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Taming a 'wicked' policy problem : a policy overview of property rights and governance of Africa's rangelands

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Key Points : This paper views property rights in dryland Africa as presenting a wicked policy problem . Securing rights has generally involved several interrelated and complex processes . Each of these solutions shows , is in turn beset by new problems , key among them are entrenching local participation in decision making , preventing manipulation and capture by elites , lack of accountability of local level institutions and authorities , and the onset of a new generation of user conflicts . Increasing avenues through which dialogue and communication can occur seems one way of creating a shared understanding . In addition to cultural and institutional raw materials among groups can serve as a locus for building dialogue . Because wicked problems are complex , gaining traction necessitates iterative processes that are adequately flexible to accommodate learning and the adjustment that learning implies .

Key words : property rights , wicked policy problem , Africa , rangelands , governance

Introduction

So much has been written on land and environmental management in Africa's drylands over the past four decades . Yet identifying and implementing appropriate property rights regimes remains a daunting challenge for public policy . Property rights problems in rangelands exhibit a range of attributes that are broadly characterized as wicked . Wicked problems are subject to multiple and conflicting criteria in their definition and identification of solutions , involve multiple actors , are interconnected across multiple levels and require decision making at multiple levels , are iterative in nature , are often the symptoms of broader problems and they persist over time (Rittel and Weber , 1973) . They are also characterized by power struggles and equity issues (Brooks and Champ , 2006) . To summarize , wicked problems are plagued by uncertainty and are controversial . Commentators suggest that wickedness can be addressed and/or mitigated by increasing interaction and cooperation across multiple stakeholders (Ellen et al , 2003) . This includes involving relevant stakeholders in problem and solution identification (Brooks et al , 2006) in order to gain diverse insights , build networks for collective action , and to allow decision making to be informed by local positions and knowledge (Freeman , 2000 ; Rauscher , 1999) . Centralized , top-down , one size fits all policies will not work , but rather flexibility , learning , and stakeholder engagement are necessary steps (Durant and Legge , 2006) .

Secure and unambiguous property rights (i.e. institutional arrangements that determine who can access , use , manage , benefit from or own) to land and natural resources are widely recognized as important in presenting resource users and land owners with a set of incentives that encourage sustainable use and management , and opportunities for drawing economic and other benefits . In dryland Africa , in particular , the complexity and contested nature of property rights has for a long time been seen as a disincentive and many governments are currently undertaking a broad range of reforms to remedy this policy problem . This paper views the property rights problem in Africa's as a wicked policy problem and identifies those attributes that are associated with wickedness . It also outlines some of the public policies and actions that have been adopted to mitigate and/or cope with wickedness . The paper finally reflects on how reform efforts can be strengthened . While many of the property rights concerns can be generalized to other sectors and arenas , this discussion focuses on the rangelands of East Africa and Sahelian West Africa , where rangeland management has been a persistent problem , but where there is much scope for learning across sub regions .

Why care about Africa's drylands ?

There is good reason to care about Africa's rangelands . Besides being home to diverse cultures and economies and contributing to the conservation of endangered mammal species and unique ecosystems , Africa's rangelands offer a unique opportunity for making significant inroads in the global efforts to reduce poverty , hunger and in adapting to the threat of climate change . Securing the property rights of groups and individuals is critical to meeting these global challenges . Climate change is an emerging threat that compounds existing insecurities in the drylands . IPCC scenarios predict declines in annual precipitation of up to 10% and increased interannual variability of the same magnitude in the coming decades (IPCC , 2001) . Declining rainfall and frequent droughts are anticipated to increase pressures on existing drylands resources , amplifying conflict , further marginalizing an already impoverished population (Hess and Cotula , 2006) .

Drylands ecosystems are interchangeably referred to as savannahs , rangelands , bushlands etc . They cover about 40% of Africa's land mass (Scholes and Walker , 1993) and support close to 50% of its population (Thomas et al , 2002 ; Andersson et

al, 2003). Pastoralists, the dominant groups that inhabit these areas are especially among the poorest in the world (Lybbert et al, 2004). In Kenya for example, the highest incidence of poverty is found in the arid and semi-arid lands, where more than 65% live below the poverty line (ILRI, 2006). In Sahelian west Africa, drylands support a broad range of livelihoods and production systems: pastoralism (both nomadic and transhumant), agropastoralism and sedentary farming (Wane, 2006). Livestock production contributes between 17-20% of GDP (Barry, 2001). Pastoralism is the predominant production system in the semi-arid and arid areas of East Africa (Odhiambo, 2006). In Sudan for example, livestock contributes upto 25% of the country's foreign exchange earnings, while it accounts for 6.5%, 7.5% and 10% of GDP in Tanzania, Uganda and Kenya respectively (Odhiambo, 2006). The potential contribution of drylands to national economies in both East Africa and Sahelian West Africa is undermined by insecure land tenure, a denial of the viability of pastoral economies by policy, and the political marginalization of drylands communities, especially pastoralists (Odhiambo, 2006; Wane, 2006). Property rights systems in both sub regions have been the casualty of top-down, government-led nationalization and/or privatization efforts that have systematically taken away land and critical resources from local resource users and disempowered local institutions and authorities for land administration and management (Niamir-Fuller and Turner, 1999; Fratkin, 1997).

The nature of the good : property regimes for the drylands

In Africa's drylands rainfall is scarce, unreliable, concentrated in a short rainy season, and rapidly lost due to high evapotranspiration and run off (IFAD, 2000). Drylands also exhibit common pool goods characteristics: an individual's withdrawal of CPR goods subtracts from another's benefit from it, yet excluding or limiting potential beneficiaries can be challenging either because of the sheer size of the CPR which can make fencing costly or traditional norms of equity and customs which may make exclusion undesirable (Ostrom, 1990). Difficulty in excluding leads to CPRs being used by multiple individuals, including unauthorized users, with implications for sustainable use. Overharvesting and degradation is however not inevitable. Where resource users coordinate their strategies and agree to limit the timing, location, quantity and technologies of resource withdrawal and or develop rules for monitoring and sanctioning one another, resources can be used sustainably (Ostrom, 1990). Thus the systems of rights and the identities of users can be manipulated to manage the exclusion and subtractability problems of common pool goods.

While property rights to common pool resources can vary between private, public (where government officials are managers) and collective rights, the latter are thought to hold distinct advantages in situations where productivity is marginal and variable and the costs of privatization high (Banks, 2003; Behnke et al, 1993; Bromley, 1991, 1989; Ostrom, 1990). These advantages include minimizing risk, promoting equitable access and minimizing production and transactions costs where scale economies can be achieved (Niamir-Fuller, 1999, 1997; Quiggin, 1993; Sandford, 1983). Indeed, if a well-defined community of users exists, the costs of maintaining and protecting collective rights can be lower than those of establishing rights for a large number of individually owned parcels where each individual would have to find and transact with other individuals for every issue that arises. It is instructive that Africa's rangelands, like other semi-arid areas of the world, support pastoral modes of land use in which property regimes, at least over land, are often collective in nature (Khazanov, 1984; Galaty and Johnson 1990; Sandford, 1983). This perspective on rangelands and property rights is reinforced by emerging notions of rangeland ecology, which suggest that most of Africa's rangelands are disequilibrium in nature and that resource sustainability is largely a function of rainfall variability and not livestock densities as predicted by longstanding equilibrium models (see contributions in Scoones, 1994 and Behnke et al, 1993). Communal or collective tenures are crucial in that they allow stock mobility and opportunistic strategies by herders as they track heterogeneous resources and manage risk in an uncertain biophysical environment. While disequilibrium theories of African rangelands are useful, with policy implications that match those emerging from the social sciences, they remain the subject of considerable debate (Gillsey and Hoffman, 2007; Vetter, 2005; Illius and O Connor, 1999).

Several aspects of wickedness are evident in this section. First, because of difficulties in exclusion, rangelands are subject to multiple uses by competing interests. Adjudicating these multiple interests and finding solutions can be challenging. Second, even though social scientists have demonstrated the relative advantages of collective property regimes for the use and management of common pool goods, especially under circumstances of environmental variability, the empirical reality is different. As we shall see in the next section, rangelands in East and West Africa are under different pressures to privatize/individualize. There is disconnect between research on the one hand and policy and practice on the other, suggesting that pressures to privatize far outweigh current policy solutions. Finally, the state of ecological knowledge on the functioning of Africa's range ecosystems is not of one mind. This makes policy design even more uncertain in a biophysical environment that is characterized by such variability.

The wicked reality : property rights in Africa's drylands

Property rights regimes over much of Africa comprise multiple and overlapping rights, that are authorized by multiple institutions across different jurisdictions (Okoth-Ogendo, 1989). Individuals and groups can hold different rights to the same resource concurrently or at different times. For example, herders can graze livestock on crop stubble after harvest, or can be allowed rights of way across cultivated fields. These rights can be acquired through customary institutions, religion or statutory

law and can obtain at different scales eg cultivation at the family level , and grazing at a village or community level . The multiple , overlapping nature of rights is especially evident in Sahelian West Africa , where livestock and crop systems interface closely across space and in time . The Sahel can be broadly divided into three zones (Reynaut , 2001) : a northern zone where pastoralism dominates but occasional occurrence of water can permit some cultivation , a southern zone that is less arid and given to cultivation , and a transitional zone between the northern pastoral and southern agriculture , which is increasingly taken up by cultivation .

This association between pastoralists and cultivators has evolved reciprocal arrangements beneficial to both groups , with livestock feeding off the stubble of harvested crops while manuring farmers' fields . These interactions are socially mediated through relationships of friendship (Turner , 1999) . But these reciprocal arrangements are on the decline . Political instability , economic vulnerability and recurrent droughts have reduced cooperation and increased conflicts . Farmers are now diversifying into livestock keeping and pastoralists have begun to engage in farming (Reynaut , 2001 ; Thebaud and Batterbury , 2001 ; Hoffman , 2004) . By keeping more livestock than in the past , farmers are less dependent on the pastoral provision of animals and animal products (Hoffman , 2004) . Because tenure rules favor cropland , as the act of land clearing by cultivators is recognized as productive use unlike herding , farmers have increased pressure to privatize resources (Painter et al , 2004 ; Konate , 2003) . This leads to pastoral spaces such as routes , camp sites and watering holes being used for farming activities . Pastoralists are consequently confronted with a severe decline in rangeland and a change in mobility patterns (Vedeld , 1996 ; Thebaud et al . , 1995 ; Turner , 1999) . Farmer-herder conflicts in the Sahel are not new and are anticipated to only increase in intensity . Between 1986 and 1994 , 90 people were killed over transhumance conflicts in Benin (SWAC and OECD) . In addition to diversification at the farmer-herder interface , there is emerging evidence that market integration is also causing the diversification of livestock producers (Adriansen , 2006) . For pastoralists in northern Senegal , however , diversification and market integration provide a means for them to maintain their pastoral way of life .

Diversification is also a growing trend in East Africa , especially as pastoralists subdivide collectively-held group ranches and settle on individual parcels (Lesorogol , under review) . Herders are now cultivating , engaging in petty trade and in wage labor . While livelihoods diversification can work to reduce climate and other risks it is , especially for cultivation , a desperate effort that often involves unsustainable , low return , high risk activities (Little et al , 2006) . Subdivisions are also simulated to result in reduced viability of subdivided plots , in substantial reductions in livestock numbers (threatening food security) and in a decline of wildlife populations (Thornton et al , 2006 ; Boone et al , 2005 ; Homewood , 2004 ; Lamprey and Reid , 2004) . It lowers child nutrition and well-being (Fratkin , 2004) , and increases social differentiation due to wealthier individuals being allocated larger parcels at the expense of livestock poor individuals and widows (Mwangi , 2007a) . It also weakens the social ties that are the basis of land access , use and management (Meinzen-Dick and Mwangi , in press) . While subdivision clearly circumscribes mobility , there is an increased tendency of individual parcel owners to renegotiate access through the use of a range of institutions , including kinship and friendship (Mwangi , 2007a ; Burnsilver and Mwangi , 2006) . Subdivision is argued to be a defensive strategy used by individuals to bring the locus of decision making back to the individual as against to a compromised and opportunistic management committee as was the case before subdivision (Mwangi , 2007b , 2006) . In addition to privatization , pastoral areas in East Africa are also the site of increased population migrations from densely populated areas , are seeing greater urban expansion and competition with commercialized agriculture and more recently , the introduction of capital-intensive investments such as flower farming (Fratkin , 1997) .

In both East and Sahelian West Africa , drylands are occupied by multiple users exploiting overlapping niches in the landscape , with multiple , conflicting demands . These conflicts and additional developments are leading to tenure insecurity , enclosures , loss of mobility , the diversification of livelihoods , and even more conflict . In both areas , some users (such as cultivating groups) are better positioned politically and supported by broader policies which recognize their contribution to development as legitimate , and which subsequently privilege individualized property rights as the most viable pathway to investment and sustainable land management . Yet there is growing empirical evidence to demonstrate that low-input mobile pastoralism is a far more efficient use of marginal productivity rangelands and those collective holdings are more productive and sustainable than individual parcels .

Property rights in the drylands of East Africa and Sahel West Africa are beset by various challenges that display elements of wickedness . First , they are of a legal plural nature , with customary , religious and statutory institutions in a somewhat uneasy coexistence . These multiple authorities can potentially create ambiguities . Some authorities such as the central state can sometimes lack legitimacy especially at local levels . Second , rights and interests are multiple and overlapping , making it difficult to balance the claims of different and conflicting resource users , legitimate or otherwise . In fact , some users and uses are at the lower end of a power continuum with their needs and contributions accorded lower priority in development policy . Third , those relationships of power are characteristic also of within group interactions , to the extent that some actors such as women , youths and poorer herders are excluded from decision making or their claims and rights disregarded . Fourth , the challenge of a risky ecological setting , whose science is evolving towards a more precise characterization of the relationships of its components , tends to confuse property regime/resource access options for practitioners .

Public policy interventions that are anticipated to moderate these problems have been proposed . These include : the recognition

and strengthening of customary institutions ; the recognition of pastoral land tenures ; improving capacities for conflict resolution and negotiation ; and an increasing role for state actors in arbitrating conflicts . These proposals are consistent with strategies for mitigating wickedness that were listed in the first section of this paper and are explored in the following section .

Mitigating wickedness : land and governance reforms in East Africa and Sahelian West Africa

Recognition of customary and group rights in Uganda and Tanzania In 1999 the Tanzanian government passed the Village Land Act and the Land Act . The aim of these new laws was to clarify existing land rights , to facilitate the development of land markets to encourage investors , facilitate equitable land distribution and to allow women to own land (Roughton , 2007) . Wiley (2003) provides a comprehensive review of Tanzania's Land Act from which the following brief is abstracted . The Village Land Act devolves authority over land administration , management and dispute resolution to the community level , where elected village councils (which requires 25% representation by women) make these decisions on behalf of a village assembly . The Act protects the tenure rights of vulnerable populations such as women , children , the disabled and pastoralists . For women in particular it nullifies discriminatory customary practices . The village council , with the endorsement of the village assembly , can formulate by-laws , which are legally binding . Many councils have defined the extent of their land administration areas , (i.e. areas that belong to the community) and established land committees to advise the councils on land issues . They have also set up village level dispute resolution bodies . The Land Act builds upon existing institutions and brings women directly into village land governance . However , with regard to conflict resolution , the land committees can only mediate , and any disputing party can lawfully ignore it . The accountability of the village council to the village assembly are insufficiently defined in law , and are also not fully independent of the district council .

The radical title to all land in Tanzania is vested in the Executive (not in the village assemblies) , which leaves room for compulsory takings of village land . The slow implementation of the law can also be attributed to the unclear policies and procedures for its implementation within the lands department , lack of trained personnel , and a possible lack of political will (Manji , 2001) .

Uganda's Land Act of 1998 shares similarities with Tanzania , and some sharp contrasts . This brief account draws entirely from Mwebaza (1999) and Rugadya (1999) . The Uganda Land Act of 1998 was intended to provide security of tenure to all land users , the majority of whom are customary land holders , to resolve conflicts between registered land owners and their tenants and to recognize customary tenure as legal and equal to other tenure forms , and to decentralize land administration and management . The Land Act enables holders of customary tenure , who wish to use land as a group , to establish common land associations to manage and protect their interests in the communal land .

The Act also introduces caveats that require spousal and/or family consent for land transactions , and nullifies customary practices that deny women and children use of land . Unlike Tanzania , however , the Act requires the creation of new , decentralized institutions for land management/administration and land dispute resolution . These include autonomous district land boards , land committees , land tribunals and sub-county tribunals—requiring a total of 2751 new officials . Traditional/customary authorities are included in the dispute settlement tribunals but only at the discretion of the land committee . Unlike Tanzania , Uganda's constitution of 1995 vests all land in Uganda in the citizens of Uganda and its land act provided a land fund . Also , unlike Tanzania , a Sensitization Focus Group comprising government , civil society and media groups was established to oversee the production and dissemination of information to the grassroots . One major weaknesses in the reform program is that it lacked an implementation plan and the program was not adequately budgeted (Bruce , 2005) . The reform is barely effective , serving to increase the incidence of conflicts , especially among female-headed households and widows (Deininger and Castagnini , 2006) .

Land reform in Sahelian West Africa (Benin , Burkina , Mali , Niger , Senegal) An informative review of the status of land reforms in Sahelian West Africa is provided by Ouedraogo et al (2006) , out of which the following account is abstracted . Many Sahelian countries undertook to reform their land laws in the 1990s ; often as part of or precursor to broader efforts at political and administrative decentralization . Land reforms in these countries were aimed at improving tenure security , reducing farmer-herder conflicts and recognizing and clarifying customary tenure . In the decentralized framework land matters such as allocation , registration etc was devolved to land commissions at district/ municipal or village committees . In Niger the committees are thought to be technocratic and located at district headquarters distant from communities . However , affirmative action rules require that 3 council members at each level are women (Diarra and Monimart , 2006) .

While reform processes in most of the countries were initiated in the early 1990s , most of the laws have taken close to a decade to formulate , and only been adopted from the early to mid 2000s . Much of this delay has been caused by demands for broader consultations from civil society . In Benin for example , a draft land law was drafted in 1999-2001 . It was rejected for lack of stakeholder representation and broader consultations were further conducted in 2005 . However , there are difficulties in mediating conflict across multiple interests . In Senegal , the land tenure/land use chapters in the draft framework law for agrosylvo-pastoral production were removed to avoid delays in the law's approval . It is rather early to comment on the outcomes

although Niger's decentralized land administration system is considered effective: procedures for recognizing land rights are simple, locally done, and are affordable. Stamm (undated) observes that the new land laws of West Africa are unclear, complicated, contradictory and the source of much uncertainty, which can lead to conflicts. Most of them give power to territorial authorities that can dispose of land, which contradicts the goal of protecting customary rights.

The pastoral code Many Sahelian countries (such as Guinea, Mauritania, Mali, Burkina Faso, Niger) are developing or have developed national laws dealing with access to pastoral resources, and to help reconcile competing resource uses, particularly pastoralism and agriculture. These laws recognize the rights of way for pastoralists both within countries and across borders. They provide rules for animal movement (e.g. need for travel documents, specified routes for transhumance, timing of movement) but also different categories of pasture (e.g. reserved pastures vs pastoral development areas vs areas open to pastoral eg fallow lands, cultivated fields after harvest etc) and rights and obligations associated with those different pasture use categories (Nianogo and Thomas, 2004). Niger's pastoral code, for example, recognizes common use rights (relating to grazing areas) and priority use rights in the terroirs d'attache—priority use rights provide pastoralists with clear recognition of their rights but without excluding other users (Ouedraogo et al, 2006). The laws also specify mechanisms for conflict resolution that integrate traditional authorities and local government (Bruce and Mearns, 2002).

However, these laws are relatively recent, not well known to the public, do not have implementation plans, and are increasingly challenged by the need to ensure the participation of mobile groups (IIED, 2006). This new law adds to the complexity of natural resource-related laws in the country, which now exceed 100, and do not provide a framework for or require popular participation (Konate 2003). Civil society organizations have devised innovative ways of circumventing the participation gap, through lobbying or creating alliances with champions in government (for Mali see Konate, 2003; for Niger see IIED, 2006).

Coping with wickedness : some reflections

Securing the property rights of multiple users in Africa's rangelands is a complex problem. Taking East and Sahelian West Africa together, securing rights has generally involved several interrelated and complex processes. This includes: legal reforms aimed at recognizing and even certifying customary rights systems often at village level (i.e. group rights); devolving decision making to lower levels; and a legal recognition and protection of marginalized groups such as women, pastoralists etc. Each of these solutions, as practice shows, is in turn beset by new problems, key among them are entrenching local participation in decision making, preventing manipulation and capture by elites, lack of accountability of local level institutions and authorities, and the onset of a new generation of user conflicts arising from the enforcement of these new rules and arrangements. Some aspects of wicked problems can be tamed. The problem of providing low cost registration and certification in Niger, which is a subset of the wider challenge of securing property rights, was resolved i.e. it was tamed.

These innovations are important not least because they have instituted trajectories that break away from previous centralized models of decision making in land and resource management in East and Sahelian West Africa. How can we improve on them? Recent work in Burkina Faso demonstrates that improving cooperation within groups can remove the pressure for individuals within groups to want to privatize resources (McCarthy et al, 2004). While by-laws and procedural rules can mandate participation and representation of subgroups and likely actions in the event a rule is infringed, increasing avenues through which dialogue and communication can occur seems one way of creating a shared understanding of a common problem within a group. Existing local institutions and mechanisms provide a logical starting point.

Even though inter-group relations are challenging, dialogue presents another possibility for smoothing out difficulties and reaching mutually beneficial understandings. The importance of cooperation, dialogue and communication is seen in recent initiatives to counter elite capture of Indonesia's decentralized forestry sector (Heru et al, under review), in restoring resource access and benefits by marginalized minority ethnic groups to Uganda's national parks (German et al, under review), in recent efforts to resolve farmer-herder conflicts in northern Nigeria and which also revitalized longstanding relationships (Hoffman, 2004). In addition to the formal-legal system, there are cultural and institutional raw materials among groups that can serve as the locus for building dialogue, but there is also scope for evolving new institutions and norms as the Uganda and Indonesia cases cited here demonstrate.

However, it also seems the case that a focus on rights alone is insufficient. That rights come with obligations can never be overemphasized, yet most research and practice tends to focus on rights alone. Multiple users have rights *and* they have obligations that need to be enforced too. This can help moderate the tensions that arise with the bundled nature of rights and access. Addressing the tension generated by the twin goals of securitization of rights of local communities as against creating markets in land to promote investments, especially of international capital, is increasingly crucial. Where groups have full legal ownership of land, capacity building for negotiation is key; however, where residual rights are vested in the Presidency such as in Tanzania, rights and access continue to be threatened. Legal analysts suggest that building the capacity of local actors to negotiate with foreign investors is critical.

Because wicked problems are complex, gaining traction necessitates iterative processes that are adequately flexible to accommodate learning and the adjustment that learning implies. There is thus a strong role for pilots (see Wiley, 2008, for recent work in Sudan and Afghanistan). That effort to securing rangelands exhibits the attributes of wickedness is no excuse for inaction. It just means that we should accept that it is a moving target—each solution creates a new problem, which we must deal with.

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