

Management of some commons in southern Africa: Implications for policy

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Profound transformations in communal land tenure systems are taking place in parts of southern Africa that have resulted from decades of interventions, particularly the shrinking of the commonage through capture of extensive tracts of lands by private interests. Some policies have been into place that envisage improved management of common rangeland resources through privatisation. However, empirical evidence is lacking as to what extent these may have been successful. Traditional management systems in communal areas have been broken down to the extent that many of them are now more characteristic of open access systems. An alternative to meeting the challenge of managing resources in common rangelands is to develop community-based rangeland resource management systems that build on the strengths of traditional management approaches. Therefore a call is made on the use of indigenous knowledge systems and empowering communities to manage their rangeland resources, in order to prevent open access and promoting improved rangeland management and more sustainable livelihoods.

Introduction

Recognising the dynamics of power into which community-based natural resource management (CBNRM) is inserted brings to the fore questions of governance, and the rights, or lack of rights, which rural dwellers have to access, use, manage, or own, natural resources so as to control their own destinies. An analysis of CBNRM is an important part of understanding the wider trends of land and tenure reform in Africa.

The critical bearing that land tenure has on development and poverty reduction is beginning to be more widely realised. Especially in semi-arid ecosystems, rural populations rely more on extensive use of common rangelands, rather than intensive use of small private plots. However, a significant trend in African rangelands has become the fragmentation of previously common rangelands into private parcels by a growing number of agrarian capitalists, elites and state agents.

Processes of land capture by a privileged minority are often driven by state-led 'reforms', those governing agricultural development in Botswana being a prime example. Land is the basic means of production in predominantly agrarian and pastoral economies, and a safety net from absolute poverty for many households. The far-reaching changes in patterns of land tenure in Africa that have taken place in the post-independence era are therefore likely to have profound impacts on the ability of households to get out of, or keep out of, poverty. Diminishing access to land in Africa, obfuscated by the common characterisation of Africa as being land-abundant, is a fundamental constraint to effective environmental management and poverty reduction.

Formalising common property management regimes, therefore, is one route to legitimate and formalise a form of common property ownership on commons that may otherwise have been regarded as available for private accumulation. As such, one of the most important contributions of CBNRM may become the crucial role it can play in protecting remaining land in the commonage from further alienation by individual interests. With this perspective, it is crucial that CBNRM is able to become established in rangelands, as it is in these semi-arid production areas of Africa that the poor are most vulnerable to large-scale privatisation of previously common-pool resources. Three experiences from Namibia, the Nama Karoo in South Africa and from Botswana's communal rangelands are used to explore issues of people-centred approaches around the management of commonly held rangelands.

Community institutions for rangeland management in Namibia

On the whole, community institutions appeared to be very active in conservation and development in Namibia, and to work effectively with NGOs and relevant government departments in achieving community objectives in these areas. The following factors seemed to contribute to the effective functioning of such community institutions:

- A good chain of communication and operation between interest groups, community institutions, NGOs and government departments.
- The ability to raise and manage their own funds, for example through community camp sites and the proposed lodge in Grootberg.

- A high level of ownership by the community of projects that have been started, because there is often significant investment in such projects by community members themselves, such as, in the goat breeding schemes.
- There is also a high level of ownership by the community of the natural resources in their vicinity. Communities regard such resources as their own, rather than belonging to the government. This acts as an incentive to invest in management.
- The community institutions have highly motivated leaders.
- The committees' members are well trained and educated in their technical and administrative responsibilities.
- Extension workers on the ground appear to be effective, motivated and trained in participatory techniques

The process of building effective CBNRM institutions is a lengthy one. For example, over ten years of capacity building and other assistance has been invested into Grootberg committees to get them to the point they are at today.

All participating stakeholders have been together in the Forum for Integrated Resource Management (FIRM) to provide planning and implementation assistance to the umbrella community-based organisation (CBO). This has promoted strong and well functioning community conservation and development because an appropriate service delivery approach has been agreed upon, all services are channelled through one organisation; there is co-operation between all participating institutions; and community support-providing agencies have ensured they avoid duplication.

On the downside, a gap appeared to exist between the community institutions and the communities themselves. While the committee members were well motivated, many community members were not actively involved in resource management. Most efforts were directed at deriving monetary benefits from natural resources, with few initiatives aimed at actively rehabilitating degraded areas

Stakeholder support for community initiatives

The commitment of stakeholders to supporting community-level initiatives in communal rangeland management and natural resources conservation in Namibia has been demonstrated through FIRM. The approach promotes active participation by all stakeholders in planning of projects. It strongly advocates for 'putting communities at the centre of their development process'. Through this approach, stakeholders including community members are brought together to plan their activities.

The Namibian government has adopted an integrated approach to natural resource management. The approach seeks to strike a balance between livestock production and wildlife conservation through development of sustainable

eco-tourism and livestock ventures. Other key stakeholders such as the donor community and NGOs also play a big role in implementing the plan. In particular, they have been supporting the establishment of conservancies by providing funding as well as technical support.

The conservancy model of development recognises the need to empower local communities through giving them power to manage range resources within their localities.

Community empowerment in resource monitoring

In order to assist communities to develop sound project management practices, the Ministry of Agriculture through the co-operative movement provides training in all aspects of project management, including financial management and reporting. Other stakeholders also contribute to project development by visiting regularly to assess project progress and to advise on any matters relating to the project.

Such techniques include local-level monitoring of range conditions and resource conditions in general. The government is committed to providing training to both communal and commercial ranches as well. Training is based on simple techniques that can easily be used and findings interpreted by the local farmers. Through these techniques farmers are able to collect information that allows them to make informed decision on range management.

Livestock production and marketing

The role of the Namibian government in supporting community-based livestock development initiatives is very significant. The support comes mainly as subsidies on production input such as water, auction facilities, veterinary services, and borehole maintenance and repair.

The government, through farmers' unions, facilitates the adoption of improved farming techniques by local communities. In particular farmers are encouraged to form associations through which they can lobby and receive support. After organising themselves, farmers are provided with good quality rams and bulls to improve their herds. For one to benefit from the scheme he/she has to make a contribution towards its development. This could be a contribution in kind, or take the form of a contribution of live animals.

The FIRM approach

The Desert Research Foundation of Namibia (DRFN) uses the FIRM approach as a way of enhancing the capacity of communities to be in the 'driver's seat' of their own development. Communities are trained to develop their own potential to initiate and implement among other things, alternative approaches to combat desertification, creating awareness within their communities about issues of desertification as well as alternative income-generating activities.

The FIRM Approach was also observed in the =Khoadi //Hoas conservancy project. The approach is used as

a tool for range management, policy formulation, and implementation as well as to avoid duplication, given its nature of diverse membership. The government role is to provide technical assistance whilst the community takes the drivers seat in getting funding from donor agencies for diverse projects such as wild life conservation, improvement of livelihoods, rangeland rehabilitation and management amongst others.

The Indigenous Vegetation Project (IVP) has a similar approach. The extensive use of the Community Action Planning process allows for communities to take charge of their own development by identifying their environmental problems and coming up with projects that can combat issues of range degradation and poverty.

The FIRM approach has been adopted by the Ministry of Agriculture in Grootberg. IVP could embrace it, keeping in mind some weaknesses which were observed, including: a heavy influx of donor agencies who may try to change the agenda of the project to suit their own interests, and the lack of legal status of the approach. It was also observed that there is no law that allows the conservancy to take action if a community member transgresses an agreement, for example, exceeds the stocking rate. The difference with Botswana is that while laws and policies are in place to assist in community-based planning in both countries, enforcement is a problem in Namibia.

Municipal commonage in South Africa

Historically, municipalities in South Africa administered commonage agricultural land for the benefit of white residents. Now, as part of the government's land reform programme, municipalities can obtain financial and other forms of support to convert commonage into a livelihood and developmental resource for their poor residents. According to the White Paper on South African Land Policy:

In large parts of the country, in small rural towns and settlements, poor people need to gain access to grazing land and small arable / garden areas in order to supplement their income and to enhance household food security. The Department of Land Affairs will encourage local authorities to develop the conditions that will enable poor residents to access existing commonage, currently used for other purposes. Further, the Department will provide funds to enable resource-poor municipalities to acquire additional land for this purpose.

Several research agencies have become increasingly concerned about the inability of municipalities to manage their agricultural lands (commonage) in a developmental and sustainable way. Commonage can be used in different ways, ranging from the provision of a livelihood safety net for the poor to promoting the establishment of future black commercial farmers. However, difficult trade-offs need to be made in a context where municipalities are

under pressure from urban residents who are asserting their rights to use commonage for survivalist activities as well as some commercial agriculture.

For many municipalities, the transition to pro-poor commonage use was a 'double whammy'. On the one hand, valuable rental income was lost. Since the 1950s, commonage tended to be rented out to commercial farmers, at significant rental levels. Emergent farmers and survivalists cannot pay such high rentals, and often there are practical difficulties with rent collection. At the same time, the management load on municipalities has multiplied. The difficulties of dealing with large and complex groups of farmers, who are often unable to afford infrastructure maintenance, or who have little incentive to limit their stock numbers, have placed a heavy burden on the shoulders of overworked municipal officials. Agricultural extension is a function of provincial departments of agriculture, which have their own difficulties with regard to shortages of funding and staff.

Nevertheless, municipal commonage remains a valuable asset for development. In many small towns, it is by far the greatest developmental asset for the poor, and often makes an important contribution to household food security. Furthermore, many township residents are, in fact, erstwhile farm workers, who have some experience and skill with cultivation or stock-farming.

What is needed is a realistic and practical approach to supporting municipalities in their approach to commonage management. This is a large topic, and draws on a wide range of disciplines, including public management, intergovernmental relations, agriculture, indigenous knowledge systems, community dynamics, and of course, environmental management.

Municipal commonage is a strategic resource, for the following reasons:

1. **Land reform and land demand:** With rapid urbanisation, large numbers of poor people are settling around the villages, towns and cities. Many of these people have agricultural skills, and the desire to farm.
2. **Availability of land:** Many municipalities inherited commonage land, which has great developmental potential.
3. **Developmental context:** Municipalities need to administer commonage in an integrated (intersectoral) way, which will involve agriculture, environmental management, infrastructure management, community empowerment, and local economic development.
4. **Municipal context:** Many municipalities are currently facing great management challenges and capacity constraints.
5. **Environmental deterioration:** This has led to dramatically deteriorating environmental conditions on commonage land.

6. **Community participation:** Municipalities need to involve commonage users in the financial, infrastructural and environmental management of commonage.
7. **Interdisciplinary co-operation:** There is great scope for co-operation between the natural sciences and the social sciences in developing an appropriate policy framework, municipal support system, and community involvement.

Increasingly, the spectre of Zimbabwe-style land invasions is haunting southern Africa. There is a widespread recognition of the fact that many black South Africans – and particularly the rural poor – demand and need access to land. This is for livelihoods purposes, as well as for symbolic and emotive reasons. In response to this political pressure, the South African government wants 50% of farming land to be in the hands of black individuals and communities by 2014 (*Business Report*, 27 July 2004).

At the same time, the farming sector is shedding jobs at an alarming rate. In the 11 year period 1988–1998, a staggering 140 000 agricultural jobs were lost, a decline of almost 20% of the agricultural labour force (Simbi & Aliber 2000). The reasons for this significant demographic trend are partly political (farmers' fears of land tenure legislation, and partly economic (farmers have to compete in difficult agricultural markets, with virtually no tariff protection).

Anecdotal evidence suggests that the majority of evicted or unemployed farm workers drift to the nearby towns. Typically, these residents now live in shanty homes on the edge of towns, in severe poverty, often exacerbated by extremely poor environmental health conditions. Yet many of these residents do have some agricultural skills, as

a recent survey of recently urbanised farm workers shows. Valuable human resources are now going to waste. Formal and informal jobs are hard to come by. Many of these new arrivals would like to farm, and some have attempted to do so, either on municipal commonage, or by keeping stock in their backyards (with very negative consequences for environmental health).

During a workshop in the Karoo-Hoogland Municipality (the Sutherland-Fraserburg-Williston area), for example, it emerged there were 37 farmers on the commonage, and 107 people on the waiting list.

Many people look to commonage as a basis for eking out a livelihood in the towns. This has resulted in severe pressure on the land. Whereas commercial farmers are monitored fairly closely to limit over-grazing, emerging farmers are less beholden to the concept of carrying capacity. There is a widely held suspicion among emerging black pastoralists that carrying capacity is enforced as a pseudo-technical means of justifying racially-based motives for keeping them off the pastures. The emerging farmers interviewed raised the point that they already have more livestock than the land that has been allocated to them is able to support. They remain reluctant to reduce their herds or flocks while the potential exists to access additional commonage currently used by commercial farmers (Cartwright et al. 2004:127). As can be seen from Table 1, municipal commonage holdings are significant.

These land holdings currently offer virtually the only land reform option to poor land landless agriculturalists. The Land Redistribution for Agricultural Development programme remains out of the reach for all but a very

Table 1: Size of commonage: Northern Cape (Namaqualand and Mier excluded)

Municipality	Size(ha)	Municipality	Size(ha)
Dikgatlong (Barkly West, Delpoortshoop)	10 141	Khara Hais	12 976
Emthanjeni (De Aar, Hanover, Britstown)	20 420	Kimberley	Approx 3 340
Gamagara (Deben, Kathu)	1 459	Renosterberg (Petrusville, Phillipstown)	7 151
Ga Segonyana	4 998	Siyathemba (Prieska, Marydale, Niekerkshoop)	19 584
Hantam (Nieuwoudtville, Loeriesfontein, Brandvlei, Calvinia)	40 554	Siyancuma (Douglas, Griquastad, Campbell)	20 300
!Kei !Gariiep (Keimoes, Kenhart)	23 218	Thembelihle (Hopetown, Strydenburg)	20 000
Kareeberg (Carnarvon, Vanwyksvlei, Vosburg)	21 184	Tsantsabane (Postmasburg)	7 000
Karoo-Hoogland (Sutherland, Willison, Fraserburg)	85 800	Ubuntu (Victoria West, Loxton, Richmond)	19 950
!Kheis (Brandboom, Groblershoop, Topline, Wegdraai)	12 291	Umsobomvu (Colesberg, Noupoot)	9 689
Kgatelopele	9 874	Warrenton	No answer
Khai Ma (Pofadder)	17 888		

few applicants, due to high land prices and poor capital resources.

Nevertheless, many municipalities are facing massive management problems. This is due to several causes, ranging from the loss of skilled staff since 1994, the appointment of new and inexperienced staff, injudicious political decisions which have undermined staff morale, and chronic financial shortfalls (caused, in turn, by poor levels of municipal payments, as well as 'unfunded mandates' imposed by central government). The situation was dramatically exacerbated in 2000, when municipalities were consolidated into new boundaries, and already fragile municipal institutions had to be combined – often with poor management guidance from national or provincial government.

The challenge to manage commonage effectively should be seen as one of a range of new developmental mandates which municipalities are expected to handle. For example, municipalities are increasingly expected to lead integrated planning, local economic development, environmental management, and community-based infrastructure construction. Many of these new challenges require skills and staff which are in very short supply. In fact, very few municipalities have staff with any experience in programme or project management.

The commonage issue should be regarded, therefore, as an example of a challenge to operationalise an intersectoral approach to development which is pro-poor, integrated, decentralised and participatory. Furthermore, it needs to be done in an environmentally sustainable manner, since municipalities are responsible for the environmental condition of their natural assets.

'People-centered development' in the Karoo commonage

Where does the commonage management system need to move? Community participation in a people-centred environmental project or programme can mean many different things. But it can hardly be disputed that the use of local knowledge is a valuable indicator of the type and level of participation and 'ownership' of a development process by the local residents, producers or users. Where such a knowledge base exists, for example with reference to veld, plants, insects, animals, soil and weather, it can add a massively important dimension to local development. The range of local knowledge transcends empirical facts, since it includes information, attitudes, values, skills and practices concerning a high diversity of biological resources.

In the context of the Karoo, with its fragile ecosystem, it is important that commonage farming operations be conducted with substantial knowledge of veld maintenance, so that sustainable livelihoods can be created. At present, local and indigenous knowledge is in danger of being lost. Most young people now grow up in the towns

and townships, with little connection to their natural heritage.

Anecdotal evidence suggests that only the elderly have significant botanical knowledge. Many young indigenous people have embraced the European view that traditional knowledge is no longer relevant, particularly where they no longer have the opportunity to interact with their land and their elders. This is part of a global trend of the erosion of local knowledge, and its displacement by modern scientific knowledge (Kothari et al. 1998:30). Theorists such as Robert Chambers (1983) would argue that ecologists have an opportunity to assist indigenous people to maintain their knowledge by promoting its validity.

At this stage, researchers, policy makers and programme managers know little or nothing about the existing knowledge base of commonage users. Various research and conservation initiatives have been undertaken in the Karoo, but these mostly involve established commercial farmers. Virtually no research has been done on commonage users' agricultural skills, or their knowledge of the environment.

Is protection of, and even a revival of, local knowledge a possibility, in the Karoo? Some researchers claim that it is, particularly where extension officers learn to work with communities, create mutual confidence and trust, and allow for mutual learning in an atmosphere of openness (Kothari et al. 1998:46).

Anecdotal evidence suggests that many commonage farmers in the Karoo have significant knowledge about stock animals, but very little about the environment. This impression needs to be tested by empirical research. What is needed is a methodology for agricultural extension workers and environmental officials, so that they can engage meaningfully with commonage users, to determine their current level and type of environmental knowledge. On the basis of this assessment, appropriate participatory land management mechanisms can be developed.

The most urgent priority is to find out what commonage users actually know. This suggestion depends, fundamentally, on the argument that land users with substantial environmental knowledge would have very different skills, motivation and interest in long-term environmental sustainability, than would land users with little or no environmental knowledge. It is likely that people with environmental knowledge would have more an intrinsic and enthusiastic appreciation for environmental dynamics, and a greater willingness or passion to maintain or restore biodiversity on the land. Conversely, it is hypothesised that people with little environmental knowledge would tend to use the land more exploitatively, for short-term gain. There may be a direct causal link between the 'tragedy of the commons' and the lack of environmental knowledge.

Alternatives to privatising Botswana's communal rangelands

The 1980s saw a paradigm shift in conservation, with the dominant approach of fortress-style preservation beginning to give way to the more people-centred approaches of CBNRM. At the same time, the radical shift began developing in understandings of the dynamics of semi-arid ecosystems. Underpinning the creation of ranches had been an assumption of ecological 'equilibrium', in which biotic feedbacks such as livestock densities are understood as the main determinants of rangeland productivity. Management of such systems could therefore be predictably achieved by primarily controlling stocking densities. Such assumptions were challenged by proponents of the 'non-equilibrium' model. They argued that abiotic factors, in particular variable rainfall, result in highly variable primary production. Herd and pasture management is therefore based more on the opportunism enabled by herd mobility.

This epistemological shift has given impetus to much stronger support by researchers for indigenous management systems, which often emphasised herd mobility. New understandings of ecosystem dynamics, combined with the wider shift towards 'people-centred' approaches to natural resource management provide a strong epistemological platform for community-based rangeland management. Renewing, or reworking, and formalising quasi-traditional management systems could therefore point a way forward in protecting 'traditional' land rights and offering a legitimate alternative to privatisation of Africa's commons by elites, apart from the potential benefits to biodiversity and livelihoods of improved environmental management.

There are remarkably few initiatives in Africa demonstrating the viability of formalised, community-based management systems of rangeland resources. In part, this is because such interventions would touch directly upon the resource base that many rural dwellers use on a daily basis, such as grazing, and therefore consider their own entitlement. The use of such resources would probably not easily be surrendered to community control. In contrast, wildlife has in many cases long been alienated from rural populations, and so bestowing rights to benefit on rural populations may be perceived instead as an act of benevolence by the state.

Another reason for the dearth of formalised community-based management systems in existence may be that, particularly in southern Africa, traditional management systems, such as herd mobility and active herding, have been broken down. As landscapes have become fragmented and movement of livestock tightly regulated, and as primary school enrolment has increased, livestock owners have had access to neither the labour nor the available land to move their livestock in pursuit of forage. Reinstating management systems in this context therefore presents a particular challenge.

The few initiatives to formalise community-based rangeland management that exist can only claim limited success. In southern Africa, the ten-year Sustainable Animal and Rangeland Development Programme (SARDEP), for example was started in 1992 with the aim of improving livestock management in northern Namibia's communal rangelands. The approach focused on the creation of 'grazing schemes', but it appears that such a management-intensive approach did not fit well with traditional management systems of local populations, nor in the context of the open range. A similar fate seems to have befallen a similar donor-funded project along the transhumant routes of a number of west African countries – the West African Pilot Pastoralist Programme (WAPPP). Using the principles of holistic resource management, the project attempted to introduce management intensive grazing measures that operated during the project duration, but apparently were not retained by herders beyond the project.

In a recent addition to the Commons Southern Africa series, Atkinson (2005) argues for the 'reinventing' of management systems in a municipal commonage in Northern Cape, South Africa. The new management systems are intended to be based on principles of traditional management that have been systematically broken down by government programmes and subsidies. Her research in the context of municipal commonage mirrors that of Botswana in that it deals with the rangeland areas around population centres that are subject to weak management regimes. As she points out (2005:4), such areas are 'by far the greatest developmental asset for the poor'. However, the outcomes of this initiative remain to be seen.

The precedent for common property management has already been set in Botswana through CBNRM programmes that are operating in over 50 participating community clusters (Arntzen et al. 2004). However, the Indigenous Vegetation Project (IVP) remains the only attempt to formalise community-based systems of rangeland management. The project aims to empower local pastoral communities to manage their rangelands and to develop, adapt, and apply traditional and innovative common-property rangeland management systems. Since the IVP pilot project is based in the Botswana Ministry of Environment, Wildlife and Tourism, it is intended that if it is successful, common property management regimes may be more widely developed and applied as an alternative to privatisation in Botswana's rangelands.

The IVP faces several challenges in particular to formalising community-based systems for the management of rangeland resources. Apart from the wider challenges already documented for the wider CBNRM movement (e.g. Arntzen et al. 2004), such as lack of community cohesiveness and lack of management capacity, attempts to develop an integrated approach to community-based

management of rangelands face the following particular challenges:

- No explicit policy or legislative support for devolving management of rangeland resources to community level.
- The perception by livestock owners that rangeland resources such as grazing are a common good, and therefore should not be regulated.
- The fact that about 50% of large cattle owners are absentee owners (McPeak & Kenneth 2005) and thus have little motivation to actively conserve local rangeland resources.
- A general lack of herding by pastoralists in Botswana, leading to a situation described as 'grazing management by cattle' (Oba 2005).
- The current lack of models in Africa's semi-arid rangelands of formalised systems for community-based management of communal rangelands.
- Introducing management systems by communities that allow adequate regulation by communities, without attempting to over-structure control and planning in a manner that is alien to the conceptual models of traditional management systems (cf. Sullivan & Homewood 2003).

Adequately addressing the above constraints may be beyond the limited timeframe of the Indigenous Vegetation Project (2003–2007). Nonetheless, even though developing effective community-based management systems in the current socio-political context may take several decades, an immediate task is protecting remaining communal rangelands from further encroachment. Promoting (potential) community-based management systems as a viable option to privatisation, and allowing local communities as entities to gain sufficient rights to their common rangelands so as to regulate access, will be necessary for this to be successful.

Conclusions

Schemes such as the Grundorner Cooperative and Grootberg Farmers Integrated Livestock Improvement Scheme (GFILIS) have been set mainly to encourage farmers to improve livestock production by breeding and keeping local livestock breeds that are well adapted to the local conditions, such as the Damara sheep and the Boer goat.

The creation of sustainable commonage management systems is only one of numerous issues concerning rural livelihoods. Rural poverty in South Africa is intensifying, leading to dysfunctional urbanisation patterns. Rural livelihoods will require innovative and mutually supportive strategies, using academic resources, public funding, and appropriate government policies and programmes. These need to be output-oriented, practical, relevant, and meaningful to rural communities.

For this reason, the issue of commonage management offers a useful arena for social and natural scientists to come to grips with the lived experience and local knowledge base of commonage users. This should be done rapidly and urgently. The political pressure for land reform is mounting, and is likely to have catastrophic results if not addressed soon.

International and South African innovations show that people-centred extension services may have more success in promoting conservation farming than the conventional didactic approaches of extension officers. But this new approach will depend, fundamentally, on asking questions about the knowledge base of farmers, as well as a readiness to accept the validity and usefulness of their knowledge. What is now necessary is to bring these insights and skills to municipal commonage, for the sake of rapid but sustainable land reform.

As suggested by Jones (2003) in his attempt to broaden the debate of the contribution of CBNRM to poverty reduction, at the centre of such an analysis lies an account of how people sustain their livelihoods in semi-arid areas and how these livelihoods are located within broader economic and socio-political contexts. The most enduring contribution of CBNRM is unlikely to be in the short term economic benefits that most programmes appear to realise, albeit on a limited scale. It is much more likely to be in the strengthening and legitimising of claims by often-marginalised communities to extensive tracts of land and its resources in the face of appropriation by more powerful individuals.

In summary, tracing changes to land tenure and pastoral systems in Botswana's rangelands since the pre-colonial era reveals a gradual change from common property management to either exclusive privatised management or openaccess systems with minimal management. Privatisation of the commonage has extensive environmental, social and economic consequences, but there is little evidence that it has achieved its objectives, despite extensive investment by the state and donors for the past three decades. On the contrary, pastoral development policy continues to follow the theoretical models that have been blamed for the failure of previous policies. Privatisation of rangelands may therefore serve little more than an opportunity for land speculation by a limited number of wealthy citizens, at the expense of poor rural dwellers who have in the past gained their livelihoods from the ability to access such common resources.

New understandings in dryland ecosystem dynamics stress the tremendous opportunities and strengths of communal rangeland systems, and the potential costs of fragmenting such systems. Re-developing common property regimes in Botswana's rangelands may offer an opportunity to avoid the environmental, economic and social costs of

fragmenting Botswana's communal rangelands into private parcels.

Despite the potential opportunities apparent from community-based management of rangeland resources, the Indigenous Vegetation Project in the Botswana Ministry of Environment faces particular challenges as it attempts to develop models in this respect. There are few examples in Africa's semi-arid rangelands of effective community based management of the full spectrum of rangeland resources, although there are many examples of sectoral community-based management, such as wildlife, forests or fisheries. Moreover, the policy environment does not encourage community-based management, and at the same time livestock-keeping practices by pastoralists have become *laissez-faire*, with minimal active management. Nonetheless, despite these challenges, the Indigenous Vegetation Project, and its successors, will demonstrate the extent to which community-based management of rangelands in Botswana is really a viable option.

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