Landscape management and governance, Garba Tula, Isiolo, Kenya

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Landscape management and governance, Garba Tula, Isiolo, Kenya

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Executive summary

Communities organize themselves in unique ways into social/functional units based on their cultural aspirations, threats and resources that they depend on. In many cases, these resources and the ecosystems to which they pertain do not correspond either to individual communities or to administrative boundaries. Landscape approaches are being promoted as an alternative. At the level of landscapes, however, the interaction of different people's aspirations complicate natural resources management (NRM). Success of NRM strategies depends on how well the complexity is addressed. Linkages which assist people and organizations to share information and resources across levels and scales can help provide opportunities to broaden their knowledge and understanding of new threats, of what works and what does not, and of the range of options available to enable them to adapt accordingly.

We investigated a case in northeastern Kenya where a landscape approach is being applied to rangeland management. In Garba Tula as elsewhere in Kenya, post-independence provincial administration guided by decisions made at central government with total disregard of traditional governance and resource management systems greatly undermined the traditional system. As a result, over the years natural resources were misused and degraded. This has been manifested in the inability of livelihoods to adapt to weather variations and drought. Recently the International Union for Conservation of Nature (IUCN) and the International Institute for Environment and Development (IIED), together with the local NGO Resource Advocacy Program (RAP) and communities in Garba Tula, initiated a process of reinvigorating the traditional management institutions and practices and integrating them into modern conservation strategies for the landscape.

Using focus group discussions, key informant interviews and a review of secondary data, we reviewed the way governance has been structured in this landscape approach, the decision-making processes, and the challenges facing the interventions so far. While the capacity building, rangeland management planning and other elements of the work that has been done to strengthen landscape level management demonstrate a potential for improved resource management and increased resilience of the livelihoods, it requires political buy-in from the various levels of administration. Although the Garba Tula landscape is an appropriate level at which to focus efforts aimed at promoting rangeland management, authority over the management of natural resources lies in various organizations and institutions, most of them operating at higher levels. The landscape level interventions have been carried out without devolution of authority to the institutions and processes which correspond to the geographical boundaries of the Garba Tula landscape. Appropriate linkages to governance actors and institutions at higher levels which could sustain and legitimize the processes at landscape level have not been established. Successful governance of the natural resources at the Garba Tula landscape needs to use the existing and potential opportunities for cross-scale dialogue and deliberation. Balancing power and influence among the stakeholders would allow for more effective dialogue among different interest groups and help to avoid situations where interventions may treat a landscape as an isolated island.

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Abbreviations and acronyms

ICARDA	International Center for Agricultural Research in the Dry Areas
ICCAC	Isiolo County Climate Adaptation Council
IIED	International Institute for Environment and Development
ILRI	International Livestock Research Institute
IUCN	International Union for Conservation of Nature
RAP	Resilience Advocacy Program
KFS	Kenya Forest Service
KWS	Kenya Wildlife Service
MCA	Member of County Assembly
NGAO	National Government Administration Organization
NRM	Natural Resources Management
WAPC	Ward Adaptation Planning Committee
WRMA	Water Resources Management Authority

Introduction

Communities organize themselves in unique ways into social/functional units based on their cultural aspirations, threats and resources that they depend on. In many cases, these resources and the ecosystems to which they pertain do not correspond either to individual communities or to administrative boundaries. Landscape approaches are being promoted as an alternative. At the level of landscapes, however, the interaction of different people's needs complicate management of natural resources. Success of natural resource management (NRM) strategies depends on how well the complexity is addressed. Linkages which assist people and organizations to share information and resources across levels and scales can help provide opportunities to broaden their knowledge and understanding of new threats, of what works and what does not, and of the range of options available to enable them to adapt accordingly.

Another issue that must be considered is how biophysical characteristics and the kinds of production systems adapted to particular characteristics affect the ways in which NRM can and should be carried out. Drylands in developing countries represent a particular context that is unique, and present different requirements for optimal strategies to promote effective NRM than do other kinds of environments. One such difference relates to scale. Dryland farming and livelihood systems tend to be more extensive than farming systems in more humid climates. This is particularly true for mobile pastoralists. Rangeland management in pastoralist settings, therefore, may constitute a setting where landscape approaches are particularly appropriate. Drylands in developing countries present different and unique context that requires different optimal strategies for the promotion of sustainable NRM. Some models of community-based approaches that would be effective in a sedentary village, such as when a village is managing its own forest, may not be applicable to mobile pastoralists. Instead, the relevant scale may be more at a landscape level. It may also be that cross-scale dimensions of management require more attention in dryland settings. Moreover, what constitutes a functional landscape, and what constitutes an effective landscape approach will be different in drylands than in other kinds of climates. In this case study, we explored how landscape management and governance can function in dryland pastoralist settings, how participation can be structured, and the kinds of challenges that are faced.

One key aspect of governance in such situations is how pastoralists' knowledge is, or is not, incorporated into decision-making. Pastoral communities' participation in decision-making for environmental monitoring is regarded as one of the pillars of sound rangeland management (Oba 2012). Meaningful participation is needed not only in ongoing management but also in the design of the management institutions to ensure that relevant contextual knowledge, values and perspectives are incorporated in the design of resource governance systems.

We investigated a case in Isiolo county in Kenya where a landscape approach is being applied to rangeland management. In Garba Tula as elsewhere in Kenya, the post-independence provincial administration system, guided by decisions made by central government with disregard of traditional governance and resource management systems, greatly undermined traditional management and governance. As a result, over the years natural resources were misused and degraded. This has been manifested in the inability of livelihoods to adapt to weather variations and drought. The International Union for Conservation of Nature (IUCN) and the International Institute for Environment and Development (IIED), together with local NGO Resilience Advocacy Program (RAP) and communities in Garba Tula recently initiated a process of reinvigorating the traditional management institutions and practices by integrating them into modern conservation strategies for the landscape.

This case study investigated the structure and functioning of management and governance in relation to this initiative.

Objectives

The two aims of the study were to characterize the organization of management and governance for the Garba Tula landscape and to explore successes and challenges of the system in place in implementing landscape level rangeland management.

This included establishing the main governance issues that affect the successful incorporation of the traditional resources management strategies in the contemporary management of the Garba Tula landscape. Particularly, we set out to establish:

- What are the issues and challenges?
- Is planning top–down, bottom–up, or both?
- How are planning and governance for natural resources structured?
- What role does the traditional institution, Jarsa Dheeda play in rangeland management planning in Garba Tula?
- What have been the successes and challenges in legitimizing community-based management of rangelands at county level through the Isiolo Customary Institution Bill?

Methods

The study area was the Garba Tula traditional rangeland territory (*dheeda)*, which effectively corresponds to Garba Tula subcounty in Isiolo county, Kenya. The smaller administrative units, the council wards, included in the study area were Kinna, Garba Tula, Kula Mawe, Serucho, Gafarsa and Benane. We selected focus groups from the members of the already established community resilience enhancement groups called Ward Adaptation Planning Committees (WAPCs) and Village Climate Adaptation Committees. The committees were constituted of community leaders who were either members of the customary dheeda council or represented the smallest social units in the community, from which dheeda council representative came. In total we conducted 18 discussions with focus groups in all 4 wards in Garba Tula. In addition, a total of 24 key informant interviews were conducted. Nineteen key informants at the ward level were interviewed. The key informants were leaders of the WAPCs at the ward level, people who had participated in leadership of any community development initiatives, members of the dheeda council, and leaders of community-based organizations. By being leaders or members of a social group, these individuals understood the customary and environmental issues within the landscape. The other five key informants included three members of county assembly (MCAs), the district commissioner and one district officer. Audio recordings were made of the interviews and focus groups and then transcribed.

Analysis aimed at characterizing the structures of governance and management at the landscape level was based on the key dimensions identified in a framework that has been developed by ILRI. These include:

- Definition of the landscape—What criteria and considerations were used to define the landscape? Was it predefined based on biophysical criteria? Was the definition of the landscape negotiated amongst stakeholders? Or does it remain fuzzy and not precisely defined?
- Authority and governance powers of the landscape-level institution process—What degree of authority is accorded to the landscape-level management institution/process? What governance powers does it have?
- Governance by whom?—Which type of actors have prominent role in the landscape level institution or process?
- Multilevel planning approach—How does resource planning at the landscape level relate to planning at levels above and below?
- Involvement of women and minorities—Identifying the role these social groups play in decision-making processes and in actual management of the resources.

Further analysis aimed at identifying emerging themes on the successes and challenges for management and governance needs to be undertaken.

Garba Tula

Customary institutions, resource management and livelihoods

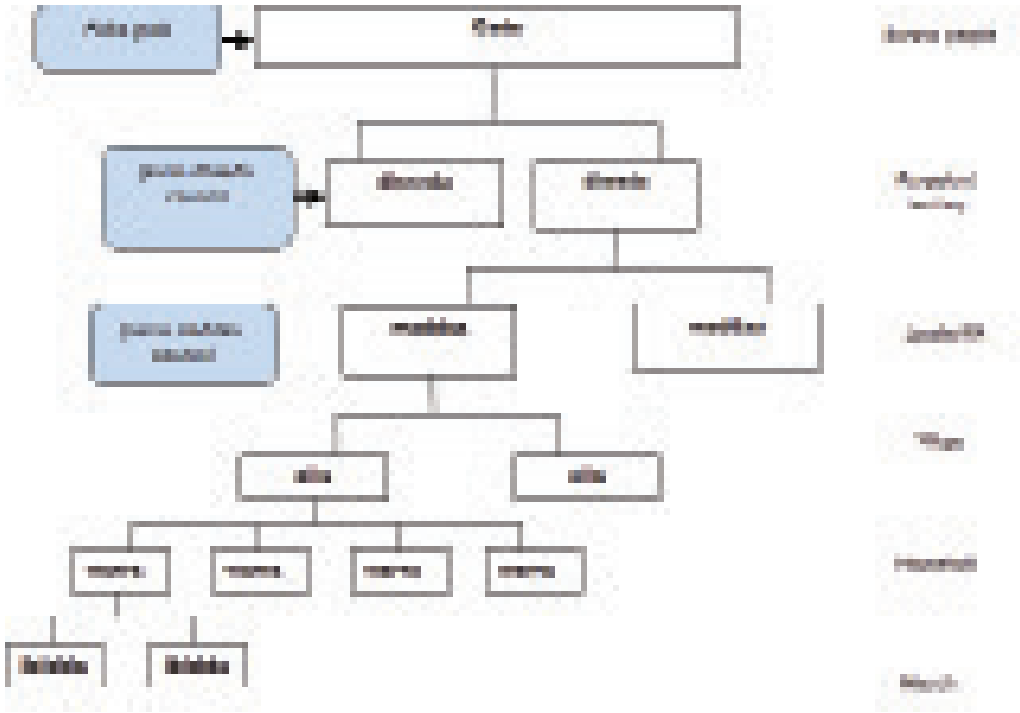
The Borana community, a subtribe of the Oromo, with a much smaller number of ethnic Somalis occupied the Garba Tula landscape. The term *Garba Tula* in Borana means 'deep wells'. This landscape was a dry season refuge for Borana coming from Ethiopia long before some permanently settled in the area. The land is communally owned and managed as per the Kenya Trust Lands Act, 1963. The act provides guidelines on managing the resources by county councils on behalf of the community members.

Garba Tula is part of a much larger rangeland ecosystem that stretches from the traditional territory of the Meru community in the south and the Samburu and Gabra communities in the north. The Garba Tula landscape is endowed with various natural resources which characterize it and also dictate the nature of livelihoods. The water resources include major rivers and wells. Garba Tula being of a place of many deep wells is a dry season-grazing area for many communities. The region is dry, consisting of a few water sources, mainly rivers, wells, springs and pans. The landscape is mosaicked with pastures of grass and browse vegetation, acacia patches and trees. Pastoralism is a main livelihood strategy.

The organizational structure of Borana society is generally described in terms of a hierarchy, which includes the household, extended families, encampments or villages (*ollaa*), and neighbourhoods containing encampments (*madda*). At a larger scale there are rangelands called *dheeda* (Homan 2005). The smallest unit is the hearth (*ibidda*) with one male household head, his wife or wives and children. This is followed by *warra*—the fundamental component of production—which comprises households with extended family including up to four other relatives who live and eat with the herd owner's family (see Figure 1). Cross-cutting this territorially-based hierarchy are the *mana* (lineage) and *gosa* which broadly nests clans within submoieties and moieties. Functional aspects of this pastoral system include procedures for decision-making and allocation of responsibilities and resources (Swift and Abdi 1991).

The production system here thrives in an erratic environment often characterized by uncertainty and variability of the resource base. Rainfall and the subsequent pasture growth are not predictable over space and time. The community has constantly adapted to these changes by using strategies such as herd mobility and coordinated grazing patterns. Their elaborate water and pasture management system include tools for checking livestock numbers and ensuring optimum resource use. A key part of this system was a council of elders at the dheeda level (Swift and Abdi 1991). Based on traditional ecological knowledge, the landscape has been classified to dry season and wet season grazing areas and water points. Traditional place names describe the physical features, soils and vegetation throughout the landscape while others describe historical events in Borana history. The dheeda council gave guidelines on the use of water and pastures. However, pasture management was also effected through water management. The physical location, legal status and technical condition of a water source determine the method or condition for the pastoralists' access to and use of water.

Figure 1. Customary Borana institutions (non-clan).



Adapted from Abkula (2012).

The erosion of management institutions

Both the colonial and post-independence central governments which imposed the provincial administration on the community, effectively interrupting the flexible nature of pastoralist management in this landscape have weakened this system. Forceful sedentarization of the community members started when Kenya became independent. As mobility became more constricted, the ability to cope with the highly variable climate weakened.

With the breakdown of the traditional system, there was unregulated and haphazard use of pastures. Over the years, there has frequently been an influx of livestock from surrounding Somali and Samburu pastoralist communities especially during very severe drought. Mutual respect for each other's management institutions among these communities was lacking. This has led to conflict over the resources and sometimes tribal clashes which often result in loss of lives. Planned grazing and any form of pasture management became essentially impossible. Over the years, the rangelands have faced significant degradation due to poor management practices and as a result a loss of livelihood and coping capacity for most pastoralists.

Another factor has been that the areas around Meru National Park, starting from Kachulu and extending out to Bisanad conservancy have been used for crop production. The farmers here have cleared much of the natural forest for farmland and also extract the water from rivers for irrigation. Most of the rivers are now seasonal or dried up due to uncontrolled upstream abstraction and extraction. This has also affected wells in Garba Tula. The infrastructure around the wells and pans broke down a few years ago due to poor management and neglect of traditional management practices.

Charcoal making and illegal logging have also been experienced in this landscape. There are isolated incidences of tree poachers coming in with power saws to cut down the hard wood in the area for timber. There were also incidences of wildlife poaching including elephant poaching.

Steps to reinvigorate community management of resources

Initiatives from the IUCN, IIED and a local advocacy group called Resilience Advocacy Program (RAP) have tried to address some of these challenges. The IUCN recognized the importance of the existing local ecological knowledge among the Borana and used it to drive a social learning process that would lead to adaptive management of the landscape and resources. From December 2010 to April 2011, IUCN conducted a governance assessment to facilitate understanding of the existing natural resources management strategies and the governance issues impacting on the Garba Tula natural resource and livelihood values with the aim of identifying opportunities for strengthening governance mechanisms. The IUCN developed a partnership with RAP to enable them facilitate a change on the ground through community sensitization and awareness creation, supporting and strengthening their operations. RAP and IUCN worked together to mobilize the community to re-establish the traditional resource management system and to reinvigorate the dheeda council. Through a participatory process, mapping and documenting the regulations under the dheeda council for the Garba Tula resources was initiated.

IUCN facilitated the capacity building of these representatives in areas of needs assessment, fundraising and on how to successfully run a community-based organization. The training is aimed at instituting a strong community-based governance mechanism at the landscape level. The capacity building interventions have helped the community to identify their weaknesses, strengths, and ways of using the existing resources/opportunities to deal with the problems at the community level. The committee, with the help of RAP mobilized a participatory assessment process through which the priority needs of the community were identified. Water was identified as the major need of the community. Rehabilitating and protecting water supply sources was made a top priority. With funding acquired from IIED, the community embarked on the rehabilitation of major water pans in the area. They set up a protective fence around the water pans to prevent livestock from haphazardly accessing the water or dirtying the water inside. They also set up a system of managing the water, based on the traditional Borana resource management system. An elder was nominated to look after each water pan and to ensure equitable access to the resource by all members within the landscape. From our interviews with local stakeholders, we found that the IUCN did not influence the decision-making nor did they dictate on how the resource use planning would be done. Since that time, IIED has become more involved in moving forward the community participatory resource mapping and resource use planning. The community representatives have worked with RAP leaders to map all the resources in the landscape. They further trained a section of these representatives in the use of computer tools (QGIS) to produce a digital map.

This also led to the birth of a county bill on traditional resource management based on the Borana traditional resource management institutions and practices. The process involved the nomination of two representatives from each ward or social unit in the area—Kinna, Garba Tula, Sericho, Merti, Jairap and Oldonyiro—to a taskforce. The representatives of the other communities in the county government level have not endorsed the bylaws mainly because they feel their communities were not involved in drafting the bill and also that the ownership of the bylaws is mainly in the Borana community's hands. Some elected officials who are from the Borana community also feel the bill will not be their product since the process of reinvigorating it started before they were elected into office.

Characterization of natural resource management and governance

Overview

ILRI developed a common framework that was used to describe the structures and processes of governance and management of the Garba Tula landscape. The findings are summarized in Table 1.

Table 1. Summary of key dimensions of management and governance

Definition of the landscape

> *The landscapes in landscape management approaches can be defined in different ways: according to watersheds or other biophysical criteria, according to pre-existing administrative or customary boundaries, or may be negotiated among participating communities or other partners.*

IUCN and RAP efforts helped to strengthen rangeland governance and management to be focused on the traditional dheeda territory and on the institutions that correspond to it—particularly the dheeda council. The post-independence Kenya government derived administrative boundaries according to the ethnic groups with the lower level administrative units and in some cases districts tending to correspond to an area occupied by one ethnic community. The Borana community mainly occupied what is now Garba Tula subcounty that also corresponded to the customary Garba Tula dheeda. Therefore the landscape where the assessment took place was essentially predefined.

Authority and governance powers of the landscape-level institution/process

There are a range of governance powers relevant to management and allocation of resources. In some cases, the landscape level institution or process may be very strong having full power to manage the resource, establish regulations etc. In other cases, it may have a mandate for establishing planning and managing frameworks, but little authority for actual management. Or it may have only an advisory capacity and voluntary coordination function.

The Borana community who practice pastoralism for many centuries occupied the Garba Tula landscape. They are a subgroup of the larger Oromo community in northern Kenya and southern Ethiopia. There is a rich history of the community's cultural practices dating as far back as the 14th century when the Gada system was established. The Gada system serves as a basis for democratic and egalitarian political system under which the power to make and enforce rules is in the hands of the people. Abba Gada, who is an equivalent of a nation's president, heads the system. Under the Gada system, there are other councils of elders who make and enforce decisions on the management of natural resources at the landscape level. In Garba Tula, the council of elders is the dheeda council who are in charge of water and pasture resources. They decide how to use the pastures during certain times of the year to ensure sustainability of the resources and availability throughout the year. Traditionally, the council of elders is given a very high degree of recognition. The post-independence government who installed the provincial administration system of government has weakened the council of elders system thus reducing the powers and significance of the dheeda council. In recent times, there has been declining rangeland productivity leading to poor livestock outcomes like reduced milk and meat production and reduced livestock numbers due to drought and poor mating success in livestock. The pastoralists had to make choices on how to adapt with these changes. With the support of IUCN and RAP, they were consulted about their traditional knowledge of the landscape and its management. This saw the rebirth of the dheeda council.

While the council is seen as legitimate and enjoys widespread support from the community, it has not, however, received much recognition from the Kenyan government. Its management powers only go as far as resource management is concerned and only affects the Borana households. The Somali and Samburu do not respect the provisions of the dheeda, and therefore cases of conflict are common. At present, the rightful authority for managing the landscape lies more in the central government through institutions like Kenya Forest Service (KFS) and Kenya Wildlife Service (KWS) and sometimes the National Government Administration Organization (NGAO). Water Management Authority (WRMA) regulated the water resources. The regional KWS office is in the Meru National Park and oversees the whole region. The KFS and WRMA do not have a local presence in the area and mainly operate from Isiolo. The district commissioner and district officer work very closely with the dheeda council in resolving disputes on the ground. Collectively, the mandates and roles played by these governance actors reduce the powers that the dheeda council might otherwise have. On the other hand, the capacity of the government agencies and officers to implement and enforce decisions is weak. This implies that the *de jure* authority for resource management within the landscape lies with institutions at a higher level than the dheeda council, whereas *de facto* authority is contested and uncertain.

Attempts have been made to change this. Following the capacity building activities, RAP facilitated a process to assist the council to document the traditional resource management practices and have the document formally recognized at the county government level. This bill was to be presented to the county government for adoption. Because the bill was going to affect more than one ethnic community, it has been queried and referred back to the community. The Somali and Samburu communities feel the document would affect them even though they were not involved in drafting it. RAP and other stakeholders promoting the bill will require political buy-in from all the county government members to get the bill adopted. IUCN and RAP may have underestimated the complexity of steering the political issues involved in legitimizing the landscape level processes at the county level. The MCAs that are not from the Borana community feel they need to be part of the design process so they do not pass a bill that may discriminate against their people. The bill has also been criticized for not ensuring representation of women.

Governance by whom?

Distinct from the matter of what degree of authority the landscape level institution or process has is the question of who participates in and controls that institution or process. Some landscape approaches bring together different government actors and are controlled by them; others are community-based; in others the approach is collaborative, bringing together government and communities and sometimes private sector actors.

The participation ('governance by whom?') dimension for Garba Tula can be classified as 'governance by communities'. The primary decision-making institution/process is the dheeda council, membership in which is based on representation of the communities within *dheeda*. The dheeda council elders are nominated by the community and vetted by the incumbent council members. Some of the criteria for nominating a council representative is the wealth level (in terms of livestock owned), and the general level of knowledge of the contemporary issues. Women do not have a physical representation in the dheeda council but in theory can have their views represented through their husbands who can be on the council.

Government representatives for the NGAO (e.g. chiefs and subchiefs) take part in making decisions regarding natural resource management in Garba Tula. However, when they participate in dheeda council decision-making, they tend to do so as elders rather than in their capacity as chiefs/subchiefs and hence there is no clear difference of roles for the NGAO from those of the council of elders.

Multilevel planning approach

Landscapes contain resources at lower levels and smaller spatial scales, and are themselves parts of larger river basins, bioregions and other systems. Planning and decision-making take place at many different levels. How planning and management decisions at the landscape level relate to planning and decision-making at levels above and below is a key consideration in understanding any landscape approach.

Traditionally, planning for pasture resources was done primarily at dheeda level. Management of water resources, however, plays an important role in the use and management of pasture resources, and this is done at lower levels. Presently, there are other planning and management processes that interact with the decision-making that happens at dheeda level. In particular, at the ward level, there is the Ward Adaptation Planning Committee (WAPC) responsible for planning interventions that enhance the people's capacity to cope with changing environments. These bodies work with the Isiolo County Climate Adaptation Committee (ICCAC). The WAPCs work closely with the council of elders at the ward or village level. Other actors like RAP work with the WAPC to plan for resource management at the ward level but also provide a link to the county government directly. The ICCAC works with the county bodies responsible for natural resources management to provide guidelines on how the resources will be managed in the whole county. The WAPC is linked to the county government through the MCAs. In these ways, planning done at these other levels is integrated with the landscape (dheeda) level planning but in an *ad hoc* way based on informal linkages and overlapping membership between the dheeda council and the WAPCs. Aside from the somewhat weaker connection to the ICCAC, connections between planning at landscape and county levels are essentially non-existent.

Other cross-level planning challenges relate to the KWS, KFS, and the neighbouring Meru county. The KWS is in charge of the Bisanadi game reserve which is a protected area within Garba Tula, and Meru National Park which borders on Gabra Tula.[1] Decisions made on natural resources use in Meru county affect ecological processes that are important for resource management in the Garba Tula district. For example, expansion of horticulture production in Meru has led to increased water extraction and reduced water flow to the wetlands in Bisanadi. KWS does not allow the use of the Meru National Park for livestock grazing even during very dry seasons, yet traditionally it is a refuge

1. The boundary between Isiolo and Meru counties in the area of Meru National Park is contested. Part of the park may therefore be within the boundaries of Isiolo county and Garba Tula subcounty.

grazing area for the Borana. The complexity of these relationships is not reflected in current formal relationships nor in the proposed county bill.

In the future, with the new county government, planning is to be done at the lower levels and then the plans amalgamated at the county government level. This should provide an opportunity for planning done at the landscape level to find a place in the system.

Involvement of women and minorities

The decision-making role of women within landscape governance and management processes is an important consideration. Effective and equitable NRM requires addressing the intracommunity power differences that often make strategies fail. Gender can be a strong source of such differences.

The role of women in decision-making is very minimal in Garba Tula. Traditionally, women are not formally involved or consulted on any resource use plans. This is so despite the fact that they manage a good proportion of livestock resources. The proposed county bill, however, mentions that 'a person of either gender accorded such status owing to respect, level of knowledge, experience and wisdom shall be called elders regardless of their age' but there are no women on the Garba Tula dheeda council.

RAP has included women in their leadership team who takes an active role in their planning processes. Through such individuals, women have started getting involved in active decision-making.

As mentioned above, given that the organizational structure is based on customary (ethnically-defined) institutions, no other ethnic groups are represented on the primary landscape-level body, i.e. the dheeda council.

Discussion

Successes at the local level

The post-independence Kenyan government adopted policies on land management and institutional structures that disregarded traditional knowledge, institutions and practices. As a result, traditional resource use practices employed by Borana and other pastoralists were gradually weakened. This in turn has contributed to degradation of the rangeland ecosystems and the undermining of pastoralist livelihoods. The governance assessment done by IUCN suggested that in the past the traditional systems had worked much better than in recent years, which informed the strategy of reinvigorating traditional institutions, a process which has met significant success. Participatory resource mapping and planning was done with the help of IIED and this helped people to appreciate their environment as a main source of livelihood. These activities have initiated a process for improving capacity of local communities to manage their institutions through effective participatory decision-making processes. The reinvigorated dheeda council works much in the same way as it was traditionally, and the planning processes here consider the social, cultural and ecological dimensions, with the availability and abundance of water and pasture being the main consideration.

While the interventions tended to adopt a strategy of working through and strengthening traditional institutions, particularly the dheeda council which is made up entirely of men, there have also been some positive developments in women's participation. Most sectors of the community were represented in community resource planning process and are considered in the draft resource management bill. A few women are involved in the village adaptation planning committees and also in the RAP committee. This is a big departure from what it is used to be traditionally.

The landscape level management system in Garba Tula has not been in operation long enough to see its impact on the natural resources. However, the community members interviewed in this research expressed optimism that their resources and livelihoods would be secure in the future. Our observations suggest that people have a stronger sense of ownership over decision-making processes related to pasture and water resources. Moreover, environment degradation around the water pans has reduced since the animals drink their water from a watering point outside the water pan. The trees within the landscape are not so much threatened by charcoal making. Now the community reports any serious threat to the natural environment like charcoal making and forest fires to the authorities and deliberate effort is made to mitigate or prevent such threats.

Horizontal and vertical relationships

At the level of landscapes, the interaction of different people's eco-bio-social aspirations complicate NRM. Success of NRM strategies depends on how well the complexity is addressed. Linkages which assist people and organizations to share information and resources across levels and scales can help provide opportunities to broaden their knowledge and understanding of new threats, of what works and what does not, and of the range of options available to enable them to adapt accordingly.

The Garba Tula landscape is an appropriate level at which to focus efforts at promoting rangeland management, and the capacity building, rangeland management planning and other elements of the work that has been done

to strengthen resource management demonstrate a potential for improved resource management and increased resilience of people's livelihoods. The boundaries of Garba Tula, however, are porous, as is to be expected for mobile pastoralists in a semi-arid environment. The variability of rainfall and pasture resources compel mobility—pastoralists from Garba Tula often need to graze their livestock *beyond* Garba Tula and pastoralists from other places often bring their livestock *to* Garba Tula. This entails the involvement of other ethnic groups which complicates matters further. The recently enacted resources management planning processes and the evolving institutions have not included the vertical and horizontal linkages needed to deal with this complexity.

Currently, formal authority over the management of natural resources lies in various organizations and institutions, most of them operating at higher levels. The landscape level interventions have been carried out without devolution of authority to the institutions and processes which correspond to the geographical boundaries of the Garba Tula landscape.The linkages to these governance actors that are needed include relationships to the national and county governments, each of which have their own priorities in resource management, priorities which sometimes conflict with the priorities of the dheeda council of elders and other spaces of resource planning (such as WAPCs). For example, KFS implements forest protection which sometimes excludes some pastoral people's routine activities. The county governments of Isiolo and Meru plan independently yet the broader rangeland ecosystem transverses the two counties. At times, these various actors reconcile their aspirations and reach a common point regarding natural resources in this landscape. This *ad hoc* coordination is helpful but takes a lot of time to reach and implement decisions, and has thus far done more to undermine the Garba Tula level processes than to strengthen them. Making landscape level management at Garba Tula effective will require political buy-in from the various levels of administration.

Conclusions and recommendations

Although the strategy of strengthening customary resource management has been appropriate in some ways and improved the ability of Borana communities within Garba Tula to engage in collective planning, lack of broader stakeholder inclusion in the processes have seriously undermined the ability to implement the plans. The plans required to include all social groups affected by the bill right from the initial stages of design. Since political leaders have a strong influence on the adoption of the bill, they should have been included in the design process. This would create a sense of ownership on the part of the leaders hence political and financial support. County government has not adopted the traditional resource management strategy as a management plan that can be used in the whole county; most leaders approve of the strategy and have recommended that the process of formulating be revised to include all the appropriate stakeholders.

The process of improved and sustainable resource management for sustainable livelihoods and environmental conservation in Garba Tula is an appropriate and potentially powerful one. However, it requires appropriate collaboration and inclusiveness of all stakeholders in its design and implementation for it to be successful. There should be appropriate policy guidance for the management of the natural resources in this dry land. The formal and informal institutions and organizations such as the dheeda, county government and the community-based advocacy groups need to collaborate in participatory decision-making and general management of natural resources.

Appropriate linkages to governance actors and institutions at higher levels which could sustain and legitimize the processes at landscape level have not been established. Successful governance of the natural resources at the Garba Tula landscape needs to use the existing and potential opportunities for cross-scale dialogue and deliberation. Balancing power or influence among the stakeholders would allow for more effective dialogue among different interest groups and help to avoid situations where interventions may treat a landscape as an isolated island.

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