in support of the Transitional Federal Government, TFG).

Politicians were involved in UNOSOM's efforts in the early 1990s to broker peace between the parties but returned to peace initiatives again only between 2004 and 2006 as the Jubba Valley Alliance was struggling to counter the UIC.

Jubba Dhexe (Middle)

When Morgan and the SPM controlled Jubba Hoose they also had control in Dhexe, as Barre Hiiraale and the JVA did after them and then the Islamic Courts Union. There was no religious involvement with the local peace initiatives. Politicians were involved in half of the mediation exercises.

Gedo

This is a Marehan (of the Darood clan) area and thus of Siad Barre's sub-clan. Its SNF retained control, and then in 2001 under Colonel Barre Hiiraale and the JVA it was able to extend its control first to Jubba Dhexe and then Jubba Hoose as well.

The JVA was displaced in all its areas by the UIC in 2006.

Of the 12 local peace initiatives politicians were involved in 11 (with four coming after 2005) and Muslim leaders in two.

Mogadishu

As the prize port and capital, this city, between the two Shabeele regions, was the site of the most intensive and longest violent conflicts. The city came to be divided by a 'Green Line', with Mohamed Farah Aideed (and later, his son, Hussein) and the Somali National Alliance (SNA, 1992, Habar Gidir of Hawiye) controlling the south and Ali Mahdi and his faction of the United Somali Congress (USC, 1989, Abgaal and Murasade of Hawiye) the north, until the TFG was able to establish a foothold in 2007 with the support of troops from Burundi and Uganda.

Shabeele Hoose (Lower)

From 1991 to 2006 the region was controlled by the Southern Somali National Movement (SSNM) party of the Biyomaal sub-clan of the Dir, but in alliance with the USC–Somali National Alliance (SNA, 1992, Habar Gidir of Hawiye; called SRRC after 2001) of Farah Aideed, which had control of Mogadishu south of the 'Green Line'. In 2006 the region

became UIC, then Ethiopian, then al-Shabaab. All of the region's peace initiatives involved religious leaders and none involved politicians.

Shabeele Dhexe (Middle)

Extending north from Mogadishu, this region was also controlled by the SNA and Ali Mahdi, until it was captured by UIC in 2006. It is now under al-Shabaab. All five of its peace initiatives involved religious leaders and Ali Mahdi played a role in two.

Bay and Bakool

These two regions are the core of crop production in Somalia and also are the area of the sedentary Rahanweyn clan (Rahanweyn Resistance Army, RRA). The two regions were briefly controlled by Farah Aideed's SNA but after he was displaced the two became one of few areas under the direct control of the TNG, until 2006 when it was overthrown by the UIC. The RRA was the one party in the region that had some involvement of elders. Six of the 14 peace initiatives involved religious leaders and four involved politicians. The Rahanweyn clan (with the Hawiye) have become prime supporters of al-Shabaab.

Hiraan

This area was allied with Ali Mahdi and the USC in Mogadishu and also was part of the TNG. In this region the group exclusively comprised former military officers, without business support and was dominated by the Hawaadle sub-clan of the Hawiye. They were supported by Ethiopia and when Ethiopian forces withdrew the non-Hawaadle minorities joined al-Shabaab and overthrew them. Ethiopia has now returned to Beledweyne and re-established the Hawaadle USC in the town, but the rural areas are still al-Shabaab. There was no support by regional authorities in Hiraan for community peace initiatives.

Galguduud

The region is predominately Habar Gidir of Hawiye and thus support Farah Aideed and the USC. There is a minority of Marehan (Darood) in the region, but no more than a few villages supported the SNF. The region fell to the UIC in 2006 but in the dissolution of that movement it became Al Sunna wal Jamah, which is more moderate and supports the TFG.

Mudug

This region has more internal divisions than any other, save Mogadishu. The area north of Gaalkacyo is Majeerteen (of Darood), allied with the SSDF and is a secure part of Puntland. The south is Habar Gidir (of Hawiye), supported the SNA of Farah Aideed, and is now controlled by the more moderate Islamists of Al Sunnah wal Jamah. However, the south-east of Mudug is embroiled in a struggle for control over the resources generated by piracy and is under secular sub-sub-clans of the Habar Gidir, the Sacad and (in Hobyo) the Saleeman.

This is the one area in which Aideed was involved in a peace initiative, while Puntland engaged in three of the eight.

Sources for this appendix (beyond the knowledge of the author) are:
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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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1 Introduction

It is now recognized that violence plays a decisive role in the breakdown of coping strategies leading to famine in Africa today. This is especially the case where armed conflict magnifies trends already discernible as a result of enviro-economic factors such as drought. Nevertheless, as de Waal (1993: 33) cautions, "the glib commonplace, 'war plus drought equals famine' grossly understates the complexity and intimacy of the links between the two". Greater awareness of these links is needed for more effective famine prevention strategies, but is itself dependent on a much deeper understanding of why violence erupts in the first place.

Violent conflicts, like all social processes, are cultural phenomena and should be analysed as such. This is the starting point for understanding the links between the age-old pastoral institution of livestock raiding and livelihood insecurity among nomadic Turkana herders in Kenya.[1] In East Africa, raiding has been a characteristic of pastoral systems for hundreds of years (Fukui and Turton 1979). Yet, despite the pervasiveness of this practice, raiding is often depicted as superimposed on pastoral life rather than as an intrinsic component of changing relations and competition in a harsh environment. In particular, the impact of raiding on the normal productive activities of herders, and how raiding interacts with drought to cause famine, are poorly understood.

The long-persisting and erroneous conception of famine in Turkana as an essentially 'drought-driven' event has given way to growing recognition today of the key role which livestock raiding plays in the breakdown of herders' coping strategies. However, this article argues that the phenomenon of cattle raids *per se* is not the problem. Common portrayals of raiding as a manifestation of 'tribal' hostilities fail to recognize its traditional livelihood-enhancing roles (Oloka-Onyango *et al.* 1992). Rather, the problem is the fashion in which raiding has been

[1] This article arises from an IDS research project on the 'three securities': food security, enviromental security, and physical or national security, funded by the MacArthur Foundation. The Turkana fieldwork was carried out in 1992. The results of the project will be published in a forthcoming issue of the **IDS Research Report** series.

Livestock Raiding Among the Pastoral Turkana of Kenya

Redistribution, Predation and the Links to Famine

Dylan Hendrickson, Robin Mearns and Jeremy Armon

IDS Bulletin Vol 27 No 3 1996

transformed over the years, from a quasi-cultural practice with important redistributive functions, into more predatory and violent forms driven by a criminal and acquisitive logic and waged with sophisticated weaponry.

This article highlights the central distinction between 'redistributive' and 'predatory' forms of livestock raiding. It seeks to understand its increasingly modern and violent forms in terms of the changing functions which raiding serves within pastoral society and, increasingly, outside it. Using a simple model of armed conflict and livelihood vulnerability the article concludes by illustrating the complex ways in which violence and the threat of violence interact with drought to undermine coping strategies, particularly with regard to herder mobility.

2 The Rise in Livelihood Insecurity Among the Turkana

2.1 Background

The Turkana inhabit a desolate region in northwestern Kenya. Numbering around 300,000, of which 70 per cent are pastoralists (Buchanan-Smith and Davies 1995), they are divided into 13 sub-tribes, each occupying a well-defined territorial 'subsection'. To the West, North-West and North-East, Turkana district is bordered by Uganda, Sudan and Ethiopia respectively (See Figure 1). The Turkana, like the majority of pastoralists in Africa, have traditionally led a lifestyle geared towards subsistence. Though precarious at the best of times, it is well suited to the harsh, dryland environment which they inhabit. Drought and famine are constant hazards: only one year in four is likely to bring adequate rain (Gulliver 1955).

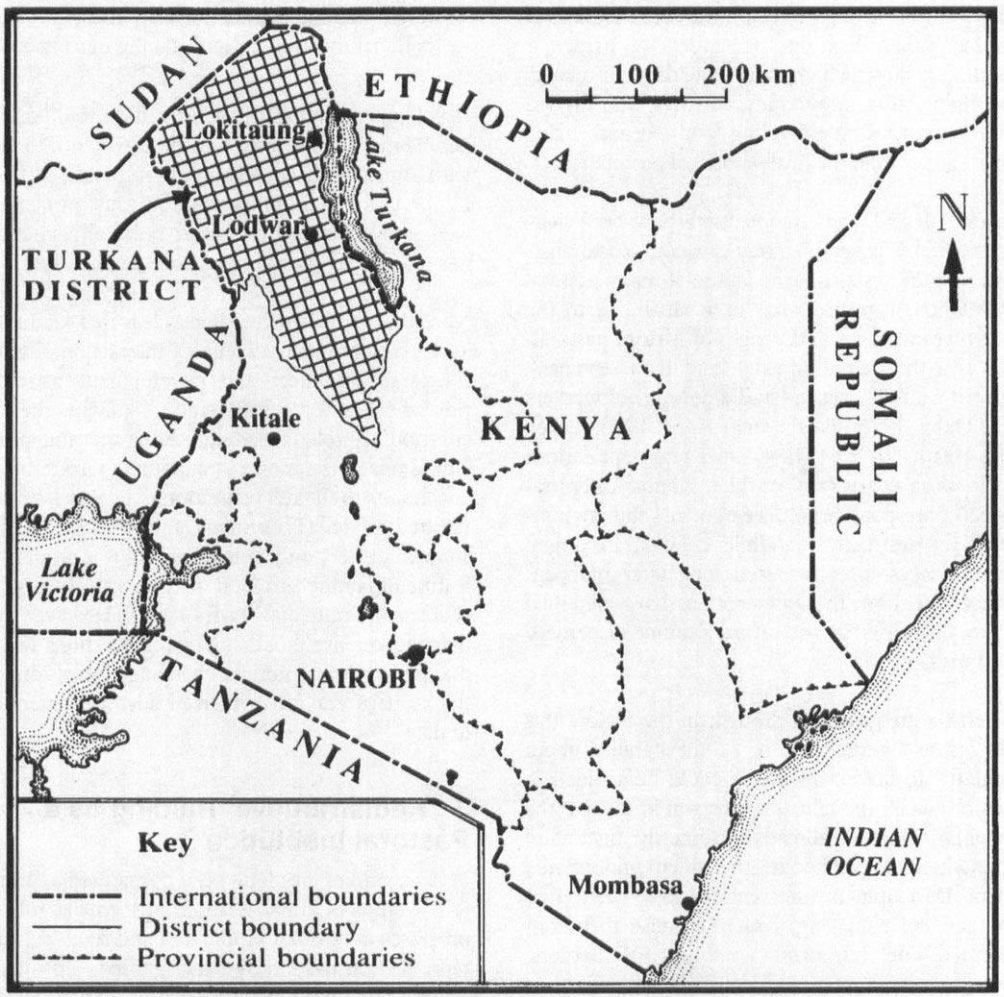
Owing to the variability of the rainfall and fodder upon which their livestock depend, the Turkana pursue a nomadic existence. Their migration routes habitually take them across district boundaries and, during more prolonged periods of drought, into neighbouring countries. During their long experience of recurrent drought and environmental uncertainty, the Turkana have developed elaborate survival strategies. These have traditionally included herd diversification, herd splitting through daily and seasonal movements, livestock circulation among extended family members and 'stock associates', alliances with neighbouring communities (pastoral and non-pastoral) to allow access to resources in times of stress, and raiding stock from neighbouring groups (McCabe 1990). Increasingly, the Turkana have also become reliant on the market to supplement their own production.

The stage for political conflict, environmental degradation and food insecurity within Turkana was set decades ago (Oba 1992). The indigenous livestock economy was seriously weakened following pacification by colonialism at the turn of the century. More recently, the rise of physical insecurity in the district has been linked to Turkana's geo-political situation at the heart of a region torn by war and civil strife. Internal wars in Ethiopia, Sudan and Uganda have often spilled over into Kenya. Although cattle raiding and intra-regional conflict are far from new phenomena, the growing availability of modern weapons of war in recent decades has indirectly contributed to more destructive and lasting hostilities between the Turkana and neighbouring tribes including the Toposa, the Donyiro, the Merille, the Karamojong and the Pokot.

The general rise in insecurity has undermined local social security systems and the capacity of people to buffer drought. In the past 15 years, major drought has struck three times. The severity of the 1979-81 drought, in particular, obliged many herders to give up pastoralism as a way of life, at least temporarily. Livestock losses in northern Turkana reached 90 per cent of all cattle, 80 per cent of small stock, 40 per cent of camels and 45 per cent of donkeys (Hogg 1982). In February 1982, 80,000 out of 180,000 Turkana were still receiving food aid. While the famine was largely attributed to 'drought-related' causes, evidence indicates that livestock losses were in large part the result of disease spread after a Turkana raid on a pastoral group in southern Sudan (Cullis and Pacey 1992).

Swift (1989: 308), in his study of drought prevention strategies in Turkana, argues that the fall-back activities which have traditionally played a key role in sustaining pastoralists during periods of stress 'have become increasingly unsatisfactory'. Both hunting and fishing are constrained by

Figure 1 **Location of Turkana District within Kenya and the Horn of Africa**



Note Map reproduced from A Development Dialogue: Rainwater Harvesting in Turkana, by kind permission of Intermediate Technology Publications.

over-demand on the local ecosystem, while the ability to take advantage of local 'livestock-for-grain' exchange networks is often restricted by unfavourable terms of trade or their breakdown due to generalized insecurity in rural areas. In this context, there has been a growing integration of external assistance into the arsenal of survival strategies employed by the Turkana, though at the great cost of dependence on outsiders.

2.2 Famine responses as 'drought-driven'

The nature of the links between livestock raiding and famine in Turkana have been ignored or poorly understood for three reasons. First, outside interest in Turkana has been shaped by a narrow conception of famine. Famine relief was provided as early as the 1930s in Turkana by the British colonial administration (Cullis and Pacey 1992). In recent years the district has become the target of the largest

famine relief efforts in the country. Guiding these interventions has been a narrow Western definition of famine equating it with starvation and mortality. The focus has tended to be on the consequences of famine rather than on the causes, in particular sidelining those which were not 'drought-related' in origin. More importantly, this has typically led to an emphasis on providing food aid and saving 'lives' rather than the 'livelihoods' of pastoralists.

Second, development interventions have been characterized by general ignorance about pastoralists and pastoral systems. The failure of many pastoral 'development' projects has been attributed to the stereotypical views and images of African pastoralists and their environments held by researchers, government officials, aid and development workers (cf. Oxby 1975; Baxter and Hogg 1990; Leach and Mearns 1996). These views represent African pastoralists as arrogant, warlike, economically irrational, unresponsive to development, and environmentally destructive. While colonial in origin, these images have persisted long after independence. In short, these perceptions have identified pastoralism itself as the primary source of herders' misfortunes.

Given the frequency of drought in the region, this has led to a certain feeling of 'inevitability' about famine. To the extent that it could be avoided, it was originally thought that this would involve the sedentarization of nomads. Ironically, instead of strengthening livelihoods, this often undermined them. Development interventions have been environmentally damaging, largely because they constrained the traditional mobility of herders, concentrating human and livestock populations in more fertile areas, and thereby accelerating the depletion of soil nutrients, vegetation and water resources. Relief operations during famines have had similar effects by confining herders to relief camps, thereby increasing their susceptibility to disease epidemics and their dependence on outsiders.

The third reason why livestock raiding has been overlooked is political. As Cullis and Pacey note in their study of Turkana (1992: 8):

> drought is politically neutral, and to present it as the cause of crisis avoids blaming national governments or district administrators for failure to control the security situation. It also avoids the need to identify and remedy other factors which may encourage raiding - factors that might include chronic poverty, alienation from national institutions, and trading in weapons.

Development and relief agencies have traditionally had neither the mandate nor the experience to deal with armed conflict. A common response, dictated by the lack of options to confront this problem as well as by the need to appear politically 'neutral', has often been officially to ignore conflict issues.

Nevertheless, it is increasingly clear that famine in Turkana stems from a complex interaction of environmental, political and development variables (McCabe 1990). A 1985 study highlights the key contributory role of raiding, noting that this problem 'is one of the most dominant and intractable of constraints to the full realization of livestock potential in Turkana' (Ecosystems, Ltd: 9.3.1). Recent studies further confirm that raiding is a prominent feature of famine and food insecurity in the district (Buchanan-Smith and Davies 1995). However, neither the key livelihood-enhancing functions which raiding performs, nor its changing dimensions in the modern era, have received adequate attention to date.

3 'Redistributive' Raiding as a Pastoral Institution

Because raiding has long been considered a 'primitive' feature of tribal relations, its crucial role in processes of pastoral production and socio-cultural reproduction has largely been ignored. To understand why raiding remains such an important feature of Turkana social organization and external relations today, reference must be made to the underlying environmental, political and socio-economic determinants of pastoral relations in harsh environments.

Anthropological explanations of raiding tend to portray its redistributive forms in the context of a subsistence ethos (i.e Fukui and Turton 1979; Turton 1991). The 'material' explanation sees raiding as competition for scarce resources. In line with nomads' perceptions, their livelihood systems extend spatially as far as their productive needs (and courage) take them (Schlee 1990). This can

encompass grazing land under the control of neighbouring tribes, subject to the prevailing state of inter-tribal relations. For nomads, gaining free access to grazing land is more important than occupying it (Tornay 1979) and has traditionally been as much a question of attaining peace with hostile tribes as of superior military strength.

Raiding is also an important means of rebuilding herds after stock have been killed by drought or seized in raids. Following the 1979-80 drought which caused losses of 50-70 per cent of the livestock in parts of Turkana district, Ellis and Swift (1988) argue that raiding was a significant determinant in the relatively rapid recovery of animal populations. Among herders, the milk from livestock serves as the principal source of nutrients. Livestock are also the currency of exchange in social transactions. Marriage, for instance, requires payment of high bride prices which are often a very strong motivation for young men to raid (Bollig 1990).

The 'political' explanation views traditional warfare as a means of establishing and maintaining the separate identities of neighbouring groups. Turton (1991: 259) sees the Mursi expansion in Southwest Ethiopia, though primarily determined by ecological change, as made possible by warfare. He argues that war is a 'means of maintaining rule-governed relations between autonomous political units in the absence of an overarching authority', suggesting that warfare is a reciprocal activity, crucial to maintaining balance. Far from signifying a breakdown in 'normal' political relations, warfare is seen as their very underpinning. In the case of large-scale aggressions, convention demands that an aggrieved tribe mount a counter-raid to re-establish its stature before peace can be made. The equivalence in terms of stock taken or casualties inflicted is not as important as re-establishing a sense of 'balance' which remains an important pre-condition for conflict resolution (Fukui and Turton 1979).

'Social' factors also play an important role in explaining the incidence and intensity of raiding. Many elements of Turkana culture display a military ethos which blends in with religious, political and economic matters. For young men, warfare is an important rite of passage, one which has become linked with raids and is often an important inspiration for raiding (Lamphear 1992). Raids seem to be one of the few ways for a young man to earn prestige and gain independence from his father. Bourdieu (1979) notes that in systems where economic capital is permanently at risk, accumulating social and symbolic capital is probably the most enduring and reliable form of accumulation, as it can be transformed into economic assets at any stage.

The incidence of raiding is closely tied to climatic conditions and the prevailing state of the 'tribal peace', and is an equally common feature of both intra-tribal and inter-tribal relations (Dyson-Hudson and McCabe 1982). Dietz (1987) notes that since the early 1900s, the peace between the Turkana and Pokot has predominantly broken down during periods in which livestock epidemics have coincided with two or more consecutive dry years. Generally speaking, the will and capacity of the state to enforce the 'tribal peace', both during the colonial era and following Kenya's Independence, has been a key determinant in patterns of raiding. However, whether vigorous patrolling of Turkana's border areas is directly correlated with an increase in livelihood security among herders is not necessarily clear in the context of redistributive raiding.

Redistributive raiding has traditionally been carried out according to strict rules governing preparation, engagement, disengagement and conflict resolution. Extreme violence, especially against women and children, was generally not 'acceptable'. When it did occur, it was more often a characteristic of inter-tribal clashes. Fukui and Turton (1979: 12) note that 'the rules which, to a greater or lesser extent, govern the actual conduct of hostilities seem designed to prevent one side gaining an 'unfair' advantage over the other'. Over time and other things being equal, traditional raiding on a systemic level can be seen as a positive sum game. The entire pastoral system - comprising the Turkana and their neighbouring tribes - is better off due to the internal reallocation of resources which occurs between richer and poorer households.

It would be wrong to romanticize 'traditional,' redistributive raiding by overlooking the negative impact it can have on livelihoods, especially in its more modern forms. However, whereas redistributive raiding occurred within a social framework

which could accommodate its excesses, predatory raiding has overwhelmed this framework through its sheer intensity. Predatory raiding is systematically destabilizing and driven by a criminal logic contrasting sharply with traditional notions of balance and reciprocity. In the context of Turkana society as a whole, this more modern form of raiding which is characterized by external involvement can be seen as a zero-sum game.

4 Armed Conflict in the Contemporary Pastoral Zone

To understand predatory forms of raiding, the 'material', 'social' and 'political' explanations of redistributive raiding must be supplemented with 'economic' ones. The main distinction between redistributive and predatory forms of raiding does not relate to the use of sophisticated weaponry,[2] for both could be considered modern in this sense today. The main differences have to do with the arena in which livestock raiding occurs, the motives of the main actors, in particular the role of the state, and the impact which raiding has on pastoral livelihoods and the socioeconomic integrity of the wider pastoral system.

4.1 External actors, changing motives

Redistributive forms of raiding can be understood as **internal** conflicts, occurring between actors practising the same activity (subsistence pastoralism). When raids occurred, livestock remained within the broader pastoral system. This contributed to a certain 'system stability' and crudely served to redistribute resources within it. Redistributive conflicts are also **competitive**, linked as they are to competition for scarce resources, either for production needs or socio-cultural reproduction. The pastoral way of life is not directly threatened by such raids.

Predatory raiding, on the other hand, is an **external** activity, occurring between actors who practice different kinds of activities (between pastoralists and 'entrepreneurs' motivated largely by economic gain). This dimension of raiding is mostly unidirectional and very violent, involving large-scale seizures of cattle for sale in markets outside Turkana. The increasing use of modern weaponry, where spears were once the norm, has helped erode the checks and balances governing redistributive raiding. The increase in predatory forms of raiding has led to a decline in per capita stock wealth within the pastoral system, further exacerbating these trends. Predatory raiding can thus be considered a **damage** conflict. As an external activity, the undermining of the pastoral way of life which is dependent on a certain systemic cohesion and balance can be considered an inevitable consequence (and in some cases, objective) of its action.

The distinction between the two forms of raiding is blurred by the fact that predatory raiding often builds on inter-ethnic tensions. However, it is important to make the distinction because predatory raiding both fuels and is fuelled by regional armed conflicts and illicit markets in cattle and light weapons, among other goods.[3] These trading networks can be seen to stem from the breakdown of the state which is also increasingly, in its own right, an important actor in livestock raiding today.

4.2 Role of the state

Fukui and Markakis (1994: 3) note that 'conflict in what might be called the contemporary tribal zone ... is set apart by at least one particular motive: its motives and goals are unrelated to the state'. This was formerly the case of redistributive raiding. The Turkana's struggle has never been waged against the state, but rather to preserve a way of life. Similarly, the state's interest in Turkana has usually been minimal. While cross-border raiding has often occurred with impunity, state intervention to bolster security has been rare. This explains why redistributive raiding in Turkana has long been able to persist on the margins of several nation states.

[2] It would be misleading to think that the use of guns in raiding is strictly a recent phenomenon. Lamphear (1994) argues that Turkana militarization has its origins in the latter part of the 19th century when the Abyssinian government in neighbouring Ethiopia armed the Northern Turkana to fight the British.

[3] Duffield (1990), in his study of food security and war, argues that local conflict is the stepping stone for internal wars. He sees modern conflict in Africa as rising from growing instability and the crisis of semi-subsistence.

Predatory raiding, on the other hand, and the livelihood insecurity it engenders, can be understood as a direct and indirect consequence of state actions. It is clear that local 'security' does not necessarily coincide with 'national' security. When central authorities have disarmed the Turkana with the intention of improving 'national' security, the effect has often been to make them more vulnerable to raiding. The promotion of poorly armed local 'home-guard' units in Turkana, in an attempt to reduce such vulnerability, has been largely ineffective in the face of their manipulation by political interests and the huge menace posed by outside raiders. The occurrence of predatory raiding at the local level thus often resonates with political events at the national level, especially inter-ethnic competition.

Predatory raids are largely initiated by people outside Turkana, often with links to security personnel in Kenya or surrounding states, and to government officials. The motives are largely economic, either to procure cattle in vast quantities to feed warring armies or to sell on the market for profit. General economic stagnation in Kenya has contributed to the development of an informal 'parallel' economy (Duffield 1990), unconstrained by national frontiers and largely controlled by people in positions of political power or with access to the means of violence. The illicit cross-border trade in arms and cattle is at the very crux of the problem of insecurity in Turkana today.

The rise in predatory raiding can also been seen to result from the breakdown of the state, especially in terms of its accountability to the people and its ability to provide basic services and security. For instance, Dietz (1993) notes that the post-independence weakening of cattle marketing structures, including an abolition of taxation, may have encouraged raiding and illegal trafficking in cattle by Somali traders and others in positions of power. Though the state has provided various services for cattle herders such as livestock vaccinations and watering sources, it has consistently failed in its task to maintain local security. The shift toward greater state control of pastoral affairs through legal and administrative frameworks introduced in colonial times has also exacerbated raiding. Restrictions placed on pastoral mobility by conflict in the region have joined with those imposed by colonial and post-independence administrations severely to curtail the pursuit of normal productive activities.[4]

Bollig (1994) notes that the colonial administration reduced the power of elders acting at an inter-ethnic level who customarily worked together after a period of raiding to forge a truce. The post-Independence Kenyan state has further consolidated power by undermining the power and independence of many tribal chiefs. The breakdown of traditional mechanisms of conflict resolution is closely linked to the deterioration of the social fabric in Turkana society. In particular, the intricate networks of social relations which have traditionally served to moderate violence and temper vulnerability to famine have been dramatically undermined in recent years by the general rise in insecurity.

4.3 The growing toll on pastoral livelihoods

Redistributive forms of raiding are livelihood enhancing in the sense that they enable herders to build up their stocks after a drought. In the short term, one household gains at the expense of another; in the longer-term, a significant redistribution of assets occurs between households across the pastoral system thanks to counter-raids and the functioning of the pastoral social security system. Redistributive raiding can thus contribute to systemic stability.

As raiding has evolved from predominantly redistributive to more predatory forms, the profile of 'winners' and 'losers' has changed in two ways. First, there has been an increasing shift of benefits out of the system. Actors in modern raiding who are external to the pastoral system do not stand to lose from the insecurity generated by their actions. Through their financing and access to modern means of violence, they are able to manipulate tribal

[4] Movement of cattle, both cross-border and internally, has long been controlled in Kenya, ostensibly to prevent the spread of disease. However, such controls have often served to maintain elite monopolies in the cattle trade (Schlee, 1990).

raiding to their own advantage. They use existing ethnic tensions as a springboard for their actions. In certain cases, state elites stand to gain by their direct participation in raiding. In other cases, the state's inability or unwillingness to maintain security in pastoral areas allows raiding to be carried out by others.

While the stability of the pastoral system as a whole suffers, not all Turkana are losers. Strategic alliances, once very common within the pastoral system, are now increasingly needed between groups within and outside Turkana for survival. Where Turkana herders are involved in cross-border raiding initiated by outsiders, they stand to gain. However, it seems unlikely that the benefits these herders derive are as widely redistributed among their local Turkana community as they would be through the normal functioning of traditional exchange networks.

Second, within the pastoral system, the benefits of raiding are accruing to a smaller number of people, with the poorest and most vulnerable herders ending up on the losing side. It could be argued that the widespread availability of modern weapons in Turkana today serves to maintain a certain balance in tribal relations in the context of modern raiding. However, when this balance is undermined, it is done so in a much more drastic manner. As raiding has become more violent and one-sided, one clear group of winners which has emerged are those with access to modern weaponry, whether it is used for defensive or raiding purposes. This puts a greater premium on arming, and ultimately increases violence. Bollig (1990) argues that in Pokot society it is the extensive purchase of guns more than anything else which leads to livestock scarcity.

The case of young men illustrates well how group or systemic interests have become secondary to individual ones. In former times, young men stole from richer herders in a practice which was largely 'accepted' in Turkana society. Violence was rare and social norms were largely respected. More recently, as the viability of the pastoral sector as a whole has fallen, the ability for them to acquire cattle has declined. The difficulty of fulfilling the social obligations linked to raiding has undermined men's role in pastoral society. The pressures on young men to employ violence have increased in line with changes in traditional power relations within pastoral society. The influence of elders, once sufficient to check the aggressive ambitions of younger 'age-sets', has in many cases dwindled significantly (Lamphear 1992).

Women, children and the poorer herders seem to be consistent losers. As dependents, women and children are often the first to leave the pastoral sector in times of crisis. They may be sent away to stay with distance relatives or, increasingly, to urban areas. Here their vulnerability to food insecurity is often not relieved. The growing urban population in Turkana faces severe problems of hunger, trauma and dislocation. Often women turn to prostitution to survive. The migration of herders dispossessed of their livestock out of the pastoral sector in search of wage labour represents the final blow to hopes of recovery. The crucial ties to the social networks needed to resume herding are often irrevocably severed.

5 A Model of Armed Conflict and Livelihood Vulnerability

Pastoralists are one of the few productive groups habitually defined as being vulnerable to food insecurity and famine on the basis of their productive capacity (what they have), rather than their productive incapacity (what they lack) (Davies 1996). As long as the rains fall abundantly and their livestock are able to thrive, they are very secure. However, when their livestock are either stolen or die from drought, both their source of immediate consumption (milk) and the basis of their livelihoods (livestock) are lost. This *structural* vulnerability of pastoralists reduces their ability to weather transitory disturbances such as shocks from raiding, drought or disease. This is especially the case when the individual, market- or collectively-based coping strategies which they rely on in times of crisis are undermined concurrently by violence.

5.1 The need for a broader understanding of famine

The **Model of Armed Conflict and Livelihood Vulnerability** (Figure 2) helps illustrate the process by which raiding, either alone or in conjunction

with other shocks, undermines livelihoods. It is based on a broader definition of famine which sees this event as 'part of a downward spiral of impoverishment and increasing vulnerability towards destitution and sometimes death' (Davies 1996). Conceptualizing the famine problem as the erosion of the basis of subsistence (a livelihood) rather than as a simple lack of food, focuses attention on the strategies which herders pursue to maintain their livelihoods, and the many ways in which these are undermined. As long as there remains a shortage of resources in the pastoral sector, ensuring livelihood security among herders will depend, as far as possible, on maintaining a lifestyle based on livestock and mobility (Scoones 1995).

While this model is informed by de Waal's (1990) **Integrated Model of Famine with Violence**, it extends the analysis in several ways which have special relevance for the case of pastoralists. First, the model narrows its focus to illustrate the impact of violence on the livelihoods of individual herders. Second, the model enables us to account for the possible recourse by herders to 'reciprocal' raiding with its livelihood-**enhancing** effects. Third, following our definition of famine, the model depicts changes in vulnerability as the prime indicator of relative destitution.[5] Finally, the model makes explicit the constant interaction between violence (or the threat of it) and livelihoods, all along the continuum between a notional 'securest' state and the end-state of death. This helps to conceptualize vulnerability as a permanent feature of pastoralist systems.

The securest livelihood state is one where pastoralists are able to nourish themselves adequately, on a more or less continuous basis, through the routine functioning of their normal livelihood strategies. While some entitlements to food may be undermined by shocks, the net effect is that vulnerability is low. As the double-headed arrow indicates in Figure 2, it is possible for a pastoral livelihood to move back and forth between a coping phase and a stage of relative security. Nonetheless, it must be recognized that for most pastoralists 'coping' is **the** normal state of affairs in response to the numerous stresses and shocks which characterize their livelihood environment.

Raiding, or the threat of raiding, in combination with other shocks, typically pushes a livelihood further down the spiral of famine. The occurrence of entitlement collapse at the 'threshold of vulnerability' signifies a dramatic reduction in the options available to pastoralists for recovery. Destitution is characterized by a complete collapse of physical capabilities and entitlements to food. In an extreme case, where all entitlements are undermined, a relatively secure livelihood can drop straight into destitution. Health crises, which often play a crucial role in the final stages of famine (de Waal 1990), can be incorporated into this model below the threshold of vulnerability, as can the collapse of the collective social security system in pastoral societies.

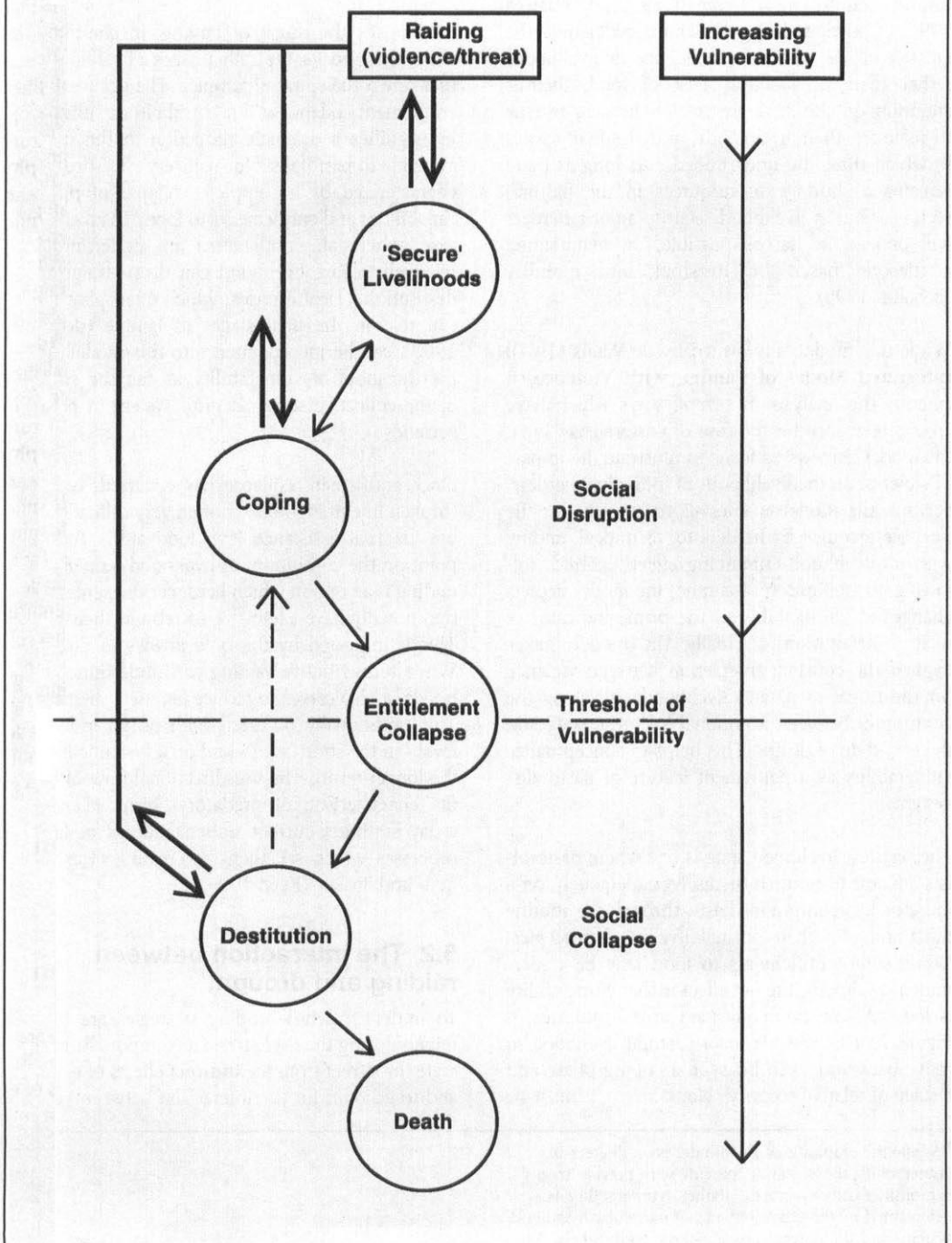
Once entitlement collapse has occurred, recovery (broken line in Figure 2) is often very difficult without external assistance (e.g. food aid). At every point on the continuum of livelihood vulnerability, raiding is an option which herders can exercise, and traditionally have exercised, to rebuild their herds. This is indicated by the bold arrows in Figure 2. While redistributive raiding can undermine livelihoods, it also serves to reduce famine vulnerability. This traditionally occurred both on an individual level - in the short-term - and on a systemic level in the longer-term. The uni-directional flow of benefits characteristic of predatory forms of raiding today supports current understandings of famine processes which see them as creating clear 'winners' and 'losers' (Keen 1994).

5.2 The interaction between raiding and drought

To understand how coping strategies are undermined during times of stress, it is important to separate the **direct** from the **indirect** effects of violence and to account for the interaction between raiding

[5] While the emphasis of this model is on degrees of vulnerability, these do not coincide with precise 'stages' exhibiting distinct features. Rather, 'vulnerability' is determined by the characteristics of particular livelihood systems and the perceptions of people within them.

Figure 2 **Model of armed conflict and livelihood vulnerability**



and drought. Both drought and raiding undermine livelihood security primarily through their impact on large-stock dairy production. The impact of drought on pastoral production is more universal than that of raiding; it undermines the livelihood security of all households in a community, while some may be fortunate enough to avoid raiding. The impact of raiding is typically more concentrated on specific aspects of pastoral production than that of drought. A raid is more likely to rob households of all large stock, leaving other entitlements intact, while drought undermines all pastoral production, as well as agriculture and wild foods.

Raiding thus has a **direct** impact on the physical welfare of herders and their livestock. Paradoxically, however, it is not so much the raids themselves as the uncertainty and the measures taken to cope with the threat of raids which affect pastoralists the most. The insecurity generated by raiding impacts **indirectly** on coping strategies. Moreover, while redistributive forms of raiding were largely expected and could be dealt with in the context of existing strategies, the high intensity and unpredictability of predatory raiding has introduced an extreme degree of uncertainty into subsistence calculations.

The breakdown of the collective social security system is a response to rising insecurity. Whereas redistributive raiding often selectively targeted individual herders, the widespread violence characteristic of predatory raiding today affects whole groups of herders in a region. This undermines the ability of stricken herders to make claims for assistance upon one other. Violence also serves to suppress or distort the market mechanisms upon which herders depend in times of stress. The volatility of animal/grain terms of trade is central here and highlights the changing nature of social relations associated with famine which is at the heart of contemporary famine vulnerability within the pastoral sector (Watts 1991).

The fall in milk production among cattle which is associated with extreme drought stems from a lack of access to good grazing land due to constraints on mobility. This leads farmers to distress sales of cattle, often including their reproductive stock. As markets are flooded with livestock, the purchasing power of herders collapses and herds are rapidly depleted. Herd reconstitution following the worst of famine may be impossible due to the surge in animal prices in the aftermath of wide-scale cattle mortalities or liquidation. Under conditions of famine, these processes may have devastating consequences for poorer herders, but this is even more likely where violence occurs as well.

It is the restrictions placed on herder mobility which have the most detrimental effect on coping strategies. One study found that 47 per cent of Turkana district, comprising much of the best grazing land, was virtually unused due to the mere threat of raiding faced by the Turkana and their neighbouring tribes (Ecosystems Ltd. 1985). In situations of protracted insecurity, the nature of vegetation cover on ungrazed land can change considerably, succeeding towards thorny shrubs that actually make the area less suitable for grazing as time goes by. The effectiveness of a coping strategy based on mobility is thus a function of the prevailing state of security in a region and often involves a trade-off between the perceived risk of being raided and the fear of starvation.

5.3 The importance of perceptions

Determining how drought and raiding **threats** interact and impact on coping strategies is difficult because one is largely dealing in the realm of perceptions, not objective indicators. Table 1 illustrates the impact uncertainty and perceptions have on livelihood strategies. There is a difference in the way a threat is perceived and its 'real' weight. In assessing threats, probability has to be weighed against consequences. Other things being equal, the more intense a threat, the greater influence it will have on livelihood strategies. Three important points emerge from this comparison.

First, the threat of drought materializes slowly; with raiding it is much swifter, leaving little time for preparation. Where a population is especially vulnerable to famine, livestock raiding can lead to a rapid-onset disaster compared with a slower-onset disaster caused by drought alone (Buchanan-Smith and Davies 1995). Moreover, once a raid has occurred, the threat of additional raids remains constant. Successive droughts are typically separated by a return to periods of normal rainfall, if only briefly at times, which helps to regenerate

Table 2 **Comparison of Drought and Raiding by Intensity of Threat**

Aspect of threat	Drought	Raiding
Specificity	Low (diffuse)	High
Nearness - in space	General, hard to avoid without moving out of drought-affected areas	Can move away from or avoid in certain circumstances
- in time	Takes a while to develop, though impossible to say when it will strike	When threat materializes, impact is immediate; threat remains constant afterwards
Weight of consequences	General livestock losses affect everyone; make cultivation and grazing more difficult	Principally affects those with large stock and those unable to split herds
Whether perceptions are amplified by past experiences	Yes	Yes

pastures and allows pastoralists time to prepare for the next period of stress.

Second, with drought there is a greater balance between the way the threat is perceived and its 'real' weight than is the case for raiding. Drought is an intrinsic feature of arid environments, one to which pastoralists are well adapted. Its slower onset allows herders to adjust their perception of the threat it poses to them to its 'real' weight, and to plan accordingly. In the case of raiding, there is more of an imbalance between perceptions and reality. Owing to the high specificity of raiding, its unpredictability and its potentially devastating consequences, herders are unwilling to enter areas which they consider unsafe. The danger may be very real, but by the same token it may not be. Owing to the potentially immediate consequences of a raid, pastoralists tend to perceive it as having a higher probability of materializing, and so are unwilling to take a risk.

Third, it is clear that neither the direct impact of raiding, nor perceptions of it as a threat, can be dissociated from the effects of drought. The perception of drought as a threat is certainly heightened by the fact that raiding is known to increase when drought occurs. These close links make it difficult to distinguish the separate impacts of drought and raiding threats on livelihood strategies. Nonetheless, understanding the impact of raiding is important. For while nothing can be done to eliminate the problem of drought, the more destructive forms of modern raiding could, under the right circumstances, be eliminated.

The tendency to view raiding as a 'one-off' shock fails to account for the permanent state of insecurity it generates and the knock-on effects. In the contemporary context, this insecurity must be seen as another facet of the structural livelihood vulnerability of Turkana herders. Permanent and generalized insecurity hampers recourse to both individual and collectively-based coping strategies in times of crisis, as well as the use of markets which herders have become increasingly reliant upon in recent years. The breakdown of social order and traditional mechanisms of conflict resolution in pastoral society are broader consequences of violence today and reinforce the vicious circle of livelihood insecurity and raiding among pastoralists.

6 Conclusions

This article has shown how the transformation of the traditional pastoral institution of livestock raiding in the modern era is linked with the growing crisis of livelihood insecurity among the Turkana. The policy implications for pastoral development are wide-ranging. The main point is that approaches to famine must be more concerned with underlying causes. Recent years have witnessed relief agencies seeking to reduce vulnerability among the Turkana by strengthening local coping strategies. Oxfam's restocking programme is an important step in this direction (Buchanan-Smith 1993), but as long as the raiding problem persists this will at best be a stop-gap measure.

Contemporary raiding is a symptom of a broader cross-national malaise which has socioeconomic, political and cultural dimensions. Under these circumstances, the success of pastoral development depends to a large degree on wider issues of regional conflict resolution and arms control, on the building of legitimate and accountable government in the region, and on the tightening of cultural norms around the legitimate use of violence. Such issues may seem intractable. While addressing the broader causes of famine involves engagement with institutions outside the pastoral sector, there is also much that can be done at the local level. As Swift (1995: 171) notes:

> Pastoral organizations can play a key role in bringing the activities of irregular armed forces, armed militias and bandits under control by opening channels of communication between opposing groups and regulating and policing conflicts before they escalate. Properly constituted pastoral organizations, given the necessary powers, could [also] perform these roles in a cross-border context, since they represent the only real authority in many such areas.

Strengthening pastoral institutions can have a direct and positive cross-national impact on efforts to manage and resolve violent conflicts. Indirectly, any improvements this engenders in pastoral livelihoods will undercut the alienation, impoverishment and vulnerablity which make livestock raiding so attractive as a livelihood strategy in the first place. While outsiders may not view redistributive raiding as a viable or 'acceptable' coping strategy today, the search for alternatives must take into account its real significance in pastoral society and the void its disappearance would create.

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FIFTY YEARS OF RESEARCH ON PASTORALISM AND DEVELOPMENT

Editor **Ian Scoones**

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Conflict Management for Multiple Resource Users in Pastoralist and Agro-Pastoralist Contexts

Ben Cousins

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1 Introduction

Livelihood systems in rural social formations often involve the utilization of natural resources for multiple purposes (e.g. wetlands which are used for both cropping and for grazing) or by more than one user (as when rangelands are grazed by different herdowners or groups of herdowners). Disputes or conflicts are common in these situations, and institutional frameworks for resolving disputes and managing conflict have usually evolved in response. These frameworks, however, have come under increasing stress under the impact of processes of rapid social, economic and political change, and rural development projects often produce conflict as they alter terms of access to and control over resources. Thus conflict, and attempts to resolve, accommodate and manage it, have become increasingly central in the development arena.

This article addresses these issues in contexts where pastoralists and agro-pastoralists are engaged in multiple resource use systems. The causes of disputes and conflicts in such systems are examined, and innovative approaches to prevention, management and resolution are discussed. Also explored are the implications for conflict management of policies and programmes which promote decentralization and the empowerment of local decision makers.

2 Multiple Resource Use in Pastoral and Agro-Pastoral Contexts

Multiple resource use is a central feature of many production systems, and of pastoralism and agro-pastoralism in particular. It typically involves complex combinations of the following variables:

- different categories of users (e.g. individuals, households, kinship groups, corporate groups, villages, communities, tribes, ethnic groups)

- users of different status (e.g. owners; co-owners; primary, secondary and tertiary users; lessors and lessees; unrecognized or 'illegal' users)

- different uses (e.g. gathering and cutting of foods, grass, fuelwood and materials for craft production; hunting; annual cropping; permanent

cropping; grazing and browsing, by single or multi-species herds; water for livestock, domestic supply, irrigation)

- resources of differential productivity, economic value and ease of control (e.g. stably productive gardens on fertile soils vs rainfed arable fields of lower fertility; high productivity lowland grazing vs low productivity extensive rangeland; close or permanent water sources vs distant or seasonal water sources)

- different sets of rights and obligations for users of resources (e.g. rights to different uses, for defined time periods or seasons; rights of disposal; rights of occupancy, access or transit; reciprocal rights of access).

Understanding these systems requires that they be disaggregated into their component variables, and the inter-connections between these variables explained. Thus Thebaud (1995) describes resource use in the Sahel as involving a multiplicity of users: an annual pasture is often accessible to many users from different directions who remain for an indeterminate time; valleys or *bas-fonds* may be exploited and jointly controlled by several agro-pastoral village communities, or by smaller groups with family fields within the bas-fonds; family fields will be controlled by households. These fields may be opened at certain times of year to passing herders in terms of manuring contracts. Non-exclusive rights, e.g. to water points, may involve priority usage rights for a restricted group or even a family, but also allow access by other pastoralists in accordance with strict rules aimed at controlling grazing in the surrounding area. Pastoral land use involves a duality of vast rangelands and more limited home areas which often contain strategic resources: deep wells, areas around lakes, rivers, streams or permanent water holes or *bas-fonds* rich in woody species.

According to Niamir-Fuller (1994), multiple resource use in pastoral Africa was traditionally regulated by informal or formal rules based on priority of user groups: 'primary users' had highest priority within their home territory, 'secondary users' had seasonal access, and 'tertiary users' had infrequent access in times of need e.g. drought years. She distinguishes between five territorial units within a hierarchy of tenure regimes: the customary territory belonging to the 'tribe'; flexibly defined annual grazing areas within the territory, with priority use by several clans, sections or sub-clans; dry season bases where a specific group such as a sub-clan was the primary user and other groups were secondary or tertiary users; key sites within the dry season base; and group or individual resources/areas, such as trees in Turkana, where a household or group of households was the primary user.

Nianir-Fuller (1994: 29) also describes overlapping territories, managed jointly by neighbouring groups, which allowed some room for expansion and functioned as fall-back areas in difficult years; and buffer zones between groups, maintained for similar reasons, but more extensive and used by more than two groups. The latter required *ad hoc* negotiations over use between the different groups when the need to use them arose.

Behnke (1994) provides examples from Bedouin Libya of hierarchies of rights to water, arable land and pasture resources based on variations in their productive value and costs of control. This results in varying degrees of exclusive control of resource use, as in Thebaud's and Niamir-Fuller's descriptions. Thus in African pastoral tenure systems

> ... the natural landscape is seldom carved up into neat territorial packages owned by distinct groups or individuals. Instead, any defined area is likely to be used by a myriad of different ownership groups of variable size and composition, with overlapping claims to territory derived from particular claims to different categories of resources within it.
>
> (Behnke 1994: 7)

Multiple and overlapping rights to resources are also a feature of agro-pastoral systems of production in Africa (Scoones and Wilson 1989; Scoones 1996), and of African tenure systems in general (Berry 1993).

3 Multiple Resource Use and Conflict Management in the 'New Thinking' on Pastoralist Development

Multiple resource use has ecological and economic rationales which are particularly compelling where the productivity of resources is highly variable over space and over time - i.e. where so-called 'non-equilibrium' ecological dynamics are found (Behnke 1994). The emerging paradigm suggests that the dynamics of many arid and semi-arid rangelands may be driven by episodic events such as droughts or fires, and thus '... the condition of [a] grazing system at any particular time is determined more by the chance occurrence of non-biological events than by interaction between the biological components of the system itself' (Behnke and Scoones 1993: 9; see also Ellis and Swift 1988; Westoby *et al.* 1989).

Behnke and Scoones (1993: 13) show how mobility can increase the overall carrying capacity within a region which incorporates a wide range of seasonal carrying capacities in different zones. This assumes a pattern of predictable environmental fluctuation. A similar argument is made by Sandford (1983: 33-36) for situations where stock movement takes place in response to unpredictable rainfall fluctuations, disease outbreaks, borehole breakdowns and range fires. In the former case pastoralists often follow regular transhumant route; in the latter movement is more contingent and depends on herdowners preserving access to fall-back areas.

For pastoralists, 'opportunistic' herd movement over long distances is thus essential in order to track environmental variability and thus to maintaining the large herds which constitute their main source of livelihoods (Behnke and Scoones 1993). Variability occurs at both the macro-scale (e.g. contrasts between clay veld savanna and sand veld savanna), and at the micro-scale (e.g. between riverine areas and toplands), and thus modified forms of opportunism are found in agro-pastoral systems as well (Scoones 1989; Cousins 1992).

Behnke (1994: 8) traces the implications for tenure and administration of this emerging perspective: in non-equilibrium environments, non-exclusive forms of rights to use resources are complementary to opportunistic stocking and herding strategies. Indeterminate social and territorial boundaries provide 'a degree of fluidity which suits everyone's requirements'. Complexity and flexibility mean that close regulation by administrators is therefore inappropriate (and generally ineffective), and devolution of administration and management to individual pastoralists and communities is more feasible (see also Swift 1994; Sylla 1994). It also suggests that local users should be given legally recognized rights over resources, something which is still absent in many pastoralist and agro-pastoralist situations (NOPA 1992; Lane and Moorehead 1994).

The 'new thinking' also asserts that a situation of chronic or endemic conflict is a central feature of non-equilibrium settings (Behnke and Scoones 1993; Scoones 1994; Niamir-Fuller 1994). This helps to explain the high degree of inter-group conflict often associated with pastoralism, but also the patterns of co-operation and reciprocal access which are found. Environmental variability thus results in a high degree of political (and sometimes military) competition, ameliorated by periods when competitors relate to each other as allies, neighbours or even kin (Behnke 1994: 5).

The policy implication of this perspective is a shift in administrative focus from regulation and control of resource use to mediation and arbitration between the conflicting interests of individuals and groups. This further suggests that legal frameworks should focus on procedural rather than substantive law (Vedeld 1993), which cannot easily codify customary law without losing its internal complexity, flexibility and adaptability to change. Procedural law would '... specify the framework within which interested parties could legitimately put forward claims to resources, the administrative/jural institutions which should process claims, the criteria for choosing between opposing claims, and enforcement procedures' (Behnke 1994: 15).

Similarly, Scoones (1994: 31) suggests that conflict be explicitly addressed and accepted as inevitable rather than being ignored or treated as an incidental or removable feature. Again, the recommendation is to establish formal institutional arrangements for negotiation, arbitration and resolution. Sylla (1994) and Vedeld (1992) advocate

a central role in conflict resolution for pastoral organizations, and Swift (1994) highlights conflict resolution as a central function of pastoral administration at different levels.

4 Institutions for Conflict Management in Multiple Resource Systems

This discussion suggests two additional variables which are likely to be found in multiple resource use systems:

- institutional arrangements for managing multiple use (e.g. for allocating resource use rights within groups; negotiating access between different groups or individuals and households within groups; developing or adapting rules of access or management; imposing sanctions or punishments for transgressions)

- conflict management and dispute resolution institutions and mechanisms (e.g. age-group systems, councils of elders, traditional courts and tribunals, informal police forces, 'modern' courts and judicial systems)

Traditional institutions with these functions were deeply embedded within the social and cultural norms and practices of different groups, and often integrated into other social, economic and political structures (Rugege 1995; Bradbury *et al.* 1995; Sylla 1994; Bollig 1994). Less well integrated, and less effective, were mechanisms for negotiating agreements and ending conflicts between ethnic groups, and between pastoralists and sedentary agro-pastoralists and cultivators (Ndagala 1991; Bollig 1994). Conflict was endemic, and often regulated by stock raiding and warfare rather than negotiation (see Behnke's analysis above).

This characterization, however, is inadequate as a description of the situation in recent decades. The literature on pastoralist and agro-pastoralist systems, and more generally on agrarian change, has as a central theme the undermining of pre-colonial social and institutional orders. Certain of their features were incorporated into colonial systems of administration, resulting in the mixed or 'hybrid' nature of current legal and administrative systems (Swift 1994; Sylla 1994; Vedeld 1992; Rugege 1995). As the authors cited above in relation to the 'new thinking' on pastoralism imply, the institutional frameworks which currently exist often fail to deal adequately with disputes and conflicts (see also Bradbury *et al.* 1995 for examples from Tanzania).

This institutional malaise can only be partially understood by referring to the institutions themselves; the wider context of rapid rates of social and economic change combined with political instability has also to be taken account of.

5 Pastoralism in Crisis: From Chronic to Acute Conflict

A number of authors have described pastoralism in Africa in recent years in terms of a 'crisis' (NOPA 1992; Vedeld 1992; Niamir-Fuller 1994). Central features of this crisis include: prolonged droughts; population increases; encroachment of agricultural lands and conservation areas, leading to alienation of grazing lands and displacement of pastoralist populations; degradation of fallow land and land around inadequate numbers of water points; the marginalization of pastoralists within national polities and hence development programmes; inadequate access to markets and unfavourable exchange rates between livestock and grains; inadequate supply of social services to mobile groups of herders; increasing levels of insecurity, warfare and conflicts between nation states; sedentarization, out-migration and urbanization; breakdown of traditional social and institutional structures; increasing marginalization of women; growing general levels of poverty and vulnerability to famine.

Clearly there is a great deal of regional variation in the incidence of particular processes and problems, and thus in the dimensions, as well as depth, of the 'crisis'. Generally, however, these trends are resulting in greater competition for scarce resources, heightened levels of tension within and between pastoralist and agro-pastoralist social formations, rising numbers of disputes, and increased instances of overt conflict. A pattern of acute and often destructive conflict has been superimposed on the endemic or chronic conflict identified above as integral to situations of multiple resource use.

This underlines the need to make conflict management a central feature of policies and programmes aimed at promoting sustainable livelihoods in the context of multiple land use. The inadequacy of existing mechanisms and institutional frameworks for effective conflict management also, however, indicates a need for innovative approaches to deal with new kinds of conflicts and multi-dimensional and complex situations where there are no obvious or easy answers.

A need to innovate is also indicated by the internal transformations being experienced by pastoralist and agrarian social orders. Research points to deepening social differentiation and rising levels of inequality, pauperization side by side with accumulation, and new forms of internal political power (NOPA 1992: 12). Institutional renewal is constrained by this 'heterogeneity of interests within herder groups' (Lane and Moorehead 1994: 131). Traditional mechanisms for conflict management within groups are proving inadequate to deal with new forms of internal dispute (e.g. within group ranches for Maasai in Kenya - see NOPA 1992: 44; Galaty 1993).

These themes are highlighted in a report on contemporary conflict in a pastoralist setting in Tanzania (Bradbury *et al.* 1995). Conflicts are occurring at three levels: (i) between pastoralists and the state, over land rights (ii) between competing land users, over access to diminishing resources (iii) between pastoral organizations, over different approaches to halting the loss of land. Internal divisions within some pastoralist communities are also a source of tension.

There are two driving forces underlying the alienation of pastoral land: government policies which favour settled agriculture and privatization, and widely held views on the inefficiency and destructiveness of pastoralist land use. Past policies of villagization and current directives for issuing titles to village land, together with land use planning, are leading to the break up of the pastoral commons. Villagization imposed an alien system of government, statutory law and decision making on indigenous systems, with administrative and political functions being transferred from traditional leaders to Village and District Councils. Villagization also disrupted customary land tenure, land being nationalized in 1962; recently privatization policies have been pursued. In 1992 legislation was introduced to extinguish all customary rights to land.

Liberalization of the economy has increased possibilities for marketed crops and encouraged individuals and companies to acquire land for commercial farming. In Simanjiro district, for example, some 45 000 acres had been acquired for 72 farms by 1993, almost all alienated from former livestock pastures. In northern Tanzania the interests of conservationists and the tourism industry have also come into conflict with pastoralists and hunters and gatherers, with many of the latter groups being forcibly removed from protected areas. More and more pastoralists have been pushed into marginal areas, herds have declined and people have been forced into crop farming.

Pastoralists are organizing themselves into NGOs to defend their interests and taking government to court to fight land alienation. External NGOs are assisting pastoralists and their NGOs, and have convened workshops to consider approaches to conflict resolution. These have examined traditional mechanisms for handling conflict, and the problems attendant on attempting to integrate these into contemporary local government structures.

6 Conflict Management Theory I: Causes, Levels and Phases of Conflict

What light can contemporary theories of conflict management throw on these increasingly central issues? Firstly, many theorists differentiate between different causes, levels and phases of conflict.

Thus Burton and Dukes (1990) distinguish between:

- management problems, which involve arguments or differences over the choice of alternatives among persons having the same goals and interests

- disputes, which involve competing but negotiable interests, and issues of gain or loss

- conflicts, which involve the development and autonomy of the individual or identity group, and

are thus bound up with non-negotiable human needs and questions of identity.

This suggests different approaches to dealing with these situations; the typology proposes matching the problem situation with appropriate processes and procedures. Thus management problems are best dealt with through processes of problem solving, improved communication and improved personal interaction. In the case of disputes, settlement processes such as judicial procedures, negotiations and bargaining will be appropriate. Interest disputes are readily provoked by competition in the use of resources or by broken agreements, and remedies include sanctions and arbitration.

In conflicts, however, resolution processes are required which satisfy deep-rooted human needs and questions of identity, and these cannot be addressed through narrowly defined interest- based negotiation or mediation processes. Culture and cultural differences, through which identities are constructed and defined, are often important but problematic dimensions of these situations, and of conflicts over natural resources (Cultural Survival Quarterly 1995). Resolution requires in-depth understanding of relationships, and often the assistance of a third party. The appropriate procedures are 'analytical problem solving and the discovery of means or satisfiers that meet the needs of all concerned' (Burton and Dukes 1990: 8).

In recent years there has been a trend away from formal judicial processes and bargaining towards more participatory procedures such as conciliation and mediation, or what is known as Alternative Dispute Resolution (ADR) processes. These have helped to make a veritable growth industry of conflict management, but according to Burton and Dukes this is part of a long-term trend in contemporary society towards 'deregulation', decentralization and local decision making, as societies have become more complex and conflicts over a wide range of issues have escalated (*ibid.*: 10). These alternative processes have been employed for both disputes and conflicts, partly because they have often not been seen as clearly separate.

Although it is sometimes difficult to determine whether a situation is an argument, a dispute or a conflict, it remains crucial to correctly assess the nature of the situation. For example, where deep-rooted problems of identity (e.g. ethnicity) occur, 'negotiation on the assumption that the problem is an issue of different interests only could result in outcomes that would make the situation even more intractable' (*ibid.*: 9). However, another danger is protracting disputes and conflicts through palliative processes (e.g. attempting to promote better communication between parties), which divert attention away from the underlying structural causes of the conflict.

Limitations of the typology

These distinctions have been used in the analysis of conflict situations within a deeply riven society undergoing a painful process of transition towards democracy - South Africa. Kraybill (1995: 6), for example, writes that parties in conflict almost always see it as 'a struggle for power and resources and believe the solution is more power and resources ... [but] if ways can be found to meet the basic human needs which drive the parties, there is often more room for flexibility about the arrangement of resources and power than might as first seem possible'. He suggests that, while physical needs are important, more basic are those which involve human interaction and social process; much conflict can be prevented by making planning and decision making truly democratic, and there is 'enormous scope for dealing constructively with development-related conflict' through focusing on process rather than product (*ibid.*: 8).

However, also writing from within the South African experience, van der Merwe *et al.* (1990) suggest that where gross injustices occur, conflict cannot be accommodated constructively without fundamental social change, and that even violence, while destructive, should be seen as part of the communication process between adversaries. Furthermore, in situations of great asymmetries of power between adversaries, a process of empowerment of the weaker party is essential if negotiations or other procedures are to be effective is resolving (or accommodating) the conflict (see Box 1).

Can conflicts originating in 'basic human needs' (e.g. for identity and recognition) be clearly separated from disputes over scarce resources? Van der Merwe (1993) argues that the discrete

Box 1 **Negotiation Principles in Situations of Endemic Conflict: Principles from Pre-democratic South Africa**

1. Conflict is natural and endemic. It can serve useful social functions and can often be accommodated constructively.
2. Under present conditions, fundamental social and political conflict can be accommodated or managed but not resolved.
3. Where gross injustices are built into the major social structures, conflict cannot be accommodated constructively and social justice and peace cannot be achieved without fundamental structural change.
4. Coercion and negotiation are complementary aspects of communication between adversaries.
5. Violence is a destructive manifestation of conflict, but should be interpreted as part of the communication process between adversaries.
6. Gross asymmetries of power between contending groups hamper successful negotiations since the more powerful partner is likely to benefit.
7. Where there is gross asymmetry of power, empowerment of the weaker party is essential.
8. Participation in legal structures can provide organizational and legal space for the consolidation of a power base that can serve to empower weaker participants.
9. The process of conflict resolution or accommodation needs to be institutionalized.
10. Institutions created for handling conflict must be legitimate.
11. Participants in negotiation structures and processes must be representative of their constituencies.
12. Coercion exerted on the adversary must be constructive and conditional.
13. The goals of peace and justice are complementary; you cannot have the one without the other.
14. Where negotiation between adversaries is not possible because of rigid stances, inadequate communication or structural obstacles, mediation is required.

Source: van der Merwe *et al.* 1990

categorization proposed by Burton and Dukes is problematic, and that 'if human needs are seen as an aspect (present to a greater or lesser degree) of many real-world conflicts ... processes to deal with this aspect of the conflict can be used in a complementary fashion along with other processes' (van der Merwe 1993: 4).

This suggests that identifying the fundamental character of the problem situation is important, but that in practice a clear separation of levels will often be difficult.

Phases of Conflict

Other approaches to disaggregating conflicts suggest identifying nested spheres or levels (Dugan, cited in van der Merwe 1993; Rupesinghe 1995), and distinguishing between phases or stages of a conflict (Rothman 1995; Rupesinghe 1995; van der Merwe 1993; Fisher and Keashley 1991). This again suggests criteria for selecting procedures or intervention strategies, and underlines the importance of identifying conflicts in their early phases (see Box 4). This may require a degree of

Box 2	Phases of Conflict and Appropriate Interventions	
	1. Conflict formation	Early warning
	2. Conflict escalation	Crisis intervention
	3 Conflict endurance	Empowerment and mediation
	4. Conflict improvement	Negotiation/problem solving
	5. Conflict transformation	New institutions and projects

Source Rupesinghe 1995

institutionalization of a conflict management system (M. Ross 1995; Rupesinghe 1995; Box 1).

Rothman (1995), using the example of water disputes in the Middle East, suggests that intractable identity-driven conflicts can be transformed into interest-based disputes through a pre-negotiation process. This involves 'mutual story telling' in which core values, needs and the metaphors which organize them are communicated and reflexively framed, and this establishes common ground for a phase of negotiations and problem solving.

Anaya and Macdonald (1995) show how, in conflict over forest resources in Nicaragua, negotiations were successful once the core issues were defined way from basic values towards distributional interests. However, also important in the pre- negotiation phase were actions (such as legal assistance and legal action) which redressed the original power imbalance between the disputants.

This was also evident in the conflict which occurred in the early 1990s over the establishment of the Richtersveld National Park in Namaqualand in the Northern Cape province of South Africa (Sharp and Boonzaier 1993). The park is an arid and mountainous landscape with a unique flora. The land was formerly part of the Northern Richtersveld 'coloured' reserve, one of several communal areas held in trust by the state for the descendants of the indigenous Nama people. The Nama were originally nomadic pastoralists, who had intermarried with settlers and people of mixed race, and during the 18th and 19th centuries lost most of their land to white settlers and mining companies.

The park is a partnership between the National Parks Board and the people of the reserve. A contract stipulates that the park will be governed by a joint committee, and that a trust fund, managed by elected trustees, will receive rents from the Board and use the funds for community development. The contract also provides for some of the pastoralists to carry on using part of the park for grazing their herds of sheep and goats.

This contract was only signed after a protracted struggle by the people of the Richtersveld to retain rights to use the area and benefit from ecotourism income. The attempt to negotiate a co-management contract for the new park was complicated by internal divisions within the community, between a resident's association and members of the unpopular local government (set up and supported by the apartheid government).

A court interdict prevented the local government structure signing away pastoralist rights, and required the Parks Board to renegotiate. The resident's association was supported by a land rights advocacy NGO, who helped prepare legal submissions, provide background information, and design strategies (Steyn 1994).

In the initial phase an acute conflict existed, and the Richtersvelders asserted their rights to resources based on their identity as descendants of the holders of aboriginal land rights; they felt both access to a critical resource and their cultural identity was under threat. Empowerment through organization, supported by outsiders, together with legal action, prepared the ground for a second phase of dispute

and interest-based negotiations, resulting in a new legal and institutional framework (the co-management contract). This has given way to a third phase, when management issues (e.g. stocking rates and herd movement patterns within the park, and development of the park) are the focus of disagreement and argument (Steyn 1994).

7 Conflict Management Theory II: Procedures and Processes

A number of procedures or processes are used in dispute settlement and conflict resolution, ranging from those which stress collaboration and voluntary efforts to find a solution, to those in which a third party makes a binding decision. Pendzich (1994) and Anderson *et al.* (1996) provide useful definitions:

- Fact finding is the investigation of key issues in a conflict by a neutral third party, who gathers information from all sides and prepares a summary; this can be a useful input to a negotiation process.

- Facilitation is the assistance of a neutral third party in running a meeting and helping make it productive; this can involve assisting in developing an agenda, keeping participants on track, and in ensuring that all parties have an equal voice. Often their role is limited to a single meeting.

- Collaborative planning is a process in which the parties agree to work together in anticipation of a conflict, and plan ways to avoid the conflict.

- Negotiation is a voluntary process in which parties meet face to face to agree on an acceptable solution to a dispute.

- Mediation is the assistance offered by a neutral third party to a negotiation process; the mediator has no power to direct the parties or render a decision. The mediator must be accepted by all parties as a trusted, impartial person; sometimes the best mediators are local people who are familiar with cultural norms and local setting.

- Conciliation is the attempt by a neutral third party to communicate separately with disputants, in order to reduce tensions and agree on a way forward.

- Arbitration involves the submission of a dispute to a third party acceptable to both disputants, who makes a binding or advisory decision after hearing arguments and reviewing the evidence.

- Adjudication is a judgement rendered according to objective standards, rules or laws, by a judge or administrative officer with the authority to rule on the issue in dispute.

Deciding which process to use is the key to success, but '... each (or a combination of several) of [these] processes ... needs to be tailored to the specific situation', and '... no single approach is presumed to be effective in all situations' (Pendzich 1994: 7).

Conflict resolution in African customary law

As pointed out previously, much of the conflict over multiple resource use will be managed by 'mixed'institutions comprising both customary and formal elements (Swift 1994). How do conflict management processes in customary law compare to those listed above?

According to Rugege (1995), the objective of traditional courts or tribunals in Africa was to reconcile the disputants and to maintain peace, rather than to punish the wrongdoer. The 'winner-takes-all' judgements favoured by adversarial systems of law were generally avoided in favour of a 'give-a-little, take-a-little' principle. Procedures in the ideal- typical court were simple and informal and took place in public; women, however, were excluded from the proceedings except when directly involved as plaintiffs or claimants.

The process emphasized fairness and substantive justice rather than strict rules of law, and the chief, with the advice of his councillors, generally took the final decision. Rights of appeal existed but were seldom used. The distinction between criminal and civil wrongs was blurred, and most disputes were in relation to personal wrongs. Most claims were for reparation or compensation, and sanctions were generally in the form of fines; there was no imprisonment.

Bradbury *et al.* (1995) report that traditional conflict resolution processes within Barabaig and

Maasai societies have 'considerable capacity' to handle conflict. They stress reconciliation of disputing parties, and work because of generally accepted rules and sanctions. Elders who mediate conflicts are given authority to make decisions and impose sanctions. This is one clear difference between African customary law and the formal processes listed above.

In relation to the less adversarial procedures listed above (e.g. collaborative planning; negotiation; mediation), the focus on joint problem solving in both customary and formal approaches is a core similarity. This offers hope for combining elements of both approaches in innovative ways, drawing on the strengths of both (Pendzich 1994; Moore and Santosa 1995; Helen Ross 1995).

There are potential difficulties involved too, however. Rugege stresses that one of the disadvantages of customary law in contemporary African societies lies in the fact that new situations have arisen not covered by customary law. As Bradbury *et al.* (1995) show, one of these is when customary land rights have been modified; another is where new administrative structures (such as Village Councils) have been imposed, and no customary mechanisms exist for dealing with conflict at this level. A third exists when conflicts occur between parties from different cultures (e.g. between local resource users and multinational corporations, international conservation organizations, or government officials from different cultural backgrounds). This might also occur in situations where conflicts over resource use occur between pastoralists and farmers in zones of expanding cultivation by in-migrating agro-pastoralists.

Another view emphasizes deep differences between 'Western' and 'non-Western' approaches; according to Merculieff (1995), Western systems are inherently goal-oriented and fear based, and tend to negotiate conflicts from a position of power and in order to control people and situations. In contrast, non-Western approaches tend to be process-oriented, focused on the needs and desires of the people rather than on the results. Values of respect, honesty, dignity and reciprocity are stressed, and a connectedness with feelings and acred identities.

Salem (1995), however, feels there is a danger in overemphasizing the dichotomy between goal and process, and that behind different rituals and cultural patterns is '... usually a fairly hard-nosed process of bargaining and agreement-building that has many inherent characteristics that differ little from 'culture' to 'culture' '.

8 Conflict Management Where Power is Unequal

As suggested at various points above, a key issue in conflict management is the relative power of the parties involved. According to Marc Ross (1995), inequality limits the usefulness of negotiation, mediation and other joint problem-solving processes. In these situations, weaker parties may, for example, withdraw from negotiations but without ultimate benefit; or distrust based on inequality of power may pre-empt constructive discussions even beginning. South Africa's legacy of highly skewed distributions of wealth and power provides many such situations (Box 1).

Attempts to equalize power can take place both outside of arenas of direct interaction between parties (e.g. during a pre-negotiations phase) or within the processes themselves. Some examples include:

- modifying the procedures used to manage or resolve the conflict - e.g. ensuring that what is at stake for the weaker party is better heard by others; a willingness to meet in settings the weaker party feels comfortable with; an adoption of the discussion styles of the weaker party (Helen Ross 1995); and adoption of aspects of customary procedures which are familiar to the weaker party (Moore and Santosa 1995).

- legal advocacy or action, or political action to change the legal framework of rights to resources - e.g. a court interdict prevented the extinction of pastoralist land rights in the Richtersveld National Park in South Africa; in Nicaragua, through legal advocacy the people of Awas Tingni secured territorial rights to their land according to traditional rules of land tenure (Anaya and Macdonald 1995; see also Macduff 1995, on Maori land rights in New Zealand).

- mobilizing and organizing strategies - through forming associations or other local organizations to press claims and defend interests (e.g. the formation of pastoralist NGOs in Tanzania - see Bradbury *et al.* 1995; the establishment of the Awa Federation in Ecuador - see Villareal 1993). Sometimes confrontational tactics, such as land invasions, promote community mobilization and empowerment (see Macduff 1995 for New Zealand; principle 4 in Box 1).

- forming alliances with external organizations which provide support and resources - this can take various forms, including legal advice (Villareal 1993), technical assistance (Anaya and Macdonald 1995), and training (Bradbury *et al.* 1995; Pendzich 1994).

Another dimension of unequal power relations is that of internal differences within groups - what some refer to as internal stakeholder analysis. Marc Ross (1995) refers to the frequency of 'factional interests and differences of values' over resource use, and the importance of critically examining whether or not leaders actually do represent the interests of members of the whole group (Villareal 1993).

Anderson *et al.* (1996) ask us to consider the role of women in conflict management ('How can they be better integrated and taken into account? What is the nature of their participation and to what extent are they further marginalized or more empowered by the conflict management process?'). They do not answer these questions themselves, but the aspects listed above in relation to power relations between parties in conflict perhaps apply equally to gender inequality within groups too.

9 Contingency Models for Conflict Management

What is the most appropriate approach to take to conflicts or disputes over multiple resource use? As the cases cited in this article show, two fundamental difficulties are the multi-dimensionality and complexity of problem situations, and their contextual specificity, both of which make hazardous the simple application of generalized models. Helpful here are 'contingency models' which suggest linking particular conflict resolution techniques to the specifics of the situation and the phasing of the conflict (van der Merwe 1993; Fisher and Keashley 1991; Pendzich 1994). One might term this a 'mix and match' approach. This perspective, taken together with the other elements of conflict management theory described above, suggests some diagnostic questions which might be asked when grappling with contingency:

Nature of the situation:

- is this a conflict, a dispute, or a management problem, or a mix of these?

- how are different levels of dispute or conflict related to one another?

- how are interests and identities related in this situation?

- are basic structural changes in social, economic, or political orders required in order for the conflict to be resolved or accommodated?

- who are the relevant stakeholders, within groups as well between groups?

- are group leaders truly representative?

- which stage or phase has the conflict reached?

Pre-negotiations processes:

- is there scope for collaborative planning to prevent a conflict or dispute occurring?

- does the weaker party in the dispute or conflict need to be empowered?

- what empowerment strategies might be pursued outside of the conflict arena (e.g. legal action; organization; training?)

- is there a role for legal or technical assistance from support agencies?

- can information gathering and dissemination improve the prospects for joint problem solving?

- is there scope for communication between parties on basic issues of identity and definition?

Selection and design of processes or procedures:

- do processes or procedures address cultural and identity issues?

- do they address inequalities of power between groups? within groups? gender inequalities?

- is there scope for integrating aspects of traditional conflict management processes?

- have appropriate third parties (facilitators, mediators etc) been selected? Are they acceptable to all parties?

- what mix of processes and procedures is appropriate, and in what sequence?

10 Conclusions

Conflicts over multiple land use are likely to be endemic in rural development settings which involve pastoralists and agro- pastoralists; in many they may have become acute and potentially highly destructive. Innovative approaches are called for which draw on customary procedures and institutions, but also on more recent and formalized approaches. Conflict management is a growing and increasingly sophisticated field of theory and practice, and rural development practitioners would be well advised to draw on this expertise.

As described by Bradbury *et al.* (1995), one use for this expertise is training and capacity building in conflict management at local level - in community organizations and producer associations, local administrative structures, and development agencies. This will contribute to the institutionalization of conflict management within these contexts, and provide a means of preventing many conflicts from reaching the acute stage.

Care is needed, however, in designing interventions, and in the diagnosis of the causes of conflict. As the case studies cited here clearly show, it is not easy in practice to distinguish between management problems, disputes and conflicts, or between situations where the primary question is one of competing interests and those where deep-rooted questions of culture and identity are at stake. This means that in designing interventions or offering support to disputing parties, both goal and process are dimensions of conflict management that need careful attention.

A theme of some of the literature on conflict management is the destructive role of social change, portrayed as highly disruptive of traditional institutional arrangements which provided 'checks and balances' and prevented conflict from getting out of hand. Another view, however, also surfaces on occasion. Here conflict is viewed as potentially constructive, and as serving useful social functions at times (see Box 1). One such 'constructive function' is desirable social change: while change does sometimes result in destructive conflict, conflict can also result in redress of injustice, democratization and a more equitable distribution of resources (see the Richtersveld case study described above). Other potentially positive features include the deeper understanding of underlying social processes that can result, and the incentive to organize, mobilize and establish clearer group or organizational identities. Rural development practitioners have been enjoined to embrace error (Korten 1980); should we be embracing conflict too?

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