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Basupi, LV, Dougill, AJ [orcid.org/0000-0002-3422-8228](https://orcid.org/0000-0002-3422-8228) and Quinn, CH [orcid.org/0000-0002-2085-0446](https://orcid.org/0000-0002-2085-0446) (2019) Institutional challenges in pastoral landscape management: Towards sustainable land management in Ngamiland, Botswana. *Land Degradation & Development*, 30 (7). pp. 839-851. ISSN 1085-3278

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# **INSTITUTIONAL CHALLENGES IN PASTORAL LANDSCAPE MANAGEMENT: TOWARDS SUSTAINABLE LAND MANAGEMENT IN NGAMILAND, BOTSWANA**

## **ABSTRACT**

Policies, institutions and governance structures have implications for the sustainable use of land resources. In dryland Africa, pastoral landscapes are faced with challenges of land degradation, livestock diseases, droughts and land use conflicts. In order to enhance resilience and integrity of pastoral societies and landscapes, Sustainable Land Management (SLM) requires that policies and institutions create an enabling environment that encourages sustainable use. This study analyses current policy, institutional and governance challenges in relation to SLM in Ngamiland, Botswana. We use a series of expert interviews, local stakeholder workshops, document and policy content analysis to analyse policy and institutional challenges. Key findings of this study include: fragmented institutional and policy frameworks, conflicting policies and priorities, weak governance structures, lack of integrated planning and coordination between sectors, gaps in communication, knowledge gaps and fragmented pastoralists lobbying institutions all of which hinders prospects for SLM in communal areas of Botswana. Harmonisation of sectoral policies requires institutional and policy design to consider institutional co-ordination and enhanced learning on other actors' perspectives and constraints. Findings in Ngamiland show that collaborative co-management approaches can play a role in facilitating inter-sectoral data sharing to enable successful development of pastoral landscapes and a supportive decision-making system for SLM.

**Keywords:** Rangelands; Pastoralism; Policy Analysis; Institutions; Co-management.

## 1. INTRODUCTION

In sub-Saharan Africa, pastoralism is the dominant livelihood activity for the majority of the rural populace (Catley et al., 2013). Pastoralists modes of production have been consistently portrayed as unproductive, responsible for land degradation and threatening the survival of the system they depend on (Sinclair and Fryxell, 1985). Communal land tenure practices have been blamed for discouraging private investments and encouraging higher stocking rates (Rohde et al., 2006). As evidence pointing to the limitation of this thinking has accumulated, discussions have moved from a narrow land tenure focus to a wider interdisciplinary discourse (Oba, 2013). A growing body of opinion now considers communal land tenure as practiced in pastoral areas as a viable form of land-use in drylands (Davies, 2008). This necessitates the need for policies and management strategies to move towards tackling institutional challenges. Sustainable Land Management (SLM) is concerned with the management of land and water resources in a manner that is capable of delivering solutions which integrate environmental, economic and social objectives without damaging ecological processes (UNEP, 2016). To realise SLM for rangelands requires an ability to overcome policy and institutional fragmentation and develop locally-appropriate, flexible and tailored solutions (Cowie et al., 2011). However, many governments, especially in sub-Saharan Africa, still face the challenge of properly assessing policy outcomes, and developing the right mix of policies and institutional frameworks that address and accelerate pastoral development while protecting biodiversity in rangelands (Notenbaert et al., 2012). The consequences of inadequate land management frameworks can be seen in unnecessary rangeland resource degradation, land use conflicts and decisions that favour short-term, piecemeal responses (UNCCD, 2008).

Botswana's semi-arid rangelands make a significant contribution to the livelihoods and wellbeing of its rural communities, many of whom depend on cattle (SB, 2013). The country's national development plans from independence in 1966 to the present, indicate substantial government expenditure in agricultural production and wildlife conservation programmes (ROB, 2009). Significant expenditure has been invested in veterinary services and cordon fences, water-point policies, rangeland privatisation policies and the provision of livestock subsidies. Like many other sub-Saharan African countries, Botswana faces the significant

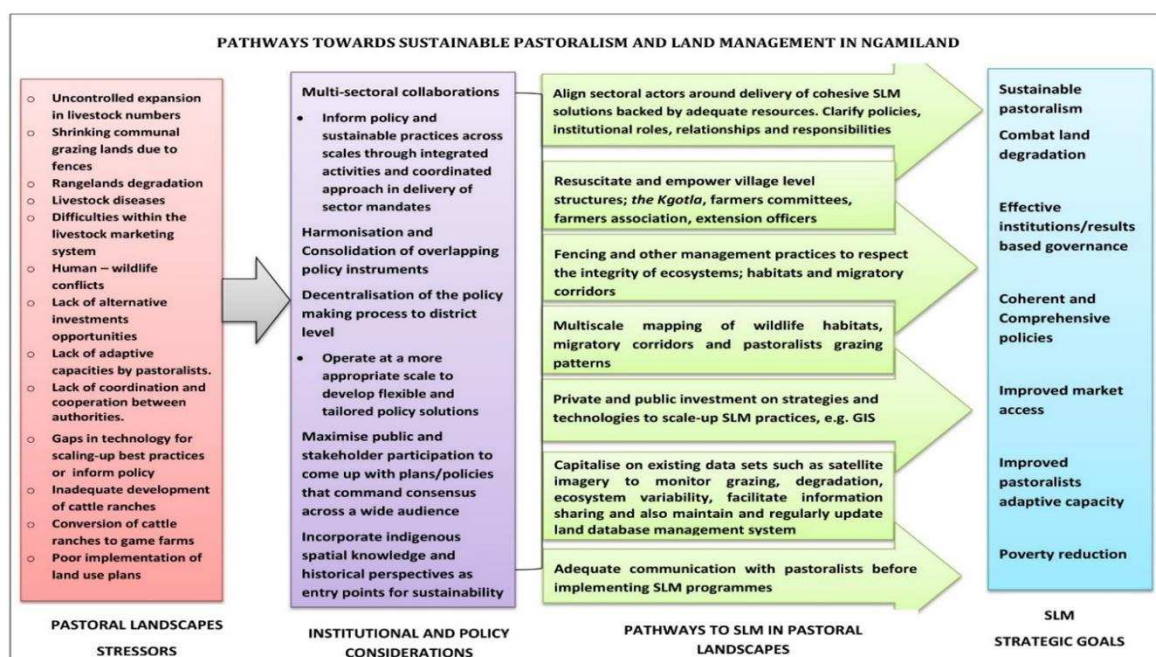
challenges of land degradation (DEA, 2006), land use conflicts, livestock diseases and drought (DoL, 2009). In parts of the country rangeland degradation has led to extensive bush encroachment, bare soils and a decline in the cover density of perennial and palatable grass species (Moleele et al., 2002). The persistence of dual grazing rights for those who have been allocated ranches promotes overgrazing on communal lands and livestock encroachment into wildlife management areas, impacting negatively on wildlife habitats (Rohde et al., 2006). Efforts have been made to address unsustainable practices, reduce rangeland degradation and improve rural livelihoods in communal areas (e.g. Favretto et al., 2016, Reed et al., 2015). However, the implementation of rangeland management strategies remains a challenge and has prompted some studies to question the efficiency of the current institutional arrangements and legislative frameworks (Mulale et al., 2014, DEA, 2008).

Botswana's policy approach to management of land and water resources, as with other sub-Saharan African countries, is through a range of actors with a multiplicity of policies, regulations, and legislative instruments (Mulale et al., 2014). To date, studies of Botswana's institutional frameworks and the capacities of actors to implement strategies that are geared towards SLM are limited. This study draws on a series of expert interviews, a local stakeholder workshop and content analysis of policy documents to analyse and assess the land management policies and institutional frameworks for SLM practices in Ngamiland district, Botswana.

### **1.1. Scaling-up SLM in pastoral areas through multi-sectorial collaboration and co-management**

Scaling up SLM in pastoral landscapes focuses on adapting successful policies and programs that can reach greater number of pastoralists and communities. Institutional and policy changes are required to create an enabling environment to promote adoption of SLM. Figure 1 illustrates how SLM in pastoral landscapes can be scaled up through effective institutional and policy support. Identifying the barriers from an array of contributing factors is a key first step. The second step involves identifying institutional, policy and stakeholders at nested spatial scales (Basurto, 2013, Osei-Tutu et al., 2015). By identifying stakeholders at nested

spatial scales, it is possible to identify trade-offs arising from the adoption of certain strategies. For example, impacts of a fence on access to key resource areas for a certain pastoral community or on wildlife movement. Once such trade-offs have been identified, it is possible to facilitate a cost-benefit analysis and dialogue between affected stakeholders so as to manage conflict and mitigate the worst negative effects. The third step involves fostering institutional and multi-sectorial collaboration through collaborative co-management and capacity building at the local scale (Leys and Vanclay, 2011). This requires a strategy that engages key stakeholders; pastoralists, famers, NGOs, research teams and state-planners, through a continuous learning process. Such a strategy should include working where necessary with high level intermediaries to build momentum for policy change (Pahl-Wostl, 2009). SLM is the primary focus of UNCCD’s Global Land Outlook, which recommends hybrid governance arrangements in drylands; combining elements of traditional governance with modern state apparatus for increased SLM uptake (UNCCD, 2017).



**Figure 1** Conceptualisation of effective institutional and policy support for scaling-up sustainable land management (SLM) in pastoral landscapes.

The concept of co-management realises that in order to deal with the shortcomings of a single agency and top down management, management activities must be collaborative in practice (Berkes, 2009). Co-management involves the sharing of responsibilities between government

and resource users (Carlsson and Berkes, 2005). The concept works best when combined with learning based approaches such as adaptive management. Adaptive co-management emphasises innovative strategies that explicitly foster collaboration between stakeholders and learning, which contribute to trust building and the formation of social networks of all stakeholders; researchers, communities, NGOs and policy makers (Armitage et al., 2009).

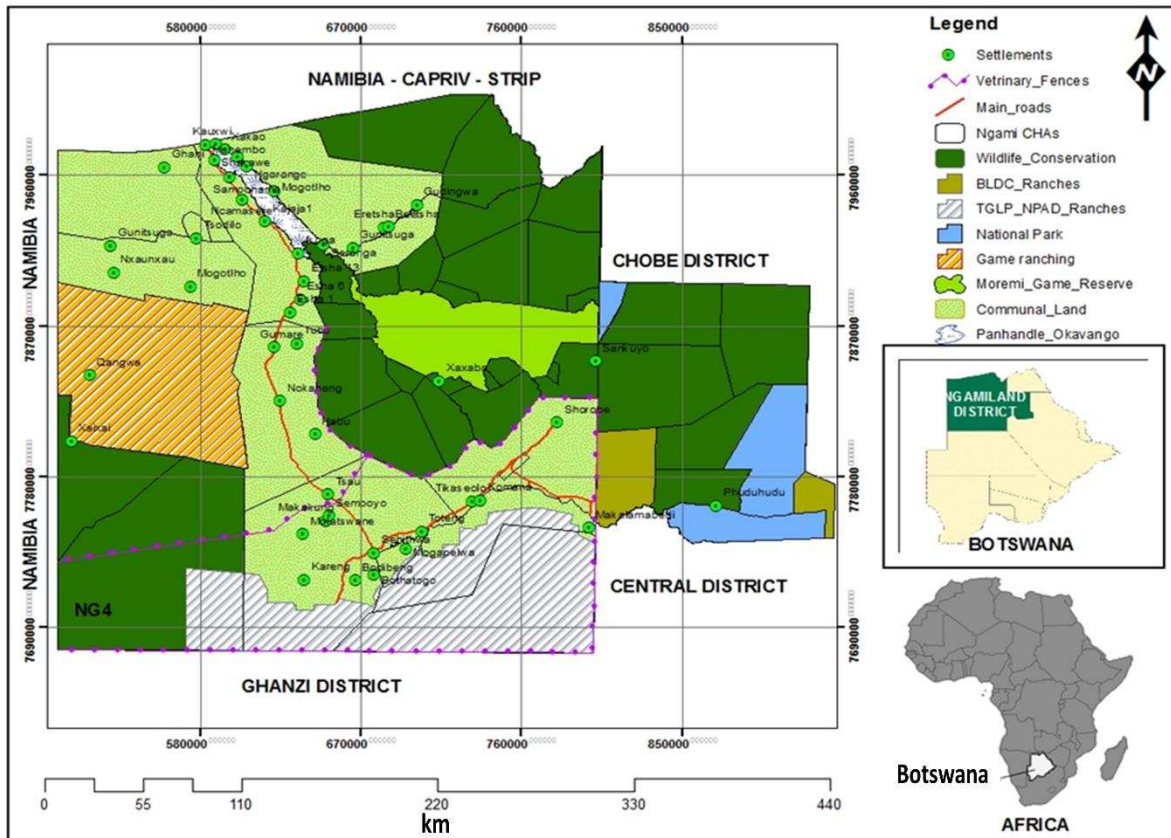
The aim of the paper is to analyse current policy, institutional and governance challenges in relation to SLM and access to rangeland resources in Ngamiland pastoral landscapes. The objectives are to: (1) identify policies and legislative frameworks that have a direct or indirect impact on communal grazing lands and assess their stance on issues of SLM; (2) assess the district institutional frameworks and their implications for SLM in Ngamiland pastoral landscapes; and (3) determine how current arrangements for managing pastoral landscapes in Botswana can be integrated into a more effective and accountable framework for SLM adoption in drylands.

## 2. MATERIALS AND METHODS

### 2.1. Study Area

Ngamiland district presents an interesting case to analyse policies and institutions due to its multifunctional landscapes. The focus area is populated by pastoralists; the Ovambanderu and Ovaherero ethnic groups who practice extensive livestock keeping across communally managed rangelands (Tlou, 1985). Due to the neighbouring Okavango delta system, these rangelands are also home to a diversity of plants and animal species, including migratory wildebeest and elephants (DEA, 2008). Supported by a number of national agricultural policies notably the Tribal Grazing Land Policy of 1975 (TGLP), National Policy on Agricultural Development of 1991 (NPAD) and international trade agreements for access to international beef markets (Stevens and Kennan, 2005), former communal rangelands south of the delta are being privatized and fenced to create incentives for SLM (Figure 2). TGLP and NPAD have three objectives: (1) to stop overgrazing and degradation of the range, (2) to promote greater

equality and incomes in rural areas and (3) to allow growth and commercialisation of the livestock industry on a sustainable basis (RoB, 1975). Through these policies, the government hypothesised that economic progress could be accelerated by encouraging private land ownership and that pressure in communal lands would be alleviated through demarcation of ranches. Large herds owners would then be expected to transfer their cattle to these ranches, leaving communal lands for subsistence pastoralists (White, 1993). However, studies have since shown that communal land privatisation has restricted resource access by local pastoral communities (Basupi et al., 2017). In Ngamiland, pastoralism has been subject to frequent outbreaks of livestock diseases, notably Foot and Mouth Disease (FMD). Veterinary fences have been created to separate livestock from wild animals, especially buffaloes, as carriers of the FMD virus. District land use plans and other natural resource management strategies (DoL, 2009, DEA, 2008) recognise that competing land uses, land use conflicts and environmental degradation cannot be resolved by continuously extending the boundaries of one land use at the expense of another. This calls for a clear strategy to ensure close integration of land management efforts and mechanisms to manage the pastoral landscape sustainably (DEA, 2008). Figure 2 shows the current land use zones in Ngamiland, including the TGLP and NPAD ranches.



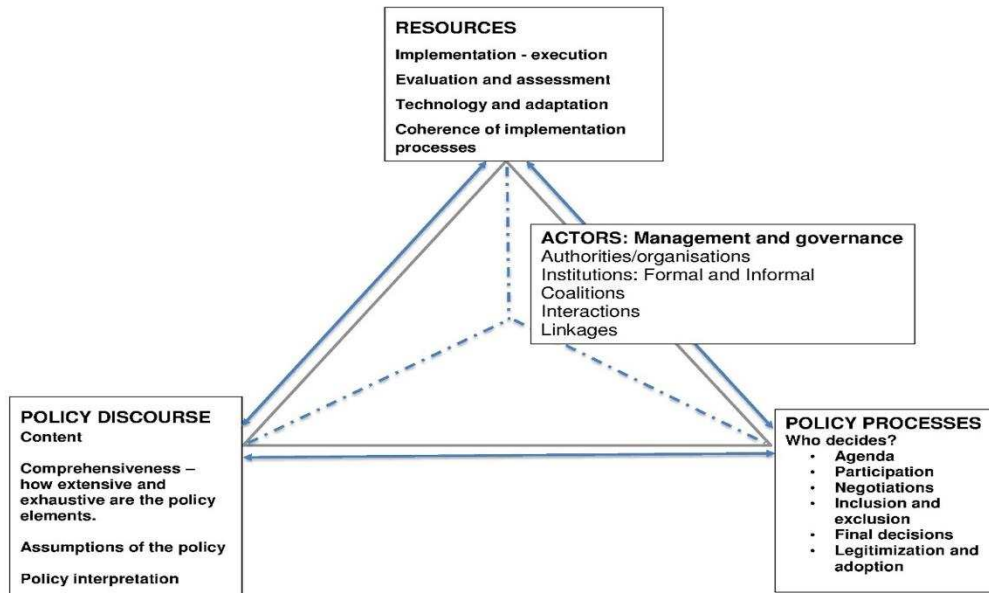
**Figure 2** Ngamiland District Land Use Zones. Data source: Department of Lands, Ministry of Agriculture. *Note.* CHAs, Controlled Hunting Areas; BLDC, Botswana Livestock Development Corporation.

## 2.2. Conceptual framework

The political modernisation and policy arrangements framework (Arts et al., 2006) helps explain the structure of environmental policy arrangements in terms of policy content and organisation. We adopted this framework and modified it for Botswana’s environmental policy context (Figure 3). The emphasis of the framework is on policy actors, policy discourses and policy processes. Policy actors are the authorities, their powers, influence, and coalitions in the policy domain (Rogge and Reichardt, 2016). The notion of discourse refers to actual policy content and how the views of actors are embedded within policy (Arts et al., 2006) and considers the comprehensiveness of policy elements (Rogge and Reichardt, 2016). Resources such as finance, information or support are required for a successful implementation process



(Runhaar et al., 2006). As such, coherent policy processes should include a clear implementation strategy outlining funding of activities within it.



**Figure 3** Conceptual framework for analysing policy arrangements and connections (adapted from Arts et al., 2006)

### 2.3. District Stakeholder workshop & Expert Interviews

A local level stakeholder workshop was held with 13 government officials from the Ngamiland District Land Use Planning Unit (DLUPU). DLUPU is an integrated committee comprising government departments; Land Board official, Senior Lands Officer (Tawana Land Board), Council Physical Planner, Scientific officer (Animal Production), Council Planning officer (Economic), District Officer (Development), Land Use Officer (Crops), Wildlife Biologists, Scientific Officer (Veterinary Services), Secretary to the District Conservation Committee, Range Ecologist, District Tourism Officer, District Environmental Coordinator. We divided the workshop into two sessions. The first discussion focused on exploring issues and challenges experienced in communal grazing areas, compiling a list of policies, legislative frameworks, and institutions that directly or indirectly influence land management and pastoralism in Ngamiland communal areas and identifying policy and institutional challenges. The second part of the discussion explored solutions and measures that could address the identified

issues and challenges. Each discussion lasted for approximately 90 minutes. In addition, expert interviews were held with professionals from government offices both before and after the stakeholder workshop. These interviews enabled assessment of the relationship between the district land management institutional framework and organisational structures. Respondents were as follows; Department of Environmental Affairs (n = 2), Tawana Land Board (n = 4), Department of Wildlife and National Parks (n = 4), Department of Veterinary Services (n = 4), Department of Forestry and Range Resources (n = 2), District Administration (n = 2) and Tribal Administration (*'Dikgosi'* or Village Chiefs and chairpersons of Farmers' Committees (n = 11)). Purposive sampling was used to identify key informants and participants were selected based on their pastoral and local environmental knowledge. The data from stakeholder workshop discussions and expert interviews were analysed using qualitative content analysis (Flick, 2015); (i) identifying major themes emanating from the discussions; (ii) assigning codes to major themes; (iii) classifying responses under the identified themes; (iv) writing the research narratives and discussions. Transcribed interviews were imported into Nvivo 10 (QRS 2012) for coding.

#### 2.4. Policy content analysis

The stakeholder workshop identified policies that have a significant impact on pastoralist issues and communal areas in the district. Copies of relevant policies and management plans were obtained from district offices and the Government publishing agency. The documents were analysed using iterative content analysis, examining narratives in relation to SLM within each policy document (Forbes, 2000). The policy evaluation and appraisal criteria in Table 1 were identified based on decision support needed for upscaling SLM best practices in pastoral landscapes (Liniger et al., 2011); addressing the root cause of land use conflicts and land degradation; multi-stakeholder involvement and multi-sectorial approaches. We examined policy stances that provide for cross-sectoral and collaborative management of communal lands. Cross-sectorial initiatives can occur only if government actors are aware of (i) the complexity of socio-ecological systems, (ii) that cross-sectorial approaches yield better results

than fragmented approaches, and (iii) that inter-agency collaboration will result in cross sectorial policy for SLM (Rueff et al, 2015).

**Table 1: Criteria for determining policy stance towards SLM**

No support for SLM (-)	No co-management, top-down imposition, no reference or inference to SLM
Weak support for SLM (+)	Single sector focus, no references to other sectors, no clear implementation strategy
Medium support for SLM (++)	Has potential for co-management hence SLM, however, activities towards SLM and implementation strategies are not explicit
Strong support for SLM (+++)	Strong on co-management, equitable access, participation, extensive decision-making, clear implementation strategy

## 2.5. Institutional capacity assessment

Barley and Tolbert (1997: 6), define institutions as ‘shared rules and typifications that identify categories of social actors and their appropriate activities or relationships’. Understanding the nature of resource institutions helps explore links between various institutional arrangements involved in natural resource management. Organisations are structures made up of individual actors, some with conflicting objectives (Hodgson, 2006). Hence institutions are socially constructed templates for actions, produced and maintained through ongoing interactions and collaborations between organisations (Barley and Tolbert, 1997). Ostrom (1990) proposed a set of conditions (eight design principles) that could influence the likelihood that self-governing institutional arrangements will be long-lasting and improve management of Common Pool Resources (CPR). Design principle 8 states that appropriation, provision, monitoring, enforcement of rules, conflict resolution and governance activities must be organised in multiple layers of nested enterprises in order to achieve sustainable management of CPR. Understanding the relationship between multi-level institutional linkages and conditions influencing the likelihood of successful co-management has practical

relevance to SLM upscaling and local resource governance (Basurto, 2013). Since it is argued that SLM must be mainstreamed into broader sectorial institutional frameworks (WOCAT, 2009), we assessed organisational structures and institutional frameworks based on their capacities and efficiency in supporting SLM through collaboration between actors involved in implementing land use policies and resources management plans, i.e. co-management. Efficiency was determined by clear institutional arrangements, cross-sector collaboration or communication linkages, traceable budgets towards SLM activities, technologies in place to upscale SLM best practices (Liniger et al., 2011) and evidence for engagement and involvement of pastoralists communities in the planning of activities. At the local level, linkages are between local level institutions and district actors through direct involvement in decision-making and developing co-management arrangements to increase political support for local/village level livestock management institutions (Armitage et al., 2008). Linkages at the national level are between district actors, local level structures and the central government through active participation in national-level policymaking on SLM and pastoralism issues. These linkages create interdependencies by which local level institutions can shape their bargaining power with the central government on a variety of issues including autonomy in resource management (Armitage et al., 2009). Autonomy in this case means local institutions are able to exercise self-governance over decision-making and implementation without being overruled by central government (Bodin and Crona, 2009)

### 3. RESULTS

#### 3.1. Policies and legislative frameworks

During the stakeholder workshop, a number of policy-related factors were identified as critical. These are summarised in Table 2.

**Table 2: Summary of issues from stakeholder workshop**

Issue	Area of concern
Livestock and Land management	<ul style="list-style-type: none"> <li>• Uncontrolled expansion in livestock numbers.</li> <li>• Difficulties within the livestock marketing system.</li> </ul>

	<ul style="list-style-type: none"> <li>• Outbreak of livestock diseases.</li> <li>• Shrinking communal grazing lands</li> <li>• Lack of alternative investments opportunities and adaptive capacities.</li> <li>• Presence of invasive species observed around villages and Lake Ngami.</li> <li>• Issues related to the position, operation, maintenance, effectiveness and impact of the veterinary fences.</li> </ul>
Policies and Institutions	<ul style="list-style-type: none"> <li>• Legal pluralism - traditional management institutions operate alongside modern legislative frameworks.</li> <li>• Lack of integrated planning, coordination, and cooperation between the many actors with responsibilities for rangeland management.</li> <li>• Lack of enforcement of existing land use policies.</li> <li>• Knowledge and technological gaps.</li> </ul>
Consultation and participation	<ul style="list-style-type: none"> <li>• Pastoralists' opinions are not taken into consideration in policy making.</li> <li>• Information not communicated in a way that is practical for local communities to apply.</li> <li>• No motivational incentives for improved livestock and land management.</li> </ul>

### 3.2. Policy processes

Key stakeholders, including chiefs and members of the Farmers' Committees, had only a vague impression of policies, some of which have important impacts on communal grazing lands and pastoralism. For instance, village level representatives from Village Development Committees (VDC) did not know of the existence of any Integrated Land Use Plan for the district. They argued that policy making processes remain top-down and communities tend to be aware of only basic services or information which are acquired through one-off village-level *Kgotla* consultation meetings or via state radio. Communities are consulted after the policy process and agenda has been discussed and agreed at central government level by elites who often do not understand the impacts of policy implementation. *'The issue is we (as the people) only get to talk about the policy in terms of how it can work best for us, the other aspects like whether the policy is necessary, why and what kind of policy, are reserved for the government and the political elites...'* (Interview data, Member of the Farmers' Committee, Toteng, 2016).

Participants stressed implementation challenges brought about by centralised policy making processes which do not take into consideration the spatial heterogeneity of different pastoral landscapes. Policy makers tend to treat the country as a homogenous landscape such that the same policy instrument can be applied throughout the country *'...we need to say at the policy level: this is how we can use opportunities available in the district to help pastoral communities, but we can't because the policy making process is centralised...'* (Expert interview data, DVS, Maun, 2016). Some extension officers felt that they are given policies and programmes to implement without being asked whether they will work. One example given was wildlife compensation within the Wildlife Conservation Policy of 1990, where the compensation for wildlife damage to livestock or crops is significantly lower than the value of the lost crop, animal or property. Officers argued that the issue negatively affects the attitude of communities towards wildlife as people feel the government cares more for wildlife than people or livestock.

### 3.3. Policy discourse

The policies and statutes analysed (Table 3) relate to management of communal areas and have implications for SLM and pastoralism. Using the criteria in Table 1, the instruments were assessed to identify their support for SLM. Botswana's long-term vision for management of environmental resources, *'a fully integrated approach towards conservation and development of resources...including equitable distribution of these resources between its people'* (RoB, 1990) is consistent with the principles of co-management. It is evident from Table 3 that the intentions of policy or legislative instruments as far as management of communal resources is concerned are based on key sustainable development principles; equity and fairness in allocation of land resources (RoB, 1968), sustainable use of natural resources through a coordinated policy approach (RoB, 1990) or effective livestock disease control (RoB, 1977) among others.

**Table 3:** Analysis of policies and legal instruments

<b>Instrument</b>	<b>Objective/policy problem definition</b>	<b>Policy stance on SLM and rangeland access</b>	<b>Support for SLM</b>	<b>Comments on policy effects / implementation</b>
Tribal Land Act, 1968, amended 1993	Provides for the establishment of tribal Land Boards to manage all communal lands.	Equity and fairness in allocation of land resources and access to communal land.	++	Collapse of customary or village level management institutions. Management duties taken from the chiefs and village level institutions.
Disease of Animal Act, 1971	Prevention and control of diseases.	Food security through appropriate prevention and control of livestock diseases.	+	Emphasis on decisions taken by political administrative elites e.g. 'the minister may at any time cause fences to be erected on any land'.
Agricultural Resources Conservation Act, 1974	Conservation and wise use of agricultural and rangeland resources.	Establishment of district level conservation committees under the ministry of agriculture.	+	The selection of Board Members solely by the Minister of agriculture means that the Act provides weak support for SLM.
Tribal Grazing Land Policy, 1975	Fenced rangelands - grant exclusive rights to groups and individuals.	Reduce rangeland degradation by decongesting communal areas, give farmers incentives to manage their land.	+	Deficiencies in the data or information on which planning and management decisions were based led to poor performance.
Wildlife Conservation Policy, 1990	Wildlife co-management through CBNRM and private concessions, Wildlife Management Areas (WMAs)	Establishment of community wildlife utilisation through WMAs and private concessions. Local advisory committees.	++	Potential for SLM due to its emphasis on co-management for wildlife through CBNRM. Emphasis on a single sector; wildlife. Pastoralists' issues, especially those utilising WMAs, are not fully integrated.
National Conservation Strategy, 1990	Policy coordination, Coordinate Environmental Impact Assessments and Strategic Environmental Assessments, Improved livestock management Restoration of degraded lands.	Integrated environmental management through the formulation of a National conservation strategy advisory body with a multiplicity of stakeholders.	+++	Emphasis on co-management with representation across stakeholders. Special attention is given to local structures and other interest groups. Implementation remains weak.



National Policy on Agricultural Development, 1991	Fencing of grazing lands. Improved management is considered impossible under the communal management system.	Proposes detailed mapping of grazing areas.	+	Land is allocated de facto to an elite of cattle owners with boreholes, at the expense of poor communal area pastoralists.
Community-Based Natural Resource Management (CBNRM) Policy, 2007	Community involvement in the management of natural resources to diversify the rural economy away from livestock.	Communities receive user or proprietary rights over resources, incentives for local communities to manage wildlife resources and alleviate poverty.	++	A single sector focus; wildlife, means it may not support strategies for SLM in communal lands.
Okavango Delta Management Plan, 2008	Protection, sustainable use and integrated management of natural resources on the Delta and its fringes.	Government departments have activities in the plan which they are to budget for. Continuous dialogues in the form of workshops	++	Supports institutional collaboration. Coordination between sectors is a challenge, most departments still do not have a budget for their components in the plan.
Ngamiland Integrated Land Use Plan, 2009	Sustainable use of land, equitable distribution, harmonizing land allocation with ecosystems, guiding the Land Board.	Proposes communal area-specific management plans. Proposes yearly workshops and evaluation seminars. Sectors to budget for their specific plan mandates.	++	No clear implementation strategy that can guide actors to implement their components. Activities within the plan are not budgeted for.

(-) No support for SLM (+) Weak support for SLM (++) Medium support for SLM (+++) Strong support for SLM

The first legislative instrument which considered management of communal areas was the Tribal Land Act of 1968, which replaced customary institutions for land management. The change in land management institutions with the transfer of responsibility for land allocation from Chiefs to Land Boards has affected the land use system. Though the Act advocates equity and fairness, land management decisions and powers of control lie solely with select Board Members who are answerable to the 'Minister of Lands' (RoB, 1968). *'In most cases, Land Board Members do not have expertise in the field of land use, they are therefore not well equipped to guide the implementation of programmes that promote SLM' (Expert Interview, TLB, 2016).*

The TGLP (1975) was introduced with the intention of reducing rangeland degradation by demarcation and allocation of ranches to individual farmers. TGLP objectives were expanded by the National Policy on Agricultural Development (NPAD) of 1991 (RoB, 1991). While TGLP targeted what was deemed 'unoccupied land', NPAD targeted the land around communal grazing areas or cattle posts owned by individuals or syndicates (RoB, 1991). The policy restated the TGLP assertion that growth in livestock numbers had caused significant overgrazing and degradation and recommended fencing of a significant amount of communal areas as commercial leasehold ranches (RoB, 1991). The policy does not provide any technical guidelines or protocols on how to create and allocate these ranches without negatively impacting on issues of sustainability and equity in pastoral areas. Instead, the policy loosely recommends an Inter-Ministerial Technical committee to oversee the preparation of feasibility studies and implementation, despite existing land use planning structures such as DLUPU.

Numerous land and natural resource management policies and legislation exist (Table 3). The Okavango Delta Management Plan (ODMP) through its components addresses the conflicts between pastoralism and wildlife conservation by recognising the role of pastoralism in conserving biodiversity and sustainable livelihoods. The plan identifies issues in the livestock sector and proposes measures or relevant departments that can develop programmes to tackle these issues. The National Conservation Strategy provides for a national conservation strategy advisory body with broad membership across all structures, a coordinating unit and environmental liaison officers in other Ministries (Table 3).

### 3.4. Institutional capacity assessment; actors in rangeland resource management

Group discussions and subsequent interviews all stressed the lack of involvement at the local level by the Tawana Land board (TLB) despite various development planning and land management structures. These include local authorities and their operational sub-committees such as District Council Planning Committee (DCPC), Tribal Administration – the Kgotla, VDC and District Land Use Planning Unit (DLUPU). Working parallel to these local authorities are government departments such as the Department of Environmental Affairs (DEA), Department of Veterinary services (DVS), Department of Animal Production (DAP), Department of Crop Production (DCP), Department of Forestry and Range Resources (DFRRS), Department of Wildlife and National Parks (DWNP) and Department of Tourism (DOT), which can provide technical support and advice to the Land Board.

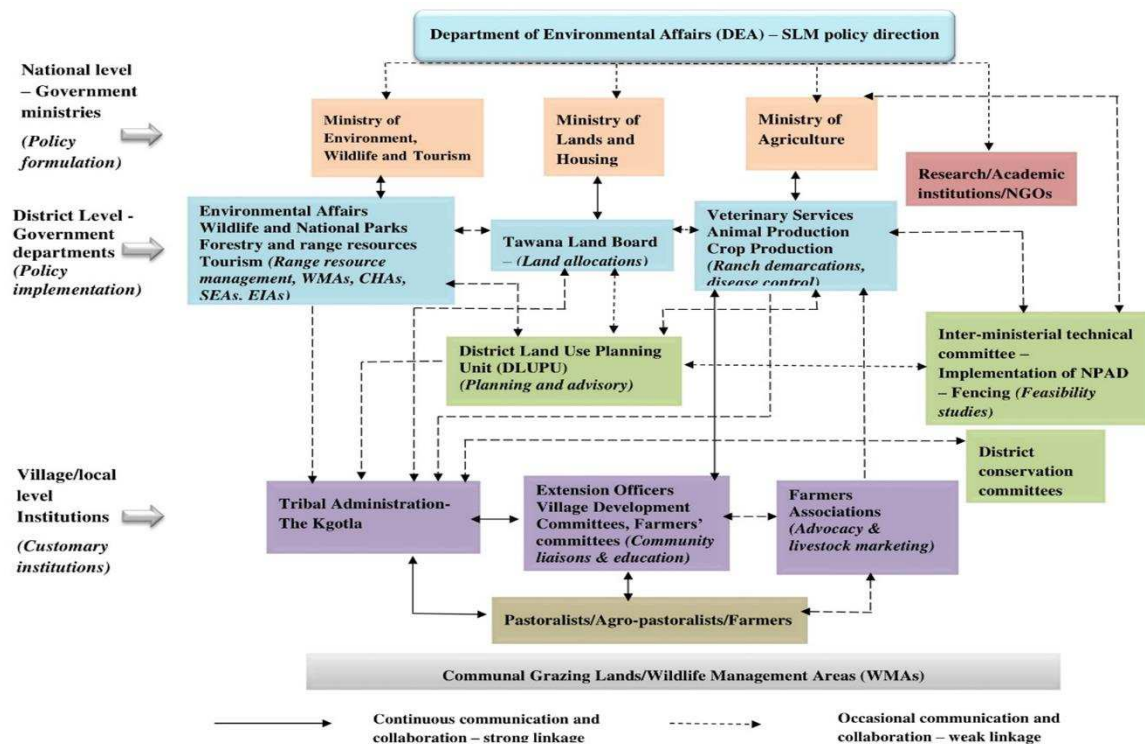
One of the strategic objectives of the National Conservation Strategy is to harmonise natural resource management policies and legislation to facilitate implementation, with DEA as the coordinating agency. The general view from interviews and workshop is that DEA is under-resourced in terms of staff and resources to successfully carry out this mandate.

A multiplicity of government departments have responsibilities for implementation of various land management programmes, policies and legislation. While this has its advantages, participants' argued that the arrangement limits integration of SLM efforts and fosters an issues-driven approach to implementation on a department by department basis whereby

departments are not accountable to each other. For example, officials from the Ministry of Agriculture reported that the Ministry is against conversion of cattle ranches to other uses such as game farms or tourism related activities, because this defeats the purpose of TGLP and NPAD of reducing pressure in communal areas and commercialising the livestock sector. Conversely, the Tawana Land Board has no objection to individuals transferring their ranches or introducing wildlife on their ranches and changing use as long as it is done in accordance with the Department of National Parks (DWNP) requirements.

Group discussions and interviews all stressed that problems experienced in communal areas, such as livestock congestion and human-wildlife conflicts, are exacerbated by a lack of coordination and conflicting priorities by authorities. For example, the Ministry of Agriculture's Livestock Management and Infrastructure Development Programme (LIMID) and the Ministry of Youth Development Fund continue to fund livestock projects despite disease outbreaks. This is worsening the problem of intensive grazing leading to degradation, in the form of bush encroachment or reduced fodder availability.

Figure 4 was done by comparing main themes from workshop discussions, policies and codes from interviews. The figure identifies actors in communal land management and their communication linkages. A strong vertical line of accountability is noted between district departments and their ministries at the national level, but that district departments are only loosely connected and do not often collaborate on issues that affect pastoral areas. There is also a weak communication linkage between these actors and village level structures which are supposed to spearhead SLM efforts. Respondents highlighted limited consultation, delays and lack of feedback on issues of concern to pastoral communities as major communication issues in pastoral areas. Little information is shared among these various actors resulting in uncoordinated planning. *'To a certain extent as departments, we fail local communities in terms of addressing their concerns/issues adequately and within a reasonable timeframe. The unavailability of information to communities makes them hostile to interventions that would have otherwise sailed smoothly to aid SLM...'* (Expert interview, DEA, 2016).



**Figure 4** Structures in management of pastoral landscapes and communication linkages. *Note.* WMAs, Wildlife Management Areas; SEAs, Strategic Environmental Assessments

### 3.5. Tawana Land Board

Tawana Land Board is the authority responsible for the management of all communal/tribal land in the district, in trust for the community. The Board falls under the Ministry of Lands, Water and Sanitation Services and under the provisions of the Tribal Land Act of 1968 (amended 1993). It is mandated to deal with issues regarding the allocation of tribal land for residential purposes, grazing of livestock, ploughing purposes, commercial and industrial uses and zoning of wildlife management areas in conjunction with Department of Wildlife and National Parks.

The Land Boards are required under section 17 of the Tribal Land Act to determine and define land use zoning within tribal land which once approved and codified by the Minister, then prohibits any granting of land that is contrary to the land use zoning plan. It is provided under the same section that the Boards may determine management plans and their revision for purposes of assisting or providing guidance on the use and designation of land use zones.

Boards make strategic decisions while the Secretariat makes administrative decisions. While the Board may seek advice from institutions such as DLUPU, such advice is not binding and the Board may disregard it if they so wish. Stakeholder workshop participants were of the view that members of the Board are mostly unqualified and do not have capacity to deal with complex issues, hence mismanagement of communal lands and land use conflicts are on the rise.

### 3.6. District Land Use Planning Unit

The central mandate of DLUPU is to play a coordinating role for management of land and other natural resources at the district level. Further, DLUPU is charged with the responsibility of advising Land Boards regarding land allocations and management, assisting in the resolution of land use conflicts and implementation of government policies, advising community-based organisations including Farmers' Committees and drafting agricultural land use and zoning plans. Theoretically, DLUPU works to align and synergise sectorial policies and strategies of district level departments to that of the National Land Policy, the Tribal Land Act and National Conservation Strategy as well as ensuring effective communication with Village Extension Officers, local communities, and pastoralists. Workshop participants argued that the committee does not function in this manner and continues to decline in value due to poor attendance. It is not backed by any statutory provision or powers which it can use to compel members to attend meetings or carry out projects regularly. The fact that the committee is not capable of operating like a viable institution means that it cannot effectively deal with issues of SLM. The committee does not have a budget but relies on resources from the secretariat whose office has other core mandates. The absence of a viable institution has created an implementation gap for policies and strategies which require integrated efforts. This was particularly felt during the implementation of NPAD's fencing component when an *ad-hoc* Inter-Ministerial Technical committee was formed to deal with policy implementation.

### 3.7. Village level institutions – The Kgotla

In Botswana community level structures exist, notably the tribal chiefs and council of elders who make up Village Courts, the Kgotla. The Kgotla is an institutionalised traditional system of governance headed by the Village Chief. It serves as a forum for community consultations, village level development planning and as a social platform for interaction and learning. It is also a place where political and economic decisions are made (Moumakwa, 2010). The Kgotla and its associated institutions such as the VDCs and Farmers' Committees offer potential for community mobilisation and involvement in SLM activities. The policy and government institutional framework for management of communal lands has yet to take full advantage of these traditional institutions. Workshop participants argued that the power of these structures has declined and they are now used for one-off consultation by authorities. The issue of legal pluralism occurs mainly because traditional pastoral institutions are not thoroughly integrated into policy. Where they are mentioned, such as in the District Integrated Land Use Plan (DILUP) and ODMP, an overall framework on how to effectively integrate traditional institutions, pastoralist rights; and their knowledge of the environment, is absent.

## 4. DISCUSSION: TORWARDS SLM

### 4.1. Policy discourse

Findings from the workshop and policy analysis reveal that privatisation of communal lands is still viewed as a superior solution to the rangeland management problems in communal areas. Several studies point out that TGLP was implemented based on questionable epistemological grounds, and has yielded little evidence that it has achieved its intended SLM objectives (Basupi et al., 2017, Makepe, 2006, Perkins, 1996, White, 1993). Political 'lock-in' to a policy of land privatisation limits efforts to empower local communities to manage communal rangelands. As noted in Table 3, most policy support for SLM is weak, except for the National Conservation Strategy which provides for a coordinated multi-sectorial approach. Provision for SLM in key policy instruments such as the DILUP is also weak. SLM

requires multi-sectoral institutions that are carefully coordinated (UNCCD, 2008). All experts interviewed agreed that their operations require such a body, however such a body does not exist. Findings from this study add insights to the thesis advanced by Mulale et al (2014: 88), that land degradation may be partly promoted by '*...failure to exploit the synergy between mutually reinforcing legislative and policy instruments to promote SLM and more sustainable livelihoods...*' We have expanded this by assessing the various actors in the management of pastoral landscapes and their communication linkages.

#### 4.2. Communication gaps and fragmented institutional coordination

Findings from this study show that policy processes remain predominantly top-down such that pastoral communities perceive local governance structures as inefficient and unable to meet their needs. The reluctance of district departments to work with DLUPU, and also to view DLUPU as part of their mandates, is a compelling manifestation of a sectorial and fragmented institutional framework. Where land management responsibilities involve multiple stakeholders, each accountable to a different government department, it is difficult to secure accountability. Analysis of local level institutions shows that they are not empowered to participate in SLM activities. Like in other sub-Saharan Africa communal areas (e.g. Bennett et al., 2013), there is very limited institutional interaction between village level structures and government departments. There is currently no strong operational mechanism at the district or national level that links relevant actors and provides oversight for ensuring SLM across scales. Institutional and legislative frameworks do not assign local level institutions with any role or financial resources to participate in land management activities. Integrated management systems such as SLM call for consultation, involvement, participation and a level platform for negotiation by all actors in land management especially at grass-roots level (UNEP, 2016).

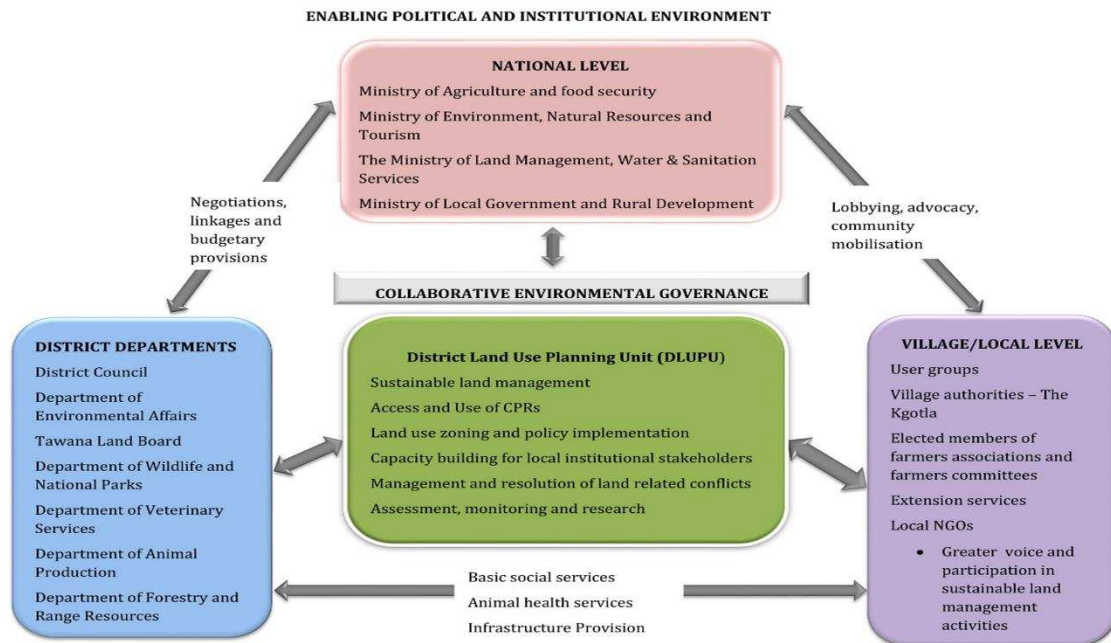
Timely availability of information is important for decision-making processes in SLM (Hurni, 2000). The communication gap between actors reflects constraints in the capacity of sectors to successfully implement SLM initiatives and disseminate information to pastoralists. The challenges discussed throughout this paper will constrain prospects and opportunities for



SLM unless they are recognised and addressed through a more holistic institutional and policy framework. The concept of CBNRM currently has a strong wildlife focus, which means it may not support strategies for SLM in pastoral landscapes. New institutional reforms and rearrangement of existing structures are needed to create platforms for negotiation and greater collaborative co-management. The priority should be to fix the uncoordinated institutional operational situation of many actors, as demonstrated in this study. Lack of cross-sectorial coordination is having a negative impact on service delivery at the local level which in turn affects implementation of SLM programmes and strategies in communal areas. The recommendation is to strengthen the existing integrated institution (i.e. DLUPU), which operates at the district level. What is important and practical is to ensure that there exists a platform for stakeholders to create a shared vision and assign each other roles that improve the ability of others to carry out their core mandates. Empowering a collaborative structure such as DLUPU will help build trust and capacity for local institutional stakeholders, allowing for social learning to take place at all scales. Through this arrangement, we hope for a self-organising process of adaptive co-management which is facilitated by a legislative framework and incentives from higher levels.

Figure 5 illustrates a potential multi-level institutional structure for collaboration in which different networks of actors are connected in a process of social learning and collaborative resource governance with local institutions collaborating directly with DLUPU. In this institutional arrangement, local level actors should have an increasingly central role in CPR management decisions, with high level organisations providing an enabling environment under which this can prevail. Currently, priorities regarding local land resource management are set at the national level (Departmental headquarters). As such, resources and operational tools necessary for SLM, such as communication strategies and staff, are concentrated at headquarters for most government departments. Local level institutions are rarely involved in planning and design of these strategies. This may be resolved by a strong integrated planning structure at the district level which draws the attention of headquarters to local issues. DLUPU should be empowered through legislative frameworks to become an environmental governance institution that can develop explicit strategies for collaborative processes, multi-stakeholder engagement and public participation, and produce annual

activity plans including funds for a yearly budget. DLUPU should be provided with a full time secretariat, dedicated and qualified staff that is expanded to include primary and secondary stakeholders as appropriate so that it produces desired outcomes in terms of materials and institutional culture.



**Figure 5** Proposed multilevel institutional arrangements for collaboration in resource governance

Land use intensification and restrictions on livestock mobility mean that conflicts over rangelands are getting more severe and complex. Sustainable solutions to these complexities will require management institutions that account for differences in bargaining power among stakeholders and user groups (Bennett et al., 2013, Adger et al., 2003). This reality requires strategies that are in harmony with the local context, hence the need to collect and model both local and aggregated information about CPR condition and to use that information to design policies at the appropriate scale (Dietz et al., 2003).

Reinforcement of local level structures and indigenous management institutions is required to achieve sustainable land use and resource management planning that accounts for the changed conditions (Homann et al., 2008). Effective spatial planning and regulation of chaotic or opportunistic land use activities is crucial. A district multi-stakeholder workshop suggested that future research should focus on exploring various means under which DLUPU can

become a robust integrated and collaborative environmental governance structure that incorporates indigenous environmental governance systems and enables environmental information systems.

## 5. CONCLUSION

This paper set out to examine current policy, institutional and governance challenges that constrain SLM uptake in Ngamiland pastoral landscapes. Of significant importance is the weak governance institution, communication gap, lack of inter-sectoral cooperation and coordination between the many actors involved in pastoral landscape management. There exists a multiplicity of sectorial policies with their own resource management objectives, loosely or poorly connected with other sectorial policies and crafted along sectorial lines. Most policies are not area specific and do not adequately address pastoralists' issues in different heterogeneous environments.

Drawing on our findings, we set out a potential multi-level institutional collaborative structure to facilitate a process of adaptive co-management in Ngamiland pastoral areas. This will involve aligning sectorial policies around delivery of cohesive SLM solutions and building consensus at the local level under the auspices of DLUPU. With appropriate capacity building, village level institutions can play an active role in communal land governance (e.g. early warning systems for predicting drought, rangeland conditions and community mobilisation for SLM upscaling). Strong policy and institutional support is required to ensure uptake and effective dissemination mechanisms that support inter-sectorial data sharing and collaborative management efforts.

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