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Assessment of the livestock sub-sector in community-based conservancies



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**RESEARCH
PROGRAM ON**
Livestock

Feed the Future Accelerated Value Chain Development (AVCD) Program

Assessment of the livestock sub-sector in community-based conservancies

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The Feed the Future Kenya Accelerated Value Chain Development (AVCD) program seeks to widely apply technologies and innovations for livestock, dairy and staple crop (root crops and drought-tolerant crops) value chains in order to competitively and sustainably increase productivity, contributing to inclusive agricultural growth, nutrition and food security in 23 counties in the country. Supported by the United States Agency for International Development as part of the US government's Feed the Future initiative, its main goal is to sustainably reduce poverty and hunger in the Feed the Future zones of influence in Kenya.

In partnership with the International Crops for Research Institute for Semi-Arid Arid Tropics (ICRISAT) and the International Potato Center (CIP), International Livestock Research Institute (ILRI) will lead the implementation of AVCD. The three CGIAR centres will work closely with partners—county governments, NGOs, CBOs, private sector actors and other USAID-funded projects/programs, as well as leverage knowledge and best practices from academic institutions and foundations.

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Executive summary

Introduction and background

Degradation and ongoing loss of biodiversity in rangeland ecosystems, and the resulting impacts on the livelihoods of pastoralists, have attracted attention from policymakers and investment from the development and conservation communities. Of particular interest, in recent years there has been an expanding effort to apply the methodologies of community-based natural resource management (CBNRM) and community-based conservation (CBC) to pastoralist rangeland settings. In East Africa, a diversity of strategies and governance models for CBNRM are being applied in pastoral areas. In Kenya, one of the most prominent approaches takes the form of community conservancies, although it must be recognized that there is no single, monolithic “community conservancy approach”. Moreover, Kenya’s pastoralist areas are also home to many community governance models that are not conservancies, but which nevertheless are intended to achieve environmental management objectives.

For any organization wishing to support local communities using a CBNRM approach, there are several important decisions to be made in the design of a program. Chief among these is how community-governance will be structured. Governance models for CBNRM initiatives can differ according to what kinds of community institutions are involved, the extent and ways in which customary institutions and practices are incorporated into governance, how community members at large are enabled to participate in decision-making, and how leaders are chosen, just to name a few. These kinds of concerns prompted the International Livestock Research Institute (ILRI) to carry out a study aimed at identifying the strengths, weaknesses and appropriateness of different models of community management and governance in pastoralist rangelands in Kenya. This report presents the findings of the study.

Aims, objectives and scope

For purposes of this study, a CBNRM *governance model* can be understood as:

A particular set of structures, processes and traditions, and interactions among them through which communities make decisions relating their local natural resources.

The aim of the assessment, therefore, is to identify the strengths, weaknesses and appropriateness of different models of community governance in pastoralist rangelands in Kenya. Specific objectives include:

- To determine the effectiveness of different governance models with respect to the sustainability of the model and approach, rangeland management, livestock marketing, increasing incomes and diversifying livelihoods; and
- To understand what role the community governance models play in how market systems function.

The study is particularly interested in community conservancies as an option for structuring governance and management in pastoral rangelands, and as such it considers different conservancy approaches while also comparing these to community-based natural resource management strategies that are not conservancies. Two NRT conservancies were selected as case studies, as well as one conservancy that is not part of NRT, and two other, non-conservancy cases. The cases included Sera Community Conservancy, Nakuprat-Gotu Community Conservancy, Shompole Group Ranch, Merti Rangeland Users’ Association, (Merti RUA), and Sericho Dheeda. The assessment is focused on exploring the strengths and weaknesses of alternative governance models and on global learning rather than on evaluating the performance of any particular community organization or of any particular NGO or other support organization.

Methods

The methods were based principally on a comparative case study approach using a common, mixed-methods protocol for each case. The case studies were also complemented by qualitative research with respondents knowledgeable about issues of pastoralism, the management and governance of rangelands, and livestock marketing generally. For the case studies, part of the information gathered for each case aimed at characterizing the governance model and the strategy and approach that were implemented. Our study explored the results of these different models of community governance in terms of two operational dimensions—good governance, and institutional and financial sustainability—and four categories of outcomes—ecological, livestock production, individual/household income, and livestock market systems.

For the case studies, the primary methods included semi-structured interviews, focus group discussions, remote sensing analysis of rangeland condition, and review of documentation where available. Two different types of focus group discussions were conducted, each of which involved a participatory scoring exercise on historical changes in either rangeland condition or livelihoods. For assessment of ecosystem outcomes, each of the five rangeland units was compared with reference sites nearby through linked remote sensing and participatory scoring. Remote sensing analyses assessed changes in rangeland condition using bare soil cover as a key indicator. Rangeland units were compared with reference sites nearby to ‘benchmark’ progress in the rangeland units.

Findings

While there is diversity in some governance characteristics between different conservancies, and even among NRT conservancies, the basic governance structure for all our cases—conservancy or otherwise—is similar, including an elected body to represent the community—a group ranch committee, a conservancy board, etc.—and general community meetings that elect these management committees and that are meant to give the entire community opportunity to express opinions on key issues and contribute to planning and the direction of the community institution. In terms of the basic governance structure, the *community conservancy*, as a CBNRM governance model, is not inherently and fundamentally different from the other models which are not conservancies. Few of the important differences in governance arrangements that we found appear to be inherent to the community institution being a conservancy or not. Some of the key differences among the cases were concerned instead with issues of management rather than governance and to the particular approach adopted by the Non-Governmental Organisations (NGOs) or government agencies supporting the communities. One of the important distinctions among our cases related to formalization of the community rangeland institution and its legal recognition by government. Without formal recognition and legal backing, it is relatively easy for livestock owners—whether from the community itself or those from other places migrating into the area—to ignore local rules, or for government officials such as chiefs to assume the role of granting access to grazing lands upon themselves.

In terms of measures of good governance—accountability, legitimacy, inclusivity, etc.—there were few stark differences among the cases, with exception of the challenges faced by Merti RUA toward the end of its existence. Findings from across cases include the following:

- All the cases had more or less regular elections, albeit often with assistance needed from an outside supporting agency to conduct the elections.
- The more formal models together with proactive support from one or more NGOs tend to result in more gains for the participation of women.
- Community-wide inclusivity and participation seems to be an ongoing struggle.
- Accountability tends to be somewhat weak. Our findings suggest that creating patterns of accountability requires long term effort on the part of supporting organizations.

- All the cases have community-wide governance processes such as annual general meetings (AGMs), but on the whole these are not particularly empowered in relation to the elected board, council or committee.
- All the cases enjoyed a reasonable degree of legitimacy among community members, but this can be fragile.

One of the most important features that distinguish conservancy models is the approach to enforcement of rules. The employment of armed rangers, legally sanctioned by the WCMA, is central to the conservancies' approach. Having staff dedicated to enforcement of the rules, as well as vehicles and other logistics to enable them to patrol, has been key to the operation of conservancies and the protection of core conservation areas and wildlife, as well as secondarily to enforcement of grazing plans.

A related critical difference among our cases, also connected to the agency's *approach* rather than to community *governance*, is the consistency and duration of the supporting organization's financial and in-kind assistance to its target communities. This is perhaps the most significant distinguishing feature of NRT's approach. Through long-term support, NRT helps to gradually build the capacity of the community institutions to weather difficulties and ultimately stand on their own. Most other initiatives supporting community rangeland management are project-based, with fixed timelines of a few years that sometimes come to an end before a strong foundation has been built.

Another crucial aspect of community rangeland governance is how decision-making, resource sharing and conflict are organized across levels. Drought fallback areas, livestock migration corridors to reach these areas as well as markets, and wildlife migration patterns, all cut across group ranch, conservancy, ward, county and other borders. All the cases experienced at least some difficulty with cross-border mobility, resource sharing, and inter-community relations. For northern Kenya particularly, it is absolutely imperative to have dialogue, negotiation and planning at larger scales to complement conservancy/community level planning.

Despite the challenges, overall, all the rangeland units analysed demonstrated impressive success, at minimum, in controlling the expansion of bare soil, a key indicator of severe rangeland degradation. Participatory scoring of changes in rangeland condition demonstrated a perception of focus group discussion participants that, in most of the rangeland units analysed, the condition of rangelands improved in absolute terms or relative to references. Both remote sensing of bare soil trends and participatory scoring of rangeland condition demonstrated that all five rangeland units appear to have successfully improved how they organize rangeland management, leading to significant-to-dramatic success in improving the condition of rangelands and the ecosystem services they provide to society, or avoiding otherwise likely degradation of rangelands and of ecosystem service delivery. Among the five cases, the rangeland unit showing the greatest and most consistent improvement in rangeland condition was Sericho, where the Dheeda council provides leadership on rangeland management based primarily on customary or traditional institutions and rules. While the NRT conservancies ranked lower than the other three cases in terms of rangeland condition improvement, all cases can be considered successes, and moreover, most reference sites for assessing Nakuprat Gotu and Sera were *other* NRT conservancies.

Generally, across all the cases, community respondents indicated that improvements in rangeland condition contributed to improvements in people's livelihoods. Direct improvements to livestock related income were quite modest, with the benefits from improved rangeland management being offset somewhat by the increasing frequency of drought and the growing human population. The more significant outcome of the improved rangeland condition seems to be people's resilience to drought. Communities that have had rangeland management systems in place for a more than a couple of years have often improved rangeland condition enough that when drought hits, the need to move long distance in search of forage is reduced, livestock use less energy, and health and body weight are maintained.

Looking beyond livestock, diversification of income has increased over recent years, most notably in the NRT conservancies. Some of this relates to some people having tourism and conservancy related jobs, but also as a result of other kinds of livelihood programs and the NRT Savings and Credit Cooperative (SACCO). The latter are not an effect specifically of the conservancy governance model but rather are the fruit of there being strong local institutions in combination with NRT being a multi-sector NGO that carries out programs in a variety of areas, including related to livelihoods.

One component of the study focused on the marketing of livestock and livestock products in the community conservancy landscape, with particular attention to NRT and NRT conservancies. One initiative that plays an important role in the livelihoods of women and youth people who are part of the NRT conservancies is the NRT SACCO. This is a game changer in many ways for funding income generation activities and offering soft livestock trading loans among other resilience building developments in the conservancies. A significant number of market livestock aggregators are benefiting from this facility. The study also found that the potential for expanding the meat market for both domestic and export market for NRT-T is significant.

Key impacts of the conservancy model on livestock marketing include the following:

1. There has been an **increasing active presence of women at the livestock markets**, transacting mainly the small ruminants. This trend does not only empower women economically but is a significant gain in enhancing household resilience.
2. **Conservancies have the opportunity to initiate local markets, within conservancies, that would serve as aggregation points for each conservancy.** This would enhance direct access to market by producers in the conservancy. This would also enhance participation of women in the markets as they would operate nearer to the homesteads.
3. For **NRT-T organized livestock purchases**, the conservancy management organs are in the forefront of mobilizing member households to present livestock at designated buying sites. The existence of strong community institutions presents the **opportunity to broker livestock and product market agreements** between buyers and community pastoral producers.
4. Maintaining **security within the conservancies and patrolling the highways** in the conservancy landscape. Being members of the Kenya Police Reserve (KPR), the units are able to conduct intelligence-led operations to deal with insecurities. This reduces insecurity incidences that greatly enhances marketing environment.

Discussion

A critical factor in the sustainability of the different models relates to formal institutionalization and legal recognition. Whereas community conservancies are anchored in the Wildlife Conservation and Management Act, most of the other forms of community natural resource governance in operation have been, at best, only indirectly built on any legal foundation. The metaphor of a *foundation* is instructive—without a legal foundation undergirding it, a community organization is more easily swept away when troubles arise. As identified by many of our respondents, the lack of a legislative foundation is also an excuse for livestock owners and herders—whether from other locations or from the community itself—to disregard the authority of the community organization, its grazing plans and any rules for managing resources.

The ability of the community governance systems to weather inevitable storms requires formal recognition of the authority of community institutions in a form that is robust and not easily subject to being overridden from above. It also requires a community that has the capacity to hold its leaders to account, with that capacity depending on knowledge among community members, accountability and feedback procedures that are institutionalized in the community, and commitment to good governance on behalf of community members that is stronger than the various forms of cliques and factionalism that are often prominent. Strengthening these kinds of governance capacities goes beyond training for elected leaders and is a long-term endeavour.

The importance of effective, long-term capacity development generally is another element of *approach* that emerged clearly from our study. Establishing a reasonable level of institutional self-sufficiency and sustainability clearly takes time and can benefit by some level of sustained nurturing. Here lies one of the most important strengths of the NRT approach: NRT engages with conservancies over the long term. Many of the NRT conservancies have been strong enough, *for long enough*, that now many other organizations choose to engage with them as local partners. Development programs and other investments become easier when there is a strong, representative community

organization in place to mobilize community members and act as an entry point, platform, or nursery for these other initiatives. For this reason, where NRT conservancies exist, they have often become the local partner of choice for interventions related to nutrition and health, livelihoods, and other areas. This has little to do with the fact that they are structured as conservancies as opposed to some other kind of institution; rather it is a result of their being representative community organizations with a reasonable degree of capacity.

These aspects of capacity and institutional sustainability are intertwined with financial sustainability. The conservancy model, with ongoing costs for staff, creates an additional layer of challenge for achieving financial sustainability, albeit with the benefit of greater capacity for enforcement of rules and grazing plans. It may be that complete financial self-sufficiency is unrealistic and that ultimately some level of government support for recurring costs may be needed for *any* of the models. Signs of movement in this direction, such as with Samburu County's budgetary support to conservancies, can now be seen. In order to further stimulate progress in this direction, some investment from development funding might target policy dialogue processes aimed at envisioning what government support to community rangeland management might look like and how it could come about.

What emerges from this study as one of the greatest challenges facing community-based rangeland management is not internal governance, although this does need attention, but rather the matter of how to manage herd mobility, sharing of resources, and conflict across community, conservancy, and other borders. No matter how well a local community manages its pastures, the variability of rainfall across both time and space means that in some years its pastures will be insufficient to cater for its herds. Maintaining mobility so that pastures are sometimes grazed intensively, sometimes grazed only lightly, and sometimes rested for long periods is also critical for healthy rangeland ecosystems. This raises the question of how long-distance herd mobility and sharing of pastures at the *large landscape scale* is to be integrated with *local management* by conservancies, RUAs, or other kinds of local community committees.

Our respondents in various categories—community leaders from conservancies, community leaders from other kinds of systems, senior staff of NRT, senior staff of other NGOs—repeated the idea that conservancies or other community territories should not be understood as completely closed to herds from other locations. Instead, what is desired is clarity about when and how herds from different communities can access each other's territories, that when they come, they will obey local the grazing plan, and that accessing pastures through force of arms comes to an end. Nevertheless, there is an ongoing hardening of borders and fragmentation of the rangeland landscape, and on the whole, current CBNRM approaches contribute to this. Since stronger control over grazing practices will automatically restrict the freedom of movement for outside as well as local herds, it seems that *any* of the models for CBNRM in Kenya's pastoral rangelands may sometimes attract criticism that they are unfairly attempting to enclose resources that were formerly shared. Nevertheless, conservancies contribute somewhat more to the hardening of borders than other models insofar as they are more formalized than the other governance models, they are more capable of enforcing grazing plans and rules, and they provide benefits to their members through conservancy and tourism operations that are linked to a clearly defined territory. The findings of the study highlight the urgency of strengthening systems of dialogue, negotiation, resource sharing, planning and enforcement at the intercommunity and large landscape scale.

Conclusions

This study has found that any of the CBNRM governance models studied is capable of producing improvements in rangeland condition and, in turn, benefits for livelihoods and human well-being. However, it also identified a set of weaknesses which to a lesser or greater extent cut across our cases. These weaknesses point to a set of principles that are crucial for ensuring effective and fair governance by communities of their rangelands, and which can also be understood as recommendations of areas of investment and policy or project interventions by government and development agencies:

- Timeline, cost, and engagement models are the key support decisions. Interventions should aim for long-term support to building the capacity of self-sufficient local institutions, rather than unsustainable subsidization that leads to dependency and complacency.

-
- Formal, legal recognition of the community institution and its right to manage resources and enforce its plan and rules through fines or other means, with support from the government for enforcement. Lack of such recognition creates ongoing challenges for the more informal approaches.
 - Having a plan for enforcement of grazing plans and rules, with any enforcement plan having elements of both “hard” and “soft” elements. Such a plan needs to include both formal, rules-based enforcement, such as by rangers, as well as strong community buy-in and sense of ownership over the plans and rules, along with social measures for persuading reluctant herders to comply.
 - Inter-community/large landscape dialogue, planning and negotiation. Without this, any community or conservancy level plan is incomplete and is prone to being upended by long distance herd mobility and inter-community conflict.
 - Ongoing efforts to establish community-wide awareness and ownership of the community institution and its plans, and to institutionalize accountability of the main decision-making body (conservancy board of directors, Dheeda council, or other community committee) to the community as a whole. If the community-wide sense of ownership is weak, legitimacy can erode rather quickly when problems arise.

Abbreviations and acronyms

ACC	African Conservation Centre
AGM	Annual general meeting
ASAL	Arid and semi-arid lands
AVCD	Accelerated Value Chain Development program
BDS	Business Development Services
CBC	Community-based conservation
CBNRM	Community-based natural resource management
CBPP	Contagious bovine pleuro-pneumonia
CEC	County Executive Committee Member
CLMC	County Livestock Marketing Council
CTA	Technical Centre for Agricultural and Rural Cooperation
EMC	Environmental Management Committee
FtF	Feed the Future
GIZ	German Agency for International Cooperation
GoK	Government of Kenya
ICIPE	International Centre for Insect Physiology and Environment
IIRR	International Institute for Rural Reconstruction
ILRI	International Livestock Research Institute
IPAL	Integrated Project in Arid Lands
KLMC	Kenya Livestock Marketing Council
KSh	Kenya Shilling
KWS	Kenya Wildlife Service
LAPSET	Lamu Port South Sudan Ethiopia Transport corridor
LMA/G	Livestock Marketing Association/Group
LMS	Livestock Marketing Systems

MID-P	Merti Integrated Development Program
NDMA	National Drought Management Authority
NGAO	National Government Administration Organization
NGO	Non-governmental organization
NRT	Northern Rangelands Trust
NRT-T	Northern Rangelands Trust-Trading
OSCO	Olkiramatian, Shompole Community Program
PPP	Public private partnerships
RAP	Resource Advocacy Program
REGAL-AG	Resilience and Economic Growth in Arid Lands-Accelerated Growth
RFI	Radio frequency identification
RUA	Rangeland users association
SACCO	Savings and credit cooperative
SORALO	South Rift Association of Land Owners
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WCMA	Wildlife Conservation and Management Act
WDPC	Ward Development Planning Committee
WRUA	Water Resource Users Association

I Introduction

The ongoing loss of biodiversity in rangeland ecosystems, driven primarily by habitat fragmentation and poaching, is of great concern to the international community. This environmental degradation directly affects the pastoralists who live and create their livelihoods in these rangelands. Although pastoralism traditionally has been a livelihood that is well-adapted to drought and other kinds of shocks and stresses, environmental degradation combined with climate change are among the main factors undermining pastoral livelihoods in some settings. Resource degradation and scarcity can also fuel conflict which, in turn, further undermines livelihoods, although it must also be recognized that the causes of conflict in pastoral areas are multifaceted and complex (Opiyo et al. 2012). The erosion of customary pastoralist institutions and the decline of herd mobility are key factors in environmental degradation in pastoral rangelands (Niamir-Fuller 1999, Galvin et al. 2008, McGahey et al. 2008). It is important, however, to avoid assuming that all rangelands are necessarily degraded—with data often being scarce, claims of degradation are frequently overstated (Davies et al. 2015, Reed et al. 2015). Moreover, when actual degradation in pastoral rangelands is examined carefully it can often be traced not to pastoralism but to the undermining of pastoralism (Davies 2008).

Against this backdrop, after many years of marginalization, pastoralist regions and pastoralist livelihoods are receiving increasing development investment. Of particular interest, in recent years there has been an expanding effort to apply the methodologies of community-based natural resource management (CBNRM) and community-based conservation (CBC) to pastoralist rangeland settings, including in Kenya. While there have been differences between programs and initiatives labelled as *CBNRM* or *CBC*, respectively, generally these have been differences in emphasis, with the terms often being used interchangeably. The common threads include the recognition that local communities have a greater interest in the sustainable use of resources than the state, that they have valuable—often superior—knowledge about local ecosystems, that effective management and conservation does not preclude sustainable use of resources (Ghimire and Pimbert 1997, Murphree 2002), and that they are often very capable of effective management of ecosystems, resources and biodiversity, if only they can be provided with the recognition and authority to do so (Brosius et al. 1998). Some proponents of community-based approaches also frame CBNRM in terms of rights-based arguments. In the formal CBNRM programs of governmental and non-governmental organizations, however, community-based approaches are more often justified in terms of effectiveness.

In the past two decades, there has been a steady push to implement CBNRM approaches in pastoral rangelands in East Africa, and a diversity of strategies and governance models are being applied. In Kenya, one of the most prominent approaches takes the form of community conservancies. It is important to note, however, that there is some room for variation in how community conservancies may be organized, and there is no single, monolithic “community conservancy approach”. Moreover, Kenya’s pastoralist areas are also home to many community governance models that are not conservancies but which nevertheless are intended to achieve environmental management objectives: community-based natural resource management committees, environmental management committees, water resource users associations, traditional arrangements such as the Borana dheeda system, and others.

By definition, systems for managing ecosystems and natural resources that are genuinely *community-based* do not require the intervention of an NGO or government agency external to the community. Here, however, we are particularly concerned with CBNRM and CBC as *approaches*—that is to say, as types of interventions undertaken by external change agents. These approaches are often presented in contrast to, and as an alternative to, coercive, top-down “fortress” conservation. Nevertheless, in their implementation, CBNRM and CBC have attracted a great deal of criticism from opponents of mainstream conservation. Some of the common criticisms are based on these approaches being implemented in a way that does not live up to their stated principles: in particular that community involvement in decision-making is often limited to a very superficial form of “participation” with most key decisions being made by the external organization (Nelson 2010, Shackleton et al. 2010), and that externally imposed conservation objectives often overshadow local people’s own objectives (Shackleton et al. 2010). Another

one of the common criticisms suggests that the main flaw of CBNRM is not poor implementation but is inherent in the conceptualization of the approach: namely that CBNRM is based on naïve assumptions about internal community power dynamics and the nature of “community” itself (Agrawal and Gibson 1999, Leach et al. 1999). In Kenya, community conservancies in particular have recently attracted vocal criticism, with accusations that external conservation objectives are pursued at the expense of local people’s livelihood objectives and, more damningly, that conservancies are merely a pretext for “greengrabbings” (e.g., Bersaglio and Cleaver 2018).

Local institutional, cultural, political and biophysical characteristics may also affect the implementation of CBNRM approaches, and while there are some commonalities across all parts of Kenya where pastoralism is a prominent livelihood, there are also important differences. Customary institutions, for example, differ among different pastoralist ethnic groups. While these customary institutions have been undermined across all pastoral communities, they have declined to different degrees in different places. The nature of extensive livestock production practices also varies in response to differences in the amount and variability of rainfall, the nature of vegetation, and the relative availability and reliability of water sources for livestock. The history of land tenure has also had a lasting influence on rangeland governance and management, and the passage of the Community Land Act in 2016 has not erased historical differences that arose between the former Trust Land areas and the group ranch areas. These and other differences in social-ecological context can be expected to have an important bearing on which community governance models will be most effective in which settings.

In considering the strengths and weaknesses, and successes and failures, of CBNRM in pastoral rangelands, it is also important to recognize that there is a great deal of variation among the different approaches being used. For any organization wishing to support local communities using a CBNRM approach, there are several important decisions to be made in the design of a program. Chief among these is how community-governance will be structured. Governance models for CBNRM initiatives can differ according to what kinds of community institutions are involved, the extent and ways in which customary institutions and practices are incorporated into governance, how community members at large are enabled to participate in decision-making, and how leaders are chosen, just to name a few. Simply knowing that a community organization for the management of local natural resources is labelled as “conservancy”, or as an “environmental management committee”, or as a “rangeland users association”, or as something else, tells us little about how governance is actually structured.

These kinds of concerns prompted the International Livestock Research Institute (ILRI) to carry out a study aimed at identifying the strengths, weaknesses and appropriateness of different models of community management and governance in pastoralist rangelands in Kenya. This report presents the findings of this study. Chapter 2 provides further background discussion on how community governance can address the challenges and opportunities for conservation and management of natural resources in pastoral rangelands. Chapters 3 and 4 describe the objectives of the study and the methods used. The findings are presented beginning with Chapter 5. This includes findings on each of the case studies (Chapters 5- 9) and on the interplay between governance models and livestock marketing (Chapter 10). Chapter 11 presents a comparative summary and initial analysis of the cases. The findings and cross-cutting issues are discussed and analysed in Chapter 12, and Chapter 13 presents conclusions and recommendations.

2 Challenges and opportunities for conservation and resource management in pastoral rangelands

2.1 The Kenyan institutional context

Prior to colonization, Kenya's pastoralist communities had diverse institutions and management practices. Across communities and ethnic groups, these have survived, adapted or been undermined to varying degrees (see text box). One of the frameworks for collective governance and management of rangelands by pastoral communities created by the state has been *group ranches*. Although the Land (Group Representatives) Act which established the group ranch framework was passed in 1968, in some pastoralist areas it was not until the late 1980s and 1990s that formal creation of group ranches began in earnest. The group ranches were meant to establish property rights for clearly defined groups of members over clearly identified territories, and thereby help pastoralist communities to have a clear stake in the management of particular pieces of land. In this way, the intention of the group ranch system anticipated the rationale of CBNRM as well as *commons* scholarship which provides much of the intellectual foundation for CBNRM: namely, that under the right circumstances, communities will self-organize to manage resources that they hold in common. For a variety of reasons, however—in particular, the small size and lack of ecological viability, elite capture and corruption, and rising competition and demand for land which incentivizes individualization—many group ranches either disintegrated or became completely dysfunctional (see Mwangi 2006 for a summary of the struggles of group ranches).

In much of northern Kenya, the group ranch system was never implemented, and prior to the 2010 Constitution much of the pastoralist land in the north fell under the category of Trust Land. While in theory this meant that collective grazing lands were held in trust and protected by the local county councils, in practice the result was that the governance of most rangelands in the Trust Land areas fell somewhere along a continuum between *traditional commons* governed by customary institutions, and *open access resources* where governance and management had broken down (Robinson 2009). Some pastoral communities—the northern clans of the Turkana, for instance—seem to have had customary systems that operated as *open property regimes* in which access to pasture resources was open to all, with little to no active management or restrictions on use, not because customary rules had broken down but by design as an adaptation to the extreme variability of rainfall and forage (Moritz et al. 2019, Robinson 2019).

The 2010 Constitution and the Community Land of 2016 together lay the groundwork for a potential transformation of property rights in both the group ranch and Trust Land areas, establishing a land tenure category of *community land* which has equal standing with private land and state owned land. It is envisioned that intact group ranches will transition, adjusting their organizational structure and bylaws if necessary, to meet the requirements of “communities” under the Community Land Act, and that such “communities” will be identified and formalized in the former Trust Land areas. In theory, the new community land framework has addressed the key weaknesses of the group ranch system and will help to establish clear and secure collective land tenure.

Although at present the operationalization of the new framework is still in the very early stages, it is nevertheless important to current CBNRM initiatives in the Kenyan rangelands. Secure communal land tenure is typically assumed to be crucial for the success of CBNRM (Murphree 1995), including in pastoral rangelands (Beyene 2015). However, neither community conservancies, nor rangeland users associations, nor any of the other CBNRM approaches being implemented in themselves establish clear land tenure security for the local community and its CBNRM organization. In this current period of transition to the new land tenure system, it is reasonable to assume that any CBNRM efforts will be constrained in what they can accomplish until the process of creating “communities” under the Community Land Act has advanced further.

The undermining of customary pastoral systems

Rangelands make up more than 80% of the Kenyan landmass and a similar proportion of red meat in the country is produced primarily on rangelands. Rangelands provide livelihoods for millions of pastoralists and agropastoralists and are the backbone of Kenya's wildlife tourism industry. The vast majority of these rangelands are situated on communal rather than private land and are managed collectively by the people who live there. While pastoral and agropastoral communities have had traditional institutions and practices for managing their resources, these traditional systems have been eroding in most communities. That erosion dates back to the colonial period.

Customary systems of communal land management were for the most part invisible to colonial administrators; and lands that were not being farmed were seen as 'waste and unoccupied land'. Over time, the colonial administration placed greater and greater restrictions on herd mobility, although this varied in different parts of the country. In the north, 'tribal grazing areas' that separated ethnic communities, restricted movement and reduced interaction amongst them, were created. Within some of these tribal grazing areas, certain areas were periodically closed off to grazing, sometimes for a season, sometimes for a few years (Robinson 2009). In the centre and south of the country, the colonial administration was much more interventionist and took active steps to transform the pastoral way of life. Large areas of pastureland were lost to these communities as they were converted to agricultural land or handed over to private ranchers. Assumptions about the need for private land ownership were eventually codified in the Swynnerton Plan, which aimed at improving agriculture by providing secure individual private tenure to farmers (Swynnerton 1954). In the same period, various grazing schemes that attempted to push pastoral systems to take on more of the features of private ranching were attempted and abandoned.

In the post-independence era, attitudes about the superiority of private land tenure were carried over from the colonial period. However, the group ranch system represented a compromise that attempted to secure ownership of land while recognizing, if only minimally, the extensive nature of livestock production in arid and semi-arid areas. The group ranch system was not implemented in all pastoralist areas. In the north, beyond its reach, various programs for management of rangelands were attempted. In the northeast, a system of grazing blocks evolved from the colonial tribal grazing area approach. Boundaries were identified and support given in the form of water points and veterinary care (Mohamed 1999). The system promoted offtake of young cattle for fattening elsewhere to feed into the national market. A different approach was attempted in Marsabit beginning in the late 1970s with the UNESCO Integrated Project in Arid Lands (IPAL). IPAL aimed at reversing 'desertification' by promoting increased levels of livestock offtake and reduced herd sizes (Fratkin and Roth 2005). Common threads in all of these efforts were assumptions that there was rampant overgrazing and the haphazard attention given to developing interventions that were adapted to pastoralist management systems.

During this time, a variety of factors have continued to slowly undermine the authority of customary institutions and resource management systems, although this has varied from place to place and from one ethnic group to another. Where pastoralists have settled and become less mobile, traditional grazing systems such as those which included a well-understood distinction between rainy season, dry season and drought reserve pastures have broken down. Even where the traditional systems remain strong, they face an array of challenges today including climate change, invasive species, growing population, conflict fueled by the proliferation of small arms and shifting institutional and legal frameworks.

Source: Robinson, L.W., F. Flintan, S. Kasyoka, I. N. Nganga, K. Otieno, and J. A. Sircely. 2018. Participatory rangeland management toolkit for Kenya. First edition. International Livestock Research Institute, Nairobi.

One of the most prominent approaches to CBNRM in Kenya's pastoral rangelands is the creation of community conservancies, the legal foundation for which is the Wildlife Conservation and Management Act (WCMA) of 2013. The WCMA establishes that individual landowners, bodies corporate, groups of owners, or communities may set aside land as wildlife conservancies. The creation of a community conservancy does not affect ownership of land, and where a community or a group of communities establish a conservancy, the underlying land tenure does not change. Despite the common framework for conservancies in the WCMA, there is some degree of variation in how community conservancies are organized. For example, in some cases, they encompass a portion of a community's land; in other cases, the community's entire land is treated as the conservancy. In some case they are created through a partnership of two or more adjacent group ranches or other kinds of sub-units; in other cases, a single group ranch or community may devote some or all of its territory to the creation of a conservancy. In northern Kenya, the

Northern Rangelands Trust (NRT) is an important actor in the creation and support of community conservancies. Initially with activities focused on Samburu and Laikipia Counties, NRT has since expanded into several other counties in northern Kenya and on the coast.

Some features that are typical of community conservancies and differentiate them from other CBNRM approaches are that wildlife conservation and tourism tend to be more prominent priorities, in-kind support is often provided by the Kenya Wildlife Service (KWS), and that armed rangers are involved in enforcement. All of these characteristics, however, are tendencies and there is much variation. Some of the other types of community institutions on which CBNRM is built in Kenyan rangelands are Water Resource Users Associations (WRUAs), rangeland users associations (RUAs), and community-based natural resource management committees (see Table 2.1). In some cases, such as Environmental Management Committees in Marsabit, these organizations are a sort of hybrid with customary institutions.

Table 2.1: Some of the common organization types used for CBNRM

Type of Community Organization	Related Legislation	Common in...
Community-Based Natural Resource Management Committees	County legislation (under development)	Marsabit, Turkana, Wajir
Community Conservancies	Wildlife Conservation and Management Act (2013)	Isiolo, Kajiado, Laikipia, Marsabit, Samburu,
Dheeda Council (customary Borana systems)	None (though may be potentially covered under new county legislation and/or as hybrids with other types)	Isiolo
Environmental Management Committees (EMCs)	Environmental Management and Coordination Act (1999, revised 2015)	Marsabit
Water Resource Users Associations (WRUAs)	Water Act (2016)	Garissa

At least one other framework deserves mention here. County spatial planning is a land use planning process that may soon become important in Kenya's arid and semi-arid counties. The County Governments Act of 2012 mandates that every county government shall develop a county spatial plan. Materials produced by the National Land Commission, with support from the Food and Agriculture Organization of the United Nations, ILRI and the NGO RECONCILE, provide guidance on carrying out the spatial planning process in pastoral areas (Musoga et al. 2019), and some northern counties are now starting the process. County spatial planning primarily addresses issues over larger geographic scales than what rangeland CBNRM is implemented at, addressing issues at an inter-community, large landscape and county-wide level. Nevertheless, there is the potential for county spatial plans to reinforce and synergize with CBNRM initiatives, or to undermine them if effort is not directed toward harmonization.

2.2 Governance in CBNRM

Governance is not a synonym for **government**. Whereas **government** refers to a particular set of organizations and institutions, **governance** can be understood as a set of processes or social functions. The following definition is a useful one:

... governance is the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken, and how citizens or other stakeholders have their say.
(Graham et al. 2003)

Governance is about who decides and how they decide, and is concerned with matters of voice (Graham et al. 2003, World Resources Institute et al. 2003, Robinson and Makupa 2015). **Governance** is also distinct from **management**. **Management** refers to "the resources, plans and actions that are a product of applied governance" (Lockwood 2010: 755). Whereas governance is about the *who*, the *how* and the *why* of decision-making, management is about how decisions are carried out and actually implemented.

As mentioned above, for an NGO or a government agency that is designing and implementing a CBNRM intervention, there are decisions to be made. The above definition implies that some of these are decisions about *structures*, *processes*, and *traditions*, and the interactions among these. *Structures* include the committees, boards of directors, or other types of organizations that make plans and take decisions. *Processes* include, for example, procedures for making and enforcing rules, for selecting leaders or representatives and developing collective plans. *Traditions* comprise not only to the kinds of structures and processes normally associated with traditional culture and customary institutions, but also norms, ideas and habits around how things are done. While these kinds of structures, processes and traditions and the interactions among them are unique to every community that has a set of governance arrangements for managing local natural resources, to the extent that these arrangements can be abstracted and described as something that can be implemented in multiple communities, they can be conceived of as constituting a *governance model*. Therefore, for purposes of this study, a CBNRM *governance model* can be understood as:

A particular set of structures, processes and traditions, and interactions among them through which communities make decisions relating their local natural resources.

2.3 CBNRM in pastoral rangelands

Practical experience and research in various kinds of forestry, wildlife and fishery settings have identified various factors that enable effective CBNRM, and many of these relate to governance. These include characteristics such as having clearly defined territorial and social group boundaries for the community (Ostrom 1990), secure communal tenure over the resource (Murphree 1995, Turner 2004), initiatives that arise in the communities themselves rather than being instigated by donor agencies or the state (Measham and Lumbasi 2013), and approaches that prioritize social equity and justice (Dressler et al. 2010). However, there is also a wide range of research specifically on pastoralist communities which argues that at least some of the conclusions about what constitutes effective CBNRM do not apply in pastoral rangeland settings. Pastoralist rangelands tend to be places where the availability of rainfall and forage varies greatly across time and space, and mobility, flexibility and opportunistic resource use are adaptations to this variability (Niamir-Fuller 1999, Fernández-Giménez 2002). Traditional pastoralist norms, institutions and management practices reinforce these adaptations, embodying flexibility and prioritizing the right of livestock owners to *access* the resource over and *ownership* rights or any perceived need to *manage* the resource (Fernández-Giménez and Le Febre 2006, Robinson and Berkes 2010).

This presents challenges for the implementation, effectiveness and continuity of conventional CBNRM approaches. One of these challenges is that social relations and patterns of mobility and resource use exist at different scales and levels and overlap greatly. CBNRM and interventions for communal tenure struggle in such circumstances as there is no single level or spatial extent that stands out as “best” for communal management (Robinson et al. 2017). Moreover, many traditional pastoral land and resource governance systems do not reflect the assumptions of conventional communal tenure (Moritz et al. 2013, Behnke 2018, Robinson 2019). As a result, the capacity of formal communal property rights to enable effective management and sound governance in pastoral systems is often overestimated (Undargaa 2017), and state frameworks for communal tenure are often a poor fit for pastoral systems (Robinson 2019). For example, in pastoral systems, establishing clear inter-community borders often exacerbates conflicts rather than enabling communal resource management (Coppock et al. 2017). The creation of community conservancies and other types of CBNRM institutions in Kenya with clear territorial boundaries has also produced various unintended consequences. One study of conservancies in Samburu County, for example, found that conservancies changed the way pastoralists understood territory and governed access to resources:

conservancy blueprints follow a rigid understanding of spatial boundaries demarcated on the land and link rangeland management and revenues to these bounded spaces and its ‘members’. After implementation, these conservancies have changed the ways in which Samburu pastoralists perceive boundaries and access to resources. This is because, intentionally or unintentionally, local practices have reshaped rules of inclusion and exclusion (Pas Schrijver 2019: 76).

Where customary forms of pastoral governance of rangelands is strong, they often rely on types of governance mechanisms other than land tenure—mechanisms such as negotiation and relations of reciprocity (Robinson et al. 2017, Undargaa 2017, Robinson 2019). The building of social capital in connection with natural resource management may offer the best return on investment for CBNRM in pastoral settings (Coppock et al. 2017). Information sharing has also proven very important for effective resource governance in pastoral systems (Ulambayar and Fernández-Giménez 2019). Ensuring that there is a framework in place for community-level organizations to interact with each other, enabling large landscape, inter-community action is also critical in many pastoral settings (Robinson et al. 2017). Here, understanding the relationship between community rangeland units—group ranches, community conservancies, customary rangeland territories, and so on—with the larger social-ecological landscape is critical.

The connection between community rangeland governance and marketing of livestock products is also an important concern. Strategies for livestock “finishing”, whether through feedlots or through pasture-based finishing, as well as related needs such as for holding grounds and quarantine areas, all have implications for land tenure, land management, and herd mobility. Improving livestock marketing in Kenya’s pastoral areas not only *depends* on better management of rangelands, but potentially also *provides an incentive for it*. However, what contributions alternative community rangeland governance models are making to livestock marketing, and could make, is not yet clear. The groups of entrepreneurs fattening market livestock in Sera conservancy are purely profit motivated and no conservancy benefits are factored into this activity.

3 Aim, objectives and scope

Degradation of rangeland ecosystems, including the loss of biodiversity and the poor state of rangeland productivity, together with the undermining of pastoral livelihoods, and conflict together constitute to an interconnected set of challenges that is of great concern to national and county governments in Kenya, development and conservation stakeholders, and pastoralists themselves. Community conservancies and other community-based approaches for the governance and management of rangelands have the potential to help address these problems, but more evidence is needed to shed light on the strengths, weaknesses, and relative effectiveness of different approaches and community governance models. The aim of the assessment, therefore, is to identify the strengths, weaknesses and appropriateness of different models of community governance in pastoralist rangelands in Kenya. Specific objectives include:

- To determine the effectiveness of different governance models with respect to the sustainability of the model and approach, rangeland management, livestock marketing, increasing incomes and diversifying livelihoods; and
- To understand what role the community governance models play in how market systems function.

The study is particularly interested in community conservancies as an option for structuring governance and management in pastoral rangelands, and as such it considers different conservancy approaches, while also comparing these to community-based natural resource management strategies that are not conservancies, including a rangeland users' association and an approach based on customary institutions. We did not investigate interventions that focused on technical rangeland management or rehabilitation practices without attention to creating and/or strengthening community institutions for the governance and management of a rangeland territory. Two NRT conservancies were selected as case studies, as well as one conservancy that is not part of NRT, and two other, non-conservancy cases. See the Methods section below for description of how case studies were selected.

The assessment is focused on the strengths and weaknesses of alternative governance models and on global learning rather than on the performance of any particular community organization or of any specific NGO or other support organization. As such, the assessment was not intended as an evaluation of Northern Rangelands Trust, the Southern Rift Association of Land Owners, the Merti Integrated Development Program, or any other organization supporting pastoral communities for management of natural resources.

4 Methods

4.1 Analytical framework

The methods were based principally on a comparative case study approach using a common, mixed-methods protocol for each case. Because the aim of the assessment was to deepen understanding of how different governance models contribute to outcomes, we opted to focus on delving into a relatively small number of case studies using a primarily qualitative approach. The cases were investigated through semi-structured interviews with a range of different key informants, focus group discussions that included participatory scoring activities, and remote sensing analysis of rangeland condition. Common interview and focus group discussion guides were used. The case studies were also complemented by qualitative research with respondents knowledgeable about issues of pastoralism, the management and governance of rangelands, and livestock marketing generally.

For the case studies, part of the information gathered for each case aimed at characterizing the governance model and the strategy and approach that were implemented. This included the following aspects:

- The development agent's approach to community entry and engagement
- Institutional design
 - The nature of the community governance arrangements
 - Election of officers
 - Measures for the inclusion of women, youth, minorities and other groups
 - Measures for involvement of customary institutions
 - Formal recognition of the community governance structures
- Negotiation, decision-making, resource sharing and other aspects of governance at lower and higher levels (approach to multi-level governance)
- Operational approach
 - Staffing
 - Documentation of decisions, membership, etc.
- Types of technical rangeland management options being supported by the development agent, the approach to conservation and wildlife management.

Our study aimed to explore the results of different models of community governance in terms of two operational dimensions—good governance, and institutional and financial sustainability—and four categories of outcomes—ecological, livestock production, individual/household income, and livestock market systems. Because the primary aim was to unpack and deepen understanding of the different governance models and how they contribute to outcomes, we make no attempt at simple, definitive generalizations about which governance models achieve better outcomes. Instead, we aim to explore some of the dynamics of the interaction between governance design, social-ecological context, and the six dimensions of outcomes referred to above.

For good governance, we considered equity, inclusivity, accountability, and legitimacy. For the institutional and financial sustainability dimension, we looked at issues such as the ability of the community governance structures to self-sustain, the relative cost of the difference models, stability of income sources, and degree of reliance on external funding. For ecosystem outcomes we considered biodiversity and wildlife and rangeland condition. In exploring outcomes related to livestock production, we were interested in herd sizes, capacity of herds to withstand drought,

livestock condition, and milk yields. We also explored whether conservation objectives were integrated with, or may have crowded out, livestock production goals. For the individual and household income dimension, we considered what outcomes the governance model and implemented approach had income from livestock, where applicable tourism, and other sources. Lastly, for the livestock marketing dimension, we investigated outcomes from the governance model related to supply, demand, and profit margins for milk, meat, live animals, and livestock products.

Figure 4.1: Conceptual framework for the study

Approach and governance model

Community entry
 Institutional design (selection of leaders/representatives, type(s) of organizations, systems for involvement of community members, etc.)
 Relation to governance at other levels
 Operational approach (staffing, documentation, etc.)
 Methods for conservation and rangeland management



Outcomes

Good governance
 Institutional and financial sustainability
 Ecological outcomes
 Livestock production
 Individual/household income
 Livestock market systems

Of course, the factors that influence the outcomes on the right side of Figure 4.1 are many and causality is more complex than implied above. This was another reason to make the study primarily qualitative and exploratory, focused primarily on the *outcomes* of alternative governance models.

4.2 Selection of cases

We studied five cases, each case representing a “community”, selecting these cases to capture some of the diversity of different community governance models (see Table 4.1). Also, the three cases from Isiolo County and the one from Samburu County were all selected to encompass similar climatic and other biophysical conditions. One case, Sericho Dheeda, was initially chosen to represent a counterfactual—a community that had received little concerted effort from development organizations to support community-based natural resource management in rangelands. However, as the field research was about to begin, we learned that a new project had very recently (2017) undertaken efforts in Sericho Ward to adapt and reinvigorate the traditional Borana Dheeda system for rangeland management. We determined that this new intervention in Sericho was recent enough, and the approach taken different enough, that it would still provide an interesting case for comparison to the others.

Table 4.1: Cases

Type/Key Characteristics	Case	County
Conservancy, southern rangelands	Shompole Group Ranch and Conservancy	Kajiado
NRT conservancy	Nakuprat Gotu Conservancy	Isiolo
Single ethnicity; established, small scale tourism	Sera Community Conservancy	Samburu
Community-based natural resource management (non-conservancy) approach	Merti Rangeland Users Association	Isiolo
Approach based on customary institutions	Sericho Dheeda	Isiolo

4.3 Overview of methods used

A mixed-methods approach was used. Field research was carried out in September and October 2020. For the case studies, the primary methods included semi-structured interviews, focus groups discussions, remote sensing analysis of rangeland condition, and review of documentation where available. Two different types of focus group discussions were conducted, each of which involved a participatory scoring exercise on historical changes in either rangeland condition or livelihoods. Semi-structured were also carried with key informants knowledgeable on the relevant issues. See Table 4.2 for a summary of the number of interviews and focus group discussions conducted.

For all case studies, primary introductions to the case communities were done through supporting organizations (NRT, SORALO, MID-P) providing introductions and contacts to key people in the community rangeland management organizations (conservancy, group ranch, dheeda council, etc.). However, specific steps were taken in each case to also connect with other leaders such as chiefs, sub-chiefs, and ward administrators. Recruitment of respondents for the case studies was done through both of these avenues. Purposive sampling was used to identify key informants from within the communities as well other individuals knowledgeable about the communities and their rangeland management activities. For focus group discussion participants, the earlier connections made helped in the recruitment of participants from the community generally and who were not part of the leadership of community rangeland management organization. Similarly, interviews were conducted with key informants from various governmental and non-governmental organizations who are knowledgeable about rangeland management and governance, livestock marketing, and pastoralist issues generally (the “general” interviews in Table 4.2). The Shompole case was also informed by earlier research carried out by ILRI using a similar methodology (Ontiri and Robinson 2018).

Table 4.2: Summary of methods

Case/Topic	Semi-structured Interviews	Focus Group Discussion – Rangeland Condition	Focus Group Discussion – Livelihoods
Shompole	4	2	2
Nakuprat Gotu	4	2	2
Sera	4	2	2
Merti	7	2	2
Sericho	5	2	2
General: livestock market systems ¹	17	-	-
General: governance and rangeland management ²	13	-	-
Total	54	10	10

4.4 Methods for the market system analysis

The assessment of livestock and product marketing systems covered both the confines of the community conservancies and the wider landscapes through which pastoralist members of the conservancies periodically migrate in search of livestock feed, water, security as well as attractive markets for their livestock and products.

Data were collected through:

- a. Spending sufficient time at the markets observing and listening to transactions in progress. Fortunately, most of the discussions at key markets were conducted in Swahili and therefore needing no translation. Prices paid, species and quality of livestock transacted and the estimate of numbers on offer were collected this way. The participation women at the markets was assessed this way.

1. Interviews not associated with any of the particular cases, and focused primarily on matters related to the livestock market system.

2. Interviews not associated with any of the particular cases, and focused primarily on matters related to governance and rangeland management.

- b. Short and specific questions to sellers and buyers at the key markets as they transacted business, as the buyers penned the livestock bought or as they loaded livestock on trucks. The questions explored the origins of the livestock, the purpose for buying, the destinations and prices paid.
- c. Key informant interviews (see also Table 4.2, above):
- Longer interviews with market managers at the sales yards. Main questions focused on management style of the market; characteristics of market players, recent trends in supply and demand at the market, key constraints and relations between private traders and LMA/G and County Government. The market managers also provided perspectives on price fluctuations related to supply, demand and market shocks. The market managers also provided information on the role of development partner initiatives in support of the markets. This category of informants also provided their own assessment on the influence of conservancies on the markets, including affiliation of local traders and sellers to the conservancies.
 - Interviews with policy makers in the County Governments regarding participation of the conservancies in policy setting, planning and investment in markets.
 - Long and detailed interviews with top management of NRT, NRT-T and managers of some conservancies.
 - Interviews with staff of on-going programs of development partners: specifically, ILRI/USAID Accelerated Value Chains Development (AVCD) and USAID/Livestock Market Systems (LMS).
- d. Secondary data were collected from reports of development partners and the NRT itself.

4.5 Assessment of ecosystem outcomes

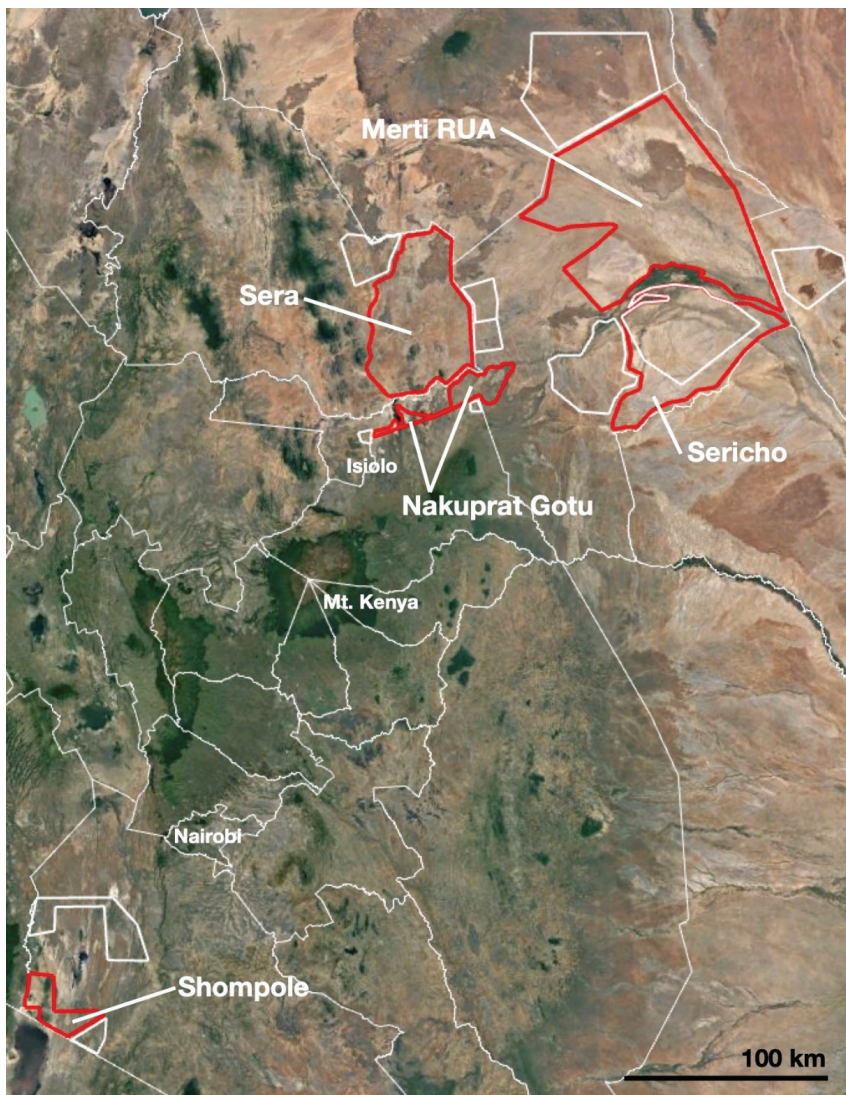
The rangeland units analysed (Figure 4.2) were Shompole Group Ranch and Conservancy at 496 km² in area, Nakuprat Gotu Conservancy at 511 km², Sera Community Conservancy at 3,143 km², Sericho Dheeda at 3,216 km² (all of Sericho Ward) and the Cherab Ward portion of Merti Rangeland Users Association (Merti RUA) at 7,203 km². Each of the five rangeland units was compared with reference sites nearby through linked remote sensing and participatory scoring. For a summary of rangeland units, reference sites, and the analysis framework for assessing environmental improvement from rangeland management systems using remote sensing and participatory scoring, see Table 11.2. Full participatory scoring results for each rangeland unit are available in this report under their respective sections.

The design of the analysis framework was based on a few key principles: it should be simple and robust, should be capable of detecting weak effects over large areas over long periods of time, should benchmark progress in a given rangeland unit by making comparison to nearby reference sites, and should integrate indicators from both remote sensing and participatory scoring with linked data from the same locations.

Remote sensing analyses assessed changes in rangeland condition using bare soil cover (Guerschmann et al. 2015, Guerschmann and Hill 2018) calculated based on MODIS satellite imagery at 250 m resolution (Jenkerson et al. 2010); all areas with > 40% of woody cover (Kahiu and Hanan 2018) were removed, as forests are not regularly used for grazing and to prevent any major influence of woody encroachment, including invasive species such as *Prosopis juliflora*. Two indicators were used from participatory scoring of changes in rangeland condition from focus group discussions: (i) bare soil (scored from 1-5), and (ii) overall condition of rangelands. Overall condition of rangelands aggregated all four rangeland indicators collected in the focus group discussions for each rangeland unit, including bare soil, availability of quality forage, hydrology, invasive plant species, and animal condition (indicators chosen by participants varied slightly among rangeland units), each scored from 1-5, for a total maximum score of 20.

Attributing changes in rangeland condition to local rangeland management institutions is complicated by the characteristics of the surrounding landscape, including ecological (e.g., elevation and aridity) and social factors (e.g., security and market access). For this reason, rangeland units were compared with reference sites nearby to 'benchmark' progress in the rangeland units. Reference sites (Figure 4.2) were selected by focus group discussion participants who provided participatory scoring of rangeland condition, based primarily on the knowledge of these participants about long-term changes in rangeland condition in the reference sites.

Figure 4.2: Map of the rangeland units (red) and reference sites (thick white lines) with county boundaries (thin white lines).



To further account for variation in elevation and management effectiveness between rangeland units and their reference sites, a second step of benchmarking 'corrected' for elevation and management differences using 3 reference types: 'R+' or 'Positive' references, which have an advantage over the rangeland unit in terms of relatively higher elevation, better organized or more successful management (according to focus group discussion participants' views), or both; 'Rn' or 'Neutral' references with comparable elevation and management, or advantage/disadvantage split among elevation and management; and 'R-' or 'Negative' references with a disadvantage over the rangeland unit in either elevation or management. In some sites comparable reference sites were available, requiring no such corrections.

A single institutional period was the focus for each rangeland unit—formation of the three conservancies (Shompole, Nakuprat Gotu, and Sera), formation of the RUA in Merti, and improved management in Sericho Dheeda. All rangeland units used a standard framework of drought-free periods: 2003-2005, 2011-2013, and 2017-2019. For each of these three analysis periods, % bare soil was compiled over the three years for the long rains season (March-June) and the short rains season (October-December). The institutional timelines do not exactly match the analysis periods, although they did fit well within the drought-free periods framework.

Bare soil from remote sensing was analysed using analysis of variance (ANOVA) with analysis period (2003-2005, 2011-2013, 2017-2019), season (long rains, short rains), and management unit (rangeland unit and reference sites) as fixed effects using R version 4.0.2 (R Development Core Team 2013). Means for each rangeland unit and reference site and differences between means for each rangeland unit and reference site were extracted using Tukey's Honest

Significant Difference (HSD) *post-hoc* test in *R*. As the analyses include large numbers of replicates (individual 250 x 250 m MODIS pixels) statistical significance is effectively guaranteed and not a useful criterion for analysis; therefore, effect sizes—change over time or difference from references—was used.

Rangeland condition indicators from remote sensing and participatory scoring data were analysed using three calculation approaches. The first is simple, absolute change in rangeland condition indicators between analysis periods. Second, change in the condition of the rangeland units relative to references was calculated as change in the mean difference of the rangeland unit from the reference sites. Third, corrected change in the condition of the rangeland units relative to references was calculated by weighted averaging, in which the difference of the rangeland unit from each reference site was weighted according to the reference type. For R+ or 'positive' references, the change in difference from the reference site was weighted (multiplied by) 2 for positive trends relative to the reference site and weighted by 0.5 for negative trends relative to the reference site. For R- or 'negative' references, change in difference was weighted 2 for negative trends relative to the reference site, and weighted by 0.5 for positive trends relative to the reference site. Changes in difference from Rn or 'neutral' references were weighted at 1, or in other words not weighted.

This approach to correction assumes that sites with likely advantages in terms of elevation and/or management effectiveness are expected to perform better than the rangeland unit, and vice versa. The approach up-weighted positive changes relative to R+ sites and down-weighted negative changes relative to R+ sites. Similarly, negative changes relative to R- sites were weighted upwards, while positive changes relative to R- were down-weighted. In other words, strong performance of rangeland units over a reference site with a likely advantage over the rangeland unit counts for more than a weak performance. To the contrary, poor performance compared to a reference with likely disadvantages counts for more than a strong performance over a reference site where poor performance is expected.

5 Findings: Shompole Group Ranch and Conservancy

By Enoch Ontiri

5.1 General information on the case

The Shompole Group Ranch is in Kajiado County, Kajiado East Sub-county and Shompole Ward. The Ward has two locations, Shompole East and Shompole West. Shompole East has three (3) sub-locations: Lenkopie, Oloika and Oldonyo Erasha. Shompole West has two (2) sub-locations: Pakashe and Shompole. This rangeland has had a number of agencies working to help in the management of their resources. In the late 1960s, the government of Kenya enacted the Land (Group Representatives) Act that saw the birth of group ranches. Shompole Group Ranch was established in 1979. In the early years of the 2000s, some researchers came in to do research and saw a potential for ecotourism. Through their support, external investors came in and put up a lodge in the group ranch land. From the lodge and ecotourism, the community started receiving monetary income. The community members were aware that other group ranches across the country were getting larger short-term returns because they had sub-divided their group ranches into individual plots and using titles to either sell their land or acquire loans. Even with this knowledge, they continued to hold their land communally.

When the African Conservation Centre (ACC), an NGO focused on conservation of natural resources, began its work in southern Kenya, it strived to understand the customary approaches that made the community unique. Upon studying and understanding the system, successes, challenges and aspirations, ACC supported the community to establish tourism as a way of tapping the monetary benefits of conservation. They also advised the community on how to improve and sustain conservation of natural resources and their livelihoods, and also encouraged the continuation of communal land holding. Upon successful establishment of an ecotourism approach, the ACC realized there was demand for their support from the adjacent group ranches. The ACC then proposed establishment of a community-based land trust, which became SORALO, to mobilize establishment of effective institutions and governance structures that would ensure sustainability. SORALO comprises Maasai landholders in southern Kenya—fifteen different group ranches—and employs an evidence-based approach through research to improve land management practices. SORALO promotes security of communal land tenure and simple methods of natural resources planning and management.

SORALO, with modest support from ACC, has continued to support the strengthening of community governance structures, which include the creation of new subcommittees for the management of natural resources. The subcommittees include the women's group, and the conservation, peace and investment subcommittees. They also established specific natural resources monitoring groups like the lion tracking, baboon and vegetation teams. To minimize and overcome resource management weaknesses, the community invited the ACC to come and support them in improving their system. The community, with some help from SORALO and ACC, then worked to reinvigorate the old system and repackage it as a new approach, which includes: the introduction and brokering of ecotourism to provide more land use options, the establishment of community-based rangeland monitoring activities, and the establishment of a new constitution for the group ranch which is in progress.

5.2 Social-ecological context

The Kenyan southern rangelands are part of the larger ecological biome, the savannah scrubland and the grasslands of the world. Dryland areas (or ASALs – arid and semi-arid lands) make up more than 83% of the country. Two-thirds of the ecosystem is semi-arid. The most severe droughts were experienced in 1965 (345mm), 1984 (358mm), 2000 (280mm) and 2009 which received 188 mm of rainfall (Huho and Mugalavai 2010, Shorrocks and Bates 2015).

Kajiado county sits about 2°0' 0" S, 36° 52' 0.12" E. The County is characterised by plains, valleys and occasional volcanic hills. The lowest altitude is about 500 metres above sea level at Lake Magadi while the highest is 2,500 metres above sea level in Ngong Hills. Shompole is in the lowest altitude level.

The County is divided into five administrative sub-counties, namely: Kajiado North, Kajiado East, Kajiado West, Kajiado South and Kajiado Central with a total of 101 and 212 administrative locations and sub-locations respectively. Shompole group ranch is in Kajiado West and forms one of the locations in the sub-county. The group ranch occupies an area of 62,700 hectares. It is one of the driest parts of Kajiado County with an annual mean rainfall of 511 mm.

Ecologically, the landscape is an important wildlife corridor linking the famous Maasai Mara-Serengeti-Amboseli-Nairobi-Athi-Kaputiei ecosystems. This allows for important ecological processes such as wildlife migration hence ensuring species survival. The Shompole group ranch is part of a larger landscape that includes the Nguruman escarpment, the Olkiramatian plains and the Shompole hill which stands at the border of Kenya and Tanzania. Further east is the Lake Kwenia, an important nesting area for vultures and the Namanga Hill (Oldoinyo Orok) which hosts one of the pristine dryland forests. Another key feature of the landscape is the Southern Ewaso Nyiro River, which forms a swamp that is a vital drought fallback area.

The Shompole Group Ranch landscape is part of the biome that is the southernmost stretch of the Somali-Maasai dry Savannah and is characterized by short shrubs mainly *Acacia-camiphora* and grasslands. Typically, the region has woody species including *Acacia tortilis*, *Camiphora africana*, *Crotalaria* and *Euphorbia (candelabra)* and *Aloe* species.

The inter-tropical convergence zone passes through this area twice in a year hence giving it a bimodal rainfall. The short rains are experienced from late October to late December while the long rains happen from late-March to mid-June. The El Nino-Southern Oscillation also influence the floods and droughts in this area.

The region has an abundance of wildlife species that are now rare in other regions of the world with similar ecological conditions. These include lions (*Panthera leo*), cheetahs (*Acynonyx jubatus*), leopards (*Panthera pardus*), spotted hyena (*Crocuta crocuta*), striped hyena (*Hyena hyena*) and wild dogs (*Lycaonpictus*) among the most significant apex carnivores. Among the ungulates, there is a wide range of wildlife species including the elephant (*Loxodonta Africana*), the African buffalo (*Synecerus caffer*), Eland (*Tautrogus oryx*), Grants gazelle (*Nanger granti*), common zebra (*Equus quagga*), wildebeest (*Chonocaetes taurinus*) and giraffe (*Giraffa camelopardalis*). This section of the drylands supports a large number of bird species (estimated to be between 350 and 400).

The main land use systems in Shompole is extensive traditional livestock production, subsistence agriculture and wildlife conservation. The livestock kept include cattle, mainly the Kenyan zebu, sheep (*Ovisaries*) and goats (*Capra aegugrushircus*). The area also has pockets of arable land that are used for crop production.

5.3 Specification of the approach

5.3.1 Short description of the approach

The approach can be summed up as “enhancing communal and semi-nomadic form of local land use, which encourages mobility to ensure survival”. The aim is that a people with a common identity, who share the resources, achieves this through wise stewardship and care for the common resources.

The community is composed of members from the Il Lodookiran clan, one of the major clans of the Maasai tribe. The community owns land communally as a group ranch. The top managing organ is the Group Ranch Committee. The committee is composed of ten members, elected by the community members. Below the group ranch committee is a team of rangers who help in managing the natural resources. This special unit of the rangers headed by the conservation area manager runs the day-to-day business of the conservation area. The conservation area manager is answerable to the group ranch committee. The group ranch committee works hand in hand with the council of elders. The council of elders is a customary institution of elders appointed and anointed customarily to govern the community.

Under the group ranch committee is a Trust Committee. This five-member committee is responsible for conservation work in the conservation area including collection of tourism revenue. The group ranch committee nominates the

members of the Trust Committee. The names of the Trust Committee nominees are written as part of the minutes, which are sent to the County Government office. The five include one member from each of the five locations in the group ranch. The conservation area manager works very closely with the Trust Committee.

5.3.2 Detailed description of the approach

Main characteristics of the approach

In terms of the general conservation status, the Southern Rift area is characterized by a mixture of formal and informal conservation areas. The pastoralists practice open grazing management systems in the rangelands that allows relatively free movement of livestock and wildlife. Under this shared resources framework, Shompole has collaborated with fifteen other group ranches to form a landscape-level umbrella organization known as the South Rift Association of Land Owners (SORALO), which covers about 10,000 square kilometres of community managed lands. The community combines customary practices such as livestock mobility, livestock enclosures (olopololi) with contemporary technologies to manage the rangelands while supporting the livelihoods of the communities.

Aims and objectives

- To enhance the adaptive capacity of the pastoralists through stable community organizations
- To ensure a healthy rangeland for biodiversity conservation and improved livelihoods through improved management practices
- To keep the landscape as a contiguous land mass to allow for livestock mobility and wildlife dispersal
- To enhance the establishment of a payment for ecosystem services system through ecotourism and improved livestock and livestock products.

Methods used by the development agent

The customary rangelands resources governance system has been in place for centuries. The stable nature of this system in the face of many social-economic changes attracted interest from researchers and conservation agencies. The uniqueness of the landscapes sitting in the middle of large wildlife migration corridor made it even more important to both conservationists and tourism industry.

A researcher first arrived to conduct surveys in order to understand how the community operated, the resources available, the challenges and how the community was able to adapt. The research findings were used by a conservation agency African Conservation Centre (ACC) to initiate the improved rangeland management approach which was a hybrid of the old customary practices and new scientific approaches.

ACC worked with the community using rapid rangeland assessment tools. The process involved the researcher using local leaders to mobilize community members to participate in the resource assessment. Using mind-maps, the community members mapped out the various resources, wetlands, biodiversity hotspots, wetlands, forests and grasslands. Livestock migration routes were also identified. The process also involved identification of the challenges and degradation issues. Customary institutions that were involved in the management of the rangelands were identified. The institutions' capacity to manage the resources was also assessed.

Stages of implementation

The initial stage was mobilization of the community to undertake a participatory validation of the information that had been documented. This process also included making the community aware of the role that the ACC wanted to play in supporting improved rangelands management. Community workshops were held.

The actual capacity building took place by strengthening the community governance mechanisms that included the various committees. The agents used participatory methods to identify the capacity needs of the community. Then, the ACC advised the community on the establishment of a local agency to continue support on the technical issues of natural resources management, which became SORALO. Individual students with capabilities to study were supported and sponsored to higher institutions of education as part of the long-term capacity building of the community.

Involvement and roles of stakeholders

The main stakeholder was the ACC. Their role included mobilizing the community to strengthen and formalize the customary traditional rangeland governance system. They supported building of local capacity to undertake conservation of natural resources. They linked the community to investors in the ecotourism sector and created awareness on the linkages between conservation and improved livelihoods through tourism.

Others included the International Centre for Insect Physiology and Environment (ICIPE) and Magadi Tata Foundation. ICIPE conducted research into the Tsetse fly problem in the area with an aim of eradicating the Nagana disease in livestock in the area. The Magadi Tata Foundation joined the community development initiatives in recent years and their work includes supporting community-based rangeland management practices. They have proposed building a livestock holding ground and a slaughterhouse in the area.

Involvement of women

Though livestock ownership and control is mainly the domain of men, women also own livestock through marriage or inheritance. While men's work is more associated with herd management and decision-making, the gender division of labour is not clear cut, as women are often involved in decision-making related to livestock and spend as much time as men on animal care. Women are responsible for milking, food processing and distribution, managing small stock, and for daily food provisioning in the homestead. Men's responsibilities include planning and decision-making with regard to livestock movement, feeding and watering, castration, vaccination, slaughter, building of enclosures, digging wells and livestock marketing. Young men and women as well as children perform most of the herding. To a large degree, it is men who control the income from livestock and its products, although women have a say in how the income is spent. Conflicts over the use of income are one of the factors for the high level of divorce and contribution to women's poverty.

Due to the reduction of cattle and other livestock from incidences of drought in the region, women play an active role to ensure family survival by participating more aggressively in activities such as bee-keeping and trading in livestock, particularly small stock, as well as non-livestock products such as hay, mats, charcoal, clothing, and vegetables. From the proceeds of these activities, they pay school fees, and look after the health of their children and livestock.

Key dates

The group ranches Act was enacted in 1969 and as early as 1972, group ranches had started being established in Kenya.

Shompole Group ranch was established in 1979 with a membership of 2000 (heads of households).

In 1980, ICIPE and the Trypanosomiasis Research Institute started working on a program to eradicate Tsetse flies.

In the Early 1980s, two expatriates, known locally as "Bob and Bob", came in and realized a potential for ecotourism. Together with the community, they established an organization called Olkiramatian, Shompole Community Program (OSCOP). Olkiramatian set aside 6,000 acres of land and Shompole set aside 10,000 acres, and these became the conservation areas which each group ranch continues to manage to this day. A lodge was to be established in the conservation area to enhance ecotourism. The OSCOP program did not perform well and essentially died with the exit of "Bob and Bob".

In the early 2000s, African Conservation Centre (ACC), a conservation NGO came in to work with the community to enhance conservation of the natural resources in the Southern Rangelands. They revived the dialogue on ecotourism. The ACC approach to wildlife conservation was that of involving community members to conserve the resources through wise use.

In the following years, ACC, with funding from the USAID helped the community establish structures for conservation. The Shompole lodge was built under this program. Zoning of grazing areas based on the customary seasonal grazing patterns was strengthened. An investor in the tourism sector was identified and invited to invest in the area. A high-end lodge was established on the buffer zone. An idea of conserving the landscape as a UNESCO Biosphere Reserve connecting the important biodiversity important ecosystems of Maasai Mara, Amboseli and the Mt. Kilimanjaro was born. A plan to address the immediate challenges to land degradation was also developed.

In 2004, ACC realised the need to have on-going support to the communities to manage their resources. To be able to do this, a local organization that brought together the group ranches in the landscape was needed and this is how SORALO was born.

In 2008, a very severe drought made the pastoralists loose most of their livestock. There were invasions into the buffer zones and other private lands in the landscape. This threatened the ecotourism sector and conservation.

In 2012, the “borderlands Conservation Program” was established and worked with the communities through SORALO to strengthen governance of natural resources in the rangelands.

5.4 Governance model

The rangelands governance model in Shompole is different from that in other rangelands such as the conservancies that are part of NRT. In NRT's approach, the conservancy land unit is equivalent to the community's whole land territory, and the conservancy as an institution is the key community governance institution. In Shompole the group ranch is the key community governance institution, and conservation area (conservancy) management is an activity that the community happens to do. Both in Shompole and NRT approaches, committees are used but the NRT led conservancies have more formal institutions than in Shompole.

The Maa people, a community that is divided into clans, occupy the Shompole landscape. Each clan occupies a defined territory, which may be used by others after making a formal request. The Il Lodokilani Clan who are one of the five major clans of the Maasai occupies Shompole Group Ranch. The community defines itself, and its purpose, based on economic activities, cultural or customary institutions and a sense of belonging to the landscape. They derive their livelihoods from extraction of the natural resources from the land mainly through livestock production. The key community-based grouping or organization is the group ranch. Practices adopted from traditional and customary institutions guide the management of the rangelands.

The community are organized around clan structures who together form the group ranch under the Land (Group Representative) Act 1968. A representative committee that makes decisions on rangeland management, grazing and water resource use governs group ranches.

At the group ranch, the highest level of decision-making is the group ranch committee. The committee makes all decisions regarding livestock production, use of pasture and water, and livestock mobility. This committee is made up 10 members who are elected by the members. 2 members are elected from each sub-location to form the group ranch committee.

Below the group ranch committee is the Trust committee, which is composed of five members. This committee is mandated with managing the specific issues to do with rangeland conservation and tourism activities in the conservancy. The conservancy in Shompole is a section of the rangeland under the group ranch. It is actually a conservation area within the group ranch rangeland.

The conservation area is directly under the Trust Committee. The Trust is in charge of rangers (scouts) who work as security guards and rangeland monitors. They maintain law and order in the conservation area and also help in collecting revenue from visitors and researchers. The head ranger works as the conservancy manager. According to responses from all the focus group discussion participants, the conservation area manager and rangers take orders from the group ranch committee, their salary comes from SORALO.

“...Maasai leadership is based on a complex system that usually lies in the institution of age-sets and age-groups. The age-group that immediately follows another has less respect for their immediate seniors and they don’t work well together but has more regard for those who are two age-sets their senior. This makes election of members into leadership positions very biased and complex...” A clan elder from Shompole.

The ten (10) member committee is made up of two people per sub-clan of the Il Lodookiran Maasai living in Shompole. The election of women into this committee was not clear from our discussions. But from our key informants, women did not yet hold elective positions in the committee. In recent years, one woman has been included in the committee as an ex-officio member. There was a consensus among the people we discussed with that this one woman does not actively participate in decision-making. This follows a strong belief in the customary system that contemporary governance system is based on.

The committee is officially established and registered at the County Government offices as per the provisions of the Act governing group ranches. The people recognize them but according to most of our focus group discussion participants, they do not clearly know their roles. Most of the members are known as committee members without specific roles or positions. While the roles of the committee are defined and include enhancing sustainable rangelands management, many of our informants feel the committee is an outfit for making the leaders rich. Apart from a few key informants, many of our respondents associate the committee more with tourism and not so much with conservation of the natural resources. More than one key informant assessed the committee members as lacking basic knowledge on how to integrate traditional knowledge into management of the rangelands in the face of the challenges.

In all the focus group discussions we were informed that many people feel the decision-making process is not participatory. All decisions are made at the Annual General Meeting (AGM) but not all members participate in this. There was also a general consensus among the focus group discussions participants and the key informants that the leadership does not have a system of reporting to the community on any matters but the most serious one was lack of financial accountability.

“...When we had the lodge, there was an accountant between the group ranch committee and the trust. This time we used to know some bits about the income and how it was used. When we lost the lodge, all these information was also lost...” A village elder in Oldonyo-erasha.

Alongside these committees is the office of the National Government Administration Organization (NGAO) and the council of elders. The local Chief and sub-chiefs represent the NGAO. The Council of elders provides guidance on livestock grazing and mobility issues. They also come in handy whenever there is any form of conflict to resolve or give guidance. According to one of the chiefs who was a key informant, the group ranch committee does not incorporate them and the council of elders in the running of the group ranch. They feel that the only important network the committee has with other agencies is through SORALO.

5.5 Financial sustainability

The ecotourism enterprise is the business arm of the Shompole Group ranch. The model under which it operates involves a private investor and support from philanthropists. At the beginning, the community received a grant of USD \$ 200,000 from EU and the government of Kenya for infrastructure development. The rest of the investment for the first lodges came from the private investor who needed to recoup their investment before they could pay the

community a percentage of the bed-nights as agreed. In a period of over 10 years, the investor was not able to make a profit from which he would honour the promise to pay USD 3000 per month with respect to bed-nights. This was the main reason for misunderstandings between the investor and the community leading to the burning down of the lodge in 2014. There have been discussions to revive the Shompole lodge, but it has not yet picked up. From 2019, an investor associated with Lantorre lodge in Olkiramatian has signed a contract with Shompole group ranch to develop a smaller lodge called “little house” close to where the Shompole lodge used to be. The infrastructure development is under way.

The Shompole group ranch depends on SORALO to raise funds from sources other than tourism to pay their staff salaries. SORALO office performs planning and accounting functions but reporting to the lower levels is not very clear. Income collected from visitors as gate fees goes to the group ranch committee. However, this gate fees at the current level of operations, is not enough to sustain the operations of the rangelands monitoring team.

“The Shompole community contributes to a lot of resources utilized by SORALO but little comes to us because we don’t have a lodge on our land. When the lodge was operational even the Trust had a functional office with an accountant to make sure money was accounted for properly. Now that is not the case. Our resources are benefiting the other group ranches like Olkiramatian and not us”.....A local leader in Shompole.

Despite tourism from the lodge and gate fees, the other key informants we interviewed expressed similar sentiments. They feel financial sustainability of Shompole Group Ranch depends on SORALO’s ability to raise funds, conduct marketing of ecotourism products and share the income raised within the community. They predicted a rather precarious situation as regards the financial sustainability of Shompole Group Ranch if the situation remains as it is.

5.6 Ecosystem outcomes

The Shompole ecosystem consists of forest, aquatic, terrestrial and grasslands ecosystems. The improved rangeland governance system led to a number of positive outcomes in the group ranch landscape. The degradation that the intervention sought to address included loss of some endemic plant species, disappearance of some wildlife species and loss of ground vegetation cover. Because of the interventions, some plant species that had been lost have re-colonized the landscape. Our first key informant and focus group discussion participants at Oloika informed us that the wetlands have gradually recovered leading to swamps having water throughout the year. The bird life, particularly water birds, has improved in the region. The number of wild ungulates has increased. The number of wild cats including lions (*Panthera leo*), leopard (*Panthera pardus*) and cheetah (*Acynonyx jubatus*) have increased in the area. They all attributed this improvement to the planned grazing and all other rangeland management practices that were revitalized in the early 2000. This was verified by a NGAO representative who was our key informant in Enkasit.

One of the negative impacts of improved rangelands is an increase in predation of livestock by wild cats. Pastoralists, their livestock and wild predators interact more in the rangelands, particularly during the dry seasons. This increases chances of predation of livestock. Participants in our focus group discussions had varied views about the predation but those who don’t benefit from tourism have a negative attitude towards wildlife and the management.

All these demonstrate a recovering ecosystem with the plants colonizing (lowest in the food chain), then the herbivores and finally apex predators. Because of this improvement in biodiversity, the community has started receiving more tourists, both local and international, thereby leading to an improvement in returns from the ecosystem services and goods.

Table 5.1: Participatory rangeland scoring – focus group at Enkasit.

Indicators	Treatment Site: Shompole Group Ranch		Reference Site: Torosei		Comments from participants
	Before	After	Before	After	
Freedom from invasive species	5/5	1/5	5/5	3/5	Forestry/conservation activities in Shompole introduced the invasive shrub, (<i>Prosopis Juliflora</i>). The wild animals eat the shrubs and disperse the seeds further. There is less of the invasive species in Torosei.
Absence of bare ground	5/5	3/5	5/5	4/5	In Shompole the bare ground has increased due to increase in human population, goats and construction. In Torosei, the soils are less saline which has helped sustain the ground cover.
Presence of good quality pasture	5/5	3/5	5/5	4/5	In Shompole there has been a reduction in quality pasture as a result of persistent drought and an increase of the invasive species. In Torosei, the invasive species is minimal.
Presence of water	2/5	4/5	3/5	3/5	Wetlands have been restored and water catchments well managed than before. In Torosei, being on higher altitude, the conditions have been favourable throughout.

Table 5.2: Participatory rangeland scoring – focus group at Pakashe.

Indicators	Treatment Site: Shompole Group Ranch		Reference Site: Oldonyo nyokie		Comments from participants
	Before	After	Before	After	
Freedom from invasive species	4/5	1/5	5/5	1/5	There are a few species of invasive species in Oldonyo nyokie but <i>Prosopis juliflora</i> (mathenge) is the worst. It has spread almost in all the grazing sites. Pakashe has some invasion of the mathenge but not spreading as fast.
Absence of bare ground	4/5	3/5	4/5	1/5	In Pakashe, Shompole the bare ground has increased due to intensified grazing. There is more wildlife and livestock in the rangeland during the dry season. More attention is given to this area by rangeland management as they regard it as the “rhythm” of the rangelands. Oldonyo Nyokie on the other hand does not have a strict management plan for the rangelands.
Presence of good quality pasture	5/5	3/5	5/5	2/5	Good quality pasture has decreased in both cases but more in Oldonyo Nyokie because people do not adhere to planned grazing. Increase in invasive species and people wanting to manage individual parcels separately.
Presence of water	2/5	4/5	2/5	1/5	In Shompole, water in the rivers has increased and the swamps are almost permanent.

Table 5.3: Participatory rangeland scoring – consolidated scores for Shompole Group Ranch

Indicators		FGD 1	FGD 2	Average
Absence of bare ground	Before	5/5	4/5	4.5/5
	After	1/5	1/5	1/5
Presence of good quality pasture	Before	5/5	5/5	5/5
	After	3/5	3/5	3/5
Presence of water	Before	2/5	2/5	2/5
	After	4/5	4/5	4/5
Freedom from invasive species	Before	5/5	4/5	4.5/5
	After	1/5	1/5	1/5
Overall score	Before	17/20	15/20	16/20
	After	9/20	9/20	9/20

The participatory scoring above shows an unfavourable assessment for the present period. The two groups both said this is a temporary situation and they are hopeful it will change. They felt that there are not enough incentives to make the people follow the rangeland conservation protocol, as it was when the lodge was there. Such incentives were provided by the group ranch administration when they had income from the lodge. When the lodge was burnt down, the community lost this income. The Trust office that managed the tourism affairs was moved from the group ranch in Oloika. Following this, community lost the close contact (officials) who used to provide them information and even better accountability on the matters regarding income from tourism and expenditures. It became hard to enforce rangeland management rules—people are tempted to keep more livestock, which they can sell. Sheep and goats have increased because they are easy to take care of and they multiply fast. Goats browse intensively while sheep graze very low hence clearing the grass even before it seeds contributing to more bare ground. When the reconstruction of the lodge will be completed, the community believes the situation will easily change.

5.7 Livestock production

The main goal of livestock production in Shompole as is the case, in other drylands of Kenya, is meat and milk production for household consumption. In Shompole, the pastoralists keep cattle, sheep, goats, and recently some poultry. Cattle are kept for provision of milk for subsistence. Sheep and goats are kept for slaughter to provide household food, but they have become an item of trade to cater for other household needs. People still hold large numbers of livestock. The number of cattle is however decreasing while sheep and goats have increased. This is because it is easier to herd sheep and goats, and because goats are more resilient to stressful situations like dry conditions. Sheep are fast maturing and multiply more quickly than cattle. Family labour is used in herding the livestock. Women and children perform the task of herding, but this is now changing as more children go to school nowadays. Households pool their livestock together and employ a few herdsman to take care of the livestock. This fact is also limiting the number of livestock that a household can keep.

The group ranch committee has not put in place any deliberate actions to improve livestock productivity other than its rangeland management activities. There are isolated cases where the group ranch has supported efforts by other agencies such as SORALO in advocating for breed improvement. The enforcement of rules for sustainable rangeland management affects livestock productivity positively. The rangeland management practices have ensured good pasture and water and this has improved the quality of livestock in the community. The governance system has enhanced wise use of the resources and therefore reduced degradation of the grazing areas and water resources. There is a general perception that these factors contribute to improved pastures, which translates to healthy livestock in the medium and long term. The number of cattle in the group ranch are however less currently, while sheep and goats have increased. Sheep and goats require less labour to herd and are more resilient.

Table 5.4: Livestock production and livelihood as scored by participants in Shompole

	Average household		Poor household	
	Six years ago	Now	Six years ago	Now
Family's average herd size	Cattle: 400	Cattle: 100	Cattle: 10	Cattle: 0
	Shoats: 200	Shoats: 500	Shoats: 20	Shoats: 50
Number of animals the family sells in a year	Cattle: 3	Cattle: 5	Cattle: 0	Cattle: 0
	Shoats: 10	Shoats: 25	Shoats: 1	Shoats: 3
Number of animals the family slaughters in a year	Cattle: 3	Cattle: 0	Cattle: 0	Cattle: 0
	Shoats: 15	Shoats: 5	Shoats: 1	Shoats: 1
Milk yield (wet and dry season, 5 being very good, 3 good, 2 poor, 1 very poor)	Wet 4/5	Wet 3/5	Wet 4/5	Wet 2/5
	Dry 2/5	Dry 2/5	Dry 2/5	Dry 1/5
Ability of animals to cope with drought	Fair 3/5	Good 4/5	Fair 3/5	Poor 3/5

These tables on the household wealth (livestock) situation is an indicator that pastoralism in this area is in transition. Participants noted that even though the number of cows is lower now than it was six years ago, the quality and value of the livestock is better. Although a few people mentioned that they engage in milk sales, the practice is recent and not common in many households. Mostly, poorer households would get milk from richer households in return for services like livestock herding.

5.8 Individual household income sources

The main source of income for the pastoral households is sale of livestock and livestock products. These livelihood stream faces many challenges including unreliable rainfall, livestock diseases and pests, diminishing pastures and invasive plant species. All these factors work together or in isolation to contribute to decreasing pastures, poor livestock health and a degraded landscape. Poor infrastructure and lack of appropriate market information make marketing of livestock and livestock products a big challenge. The interventions through the group ranch have born some fruits in enhancing the livelihoods of the people. Community members now realise income from activities associated with wise management of the rangelands.

The zoning of the rangelands led to a crop production area being set aside and most households have access to and can use the irrigation scheme to produce food and cash crops. These gives the community members a small income, which has a positive impact on their lives.

The livestock value chain involves the producer, the brokers/middlemen, the slaughterhouse and the butcheries or meat distributors. Some of the household members participate in most of these levels of the value chain and therefore earn income from the same. Small and informal self-help groups have started coming up based on wise management of the livestock resources. An example is the steer-fattening groups in which individuals come together, buy livestock that fatten in one place with an aim of selling later on. This gives them a higher income than if they sold individually.

A few household members earn income from salaried employment. This include the scouts, primary school teachers and lodge workers. The royalties paid from the ecotourism operations also contribute to household income.

Women from the community have learned on how to trade in handicrafts to tourists and visitors to the lodge and the conservation area. This gives them an opportunity to earn from the improved rangeland management practices. Women self-help groups have been established based on marketing of livestock products like milk. For example, the women's group in Oloika generates income from letting their community hall for meetings, selling handicrafts and hiring out tents and chairs for events in the community.

5.9 Livestock market systems

Nairobi metropolis provides the largest market for all the livestock from Shompole. The livestock value chain is made up of producers/pastoralists, the middlemen and the buyers or consumers. During our discussions, one of the youth acknowledged that he is involved in brokering livestock at the market.

There is one main livestock market in Shompole. The market originated from a cultural livestock exchange between the Maasai of Kenya and those of Tanzania. Most of the livestock that is traded here actually originates from Tanzania. The market is partially managed by the group ranch committee and the county government. The group ranch committee collects cess which they bank in the group ranch bank accounts. Most of the livestock sold in the market in Shompole are slaughtered for meat at local slaughterhouses or sold live to other markets outside the county. Middlemen play an important role in linking the producers to the market. Brokers negotiate between pastoralists and traders and play an important price-setting role. The local markets in Shompole and surrounding communities supply the Nairobi market. Other players in the value chain are the transporters, slaughterhouses, and butcheries. There is no commercial slaughterhouse in Shompole although plans to establish one by the Magadi Tata Foundation are underway.

“Shompole is the largest livestock market in the area but middlemen are the problem. Leaders have not assisted in accessing price information in Keekonyokie/Kiserian”. Focus group discussion participant in Shompole

The group ranch does not directly involve itself in facilitating marketing of the livestock or livestock products. During our discussions, participants mentioned of intentions to introduce a livestock holding ground which will be funded by SORALO. A livestock-fattening unit has been started in one of the group ranches under SORALO as a trial. The unit is expected to have linkages to markets and also provide information on livestock improvement.

However, the group ranch collects revenue from the Shompole Market every market day. They impose a rate of KShs. 30 for a sheep or goat and KShs. 50 for a cow and the money goes into the group ranch account. This fee is separate from the one levied by the county government (KShs. 50 for shoats and KShs. 100 for a cow). The committee may use the money to take care of any immediate community needs like providing medical care to a sick member who requests for the assistance. The balance of the money is deposited in the group ranch account.

5.10 Shompole Group Ranch – discussion

The Maasai community occupy the southern Kenyan rangelands. The community believe in a few origin myths but one that explains their connection to natural resources is their belief that their god, Enkai sent livestock from above through the branches of a tree. Their god had created grass so the cattle would feed on it. The grass grew around the roots of the ficus (*Ficus natalensis*) tree. Traditionally the Maasai were concerned about the grass, the shrubs and water. They were less concerned with the land on which the natural resources blossomed.

The customary system was strong and effective in the days preceding the colonial times. In the traditional customary system, the leaders were nominated during the rights of passage ceremonies or events. This happened when the morans were graduating to junior elders. The criteria for nominating such leaders to the council of elders was based on a customary system known and understood by all the community members, which gave it legitimacy. Following introduction of modern practices and lifestyles into the community, the customary institutions and systems of governance weakened. The laws that governed the management of water and pasture became weaker in the face of the series of government Acts that were enacted over time. The institution for enforcement shifted from the council of elders to the central government institutions such as the police. The various Acts and policies governing natural resources are not exhaustive on the various aspects of punishing offenders. Our key informants identified this disconnect as one of the major hindering factors to effective integration of customary rules into the contemporary governance systems.

“..... failure of younger generations to recognize and respect elders makes it hard to govern the rangelands. Even the magistrates fail to give severe punishment because there is no exact clause in the Acts for punishing for example trespassers in seasonal grazing areas. The elders would curse and these curses are still feared than being arrested by police” -A customary chief in Oldonyo erasha.

As the customary governance system has declined, the drylands of southern Kenya have gone through a number of land tenure and land use changes. Since the pre-colonial times, extensive livestock production is the main practice in place by the pastoral communities. The traditional pastoral systems involved large herds of livestock traversing the large landscapes. The customary management practices including seasonal grazing requires large areas that can allow livestock mobility. However, as the traditional community lands were transformed into group ranches, this extensive livestock production system started facing challenges. Knowledge that other group ranches had sub-divided their land, thereby allowing individual members to use their land titles to convert their land into cash was tempting the people of the southern drylands, including Shompole, to sub-divide their land. According to one of our interview respondents in Shompole, the weakening of the traditional customary system of managing natural resources and institution of the council of elders was also a big challenge to the communal management of the rangelands. Introduction of crop farming in parts of the rangeland would introduce another challenge but low and often-unreliable rainfall made

Shompole less attractive to small-scale farmers from the neighbouring crop growing communities. This contributed to a delay in demarcation of the land and keeping it as a communal rangeland.

The interventions from a conservation agency, ACC, included processes to keep the rangeland as a contiguous landscape managed communally for the common good of all members and biodiversity. The interventions recognized the customary practices and institutions that helped manage the resources over time. ACC supported processes that enhanced people to secure their land rights of ownership, access and use. All these interventions aimed at reducing degradation and ensuring sustainable rangeland productivity. The group ranch committees that already existed by the time the ACC interventions took place were weak and less effective.

According to our key informants, the community members elect the group ranch committee. Two people from each sub-clan are elected to the committee. Although this was meant to have equal representation of all clans at the committee, some of the people that participated in our discussions said it was not free and fair. A key informant in Enkasit said “the group leadership is for the rich” and they use this opportunity to increase their livestock herds. The elections of the group ranch committee members is supposed to take place once in every five years but respondents complained that this has not been the practice.

The various rangeland management interventions advocated for by the group ranch institution in recent years have had a positive impact on some aspects of livestock production and wildlife. Community members feel there has been an effective cycle of moving from poor to better pastures, down to poor pastures and back to good ones. Along with the strengthening of the group ranch and related changes in institutions, there have been changes in land use practices and environmental conditions. All these factors would work together to bring an impact on natural resources and livestock which are the main livelihoods sources for the community members. The rainfall patterns have become less predictable and decreased in quantity. The perception of most local people in Shompole is that there is less annual rainfall now as compared to what people experienced over ten years ago. Yet, the number of livestock, particularly small stock has been able to increase in the Shompole group ranch rangelands.

These findings demonstrate that the group ranch approach is beneficial and, so far, is appropriate for the Shompole context. It is also clear, however, that the governance system has a number of flaws making it fail to optimize its effectiveness. There is potential for improving the productivity of the rangelands through a more effective group ranch. The committee members elected need to either have the capacity to do basic tasks to make the institution more transparent, able to raise and utilize resources and work towards the improvement of the rangelands. Because the committee is meant to work for and with the people, it requires to be recognized and appreciated by all members. The rules and regulations for resources management need to be cognisant of all the resource owners. An important aspect of landscapes approach to natural resources governance is recognizing the rights of all the people that have interest, either directly or indirectly, in part or all of the space that is the rangeland. Youth, women, men, elders, county and central governments are the bona-fide stakeholders of the Shompole rangeland. The governance institutions should consider all these and accord them appropriate participation in decision-making processes. This will ensure appropriate linkages and access to resources from quarters that are better endowed with the same than the group ranch committee. The committee members and the resource users need to be taken through a capacity building process similar to the Leadership and Management training offered to elected committee members in NRT conservancies. This will enhance the leaders' capacity to deliver their mandate and make the group ranch members hold their leaders to account. Responsibilities, costs and benefits will be easy to share when all the rangeland users are aware of and involved in implementing the interventions at all levels.

6 Findings: Nakuprat Gotu Community Conservancy

By Elizabeth Mukewa

6.1 General information on the case

Key informant interviewees in Nakuprat Gotu conservancy highlighted that before the establishment of the conservancy, there used to be much conflict, inter-ethnic hatred and insecurity between the Turkana and Borana ethnic groups:

Before the establishment of Nakuprat Gotu conservancy, the area between Kachuru and Isiolo was a dangerous zone with banditry due to the conflicts between Borana, Turkana and Samburu ethnic groups. Not a day or two went by without someone being killed along that highway. (Nakuprat Gotu key informant interviewee).

Therefore, to be able to reduce conflict, highway banditry and insecurity as well as to bring different ethnic communities together to build multi-ethnic peace, Nakuprat Gotu conservancy was formed as a multi-ethnic conservancy in 2011 between the Turkana (Nakuprat community) and the Borana (Gotu community). The conservancy is located in Isiolo County, in Isiolo Sub-county in Ngaremara Ward within four locations of Nakuprat, Ngaremara, Gotu and Attan.

The conservancy occupies an area of 39,000 hectares spread out in four locations. Nakuprat Gotu conservancy has a total population of 20,000 semi-nomadic pastoralists who exercise seasonal movement with dry season movements within and outside of the conservancy to neighbouring areas of Kom and Magado Crater (Gotu community) and Nasuulu and Chafagafarsa (Nakuprat community) in search of water and pasture for their livestock. Chafagafarsa is a spring area within Nakuprat Gotu conservancy that has all season grazing and plenty of water.

Respondents indicated that the main development organization supporting the multi-ethnic conservancy and its communities is Northern Rangelands Trust (NRT). Some of the other organizations working with the conservancy are Kenya Wildlife Service (rangers training), National Police Reserve (peace and security), Isiolo County Government (policy issues and technical and financial support), national government (logistical support for rangers and community game scouts), Save the Elephants (logistics support) and Food and Agriculture Organization (community mobilization and awareness creation, capacity building and setting up of necessary community institutions for transitioning from unregistered land to community land under the Community Land Act of 2016).

6.2 Specification of the approach

Some informants described NRT's approach as a people or community centred approach to community-based rangeland management. NRT started working with the community in 2009 and 2010. The approach used by NRT was participatory, with community members involved in identifying their problems and taking key decisions on issues that affected their livelihood in the rangelands (see text box). NRT promotes this approach by offering technical and financial advisory services to conservancy members and their elected board members, building capacity for and technical expertise within the two conservancy communities (ethnic groups) through capacity building on leadership skills of newly elected board members after every period of three years in office.

The characteristics of this approach have their basis on the Wildlife Conservation and Management Act of 2013 with the main goal of devolution of conservation and management of wildlife to landowners and managers in areas where wildlife occurs, be it communal or private land. In the case of community conservancies, wildlife is found on communal land, termed as "community land" under the new Community Land Act of 2016.

When NRT came to us initially, there were community wide mobilization and awareness creation meetings. We met as Turkana community members and agreed to form a conservancy after several meetings of explaining what it involved. But now we also had to talk to our neighbours, the Borana. It was not easy because we had been fighting each other, raiding livestock from each other and also killing members of each ethnic group. Community wide peace meetings were held involving both ethnic groups. Our elders from both ethnic groups were jointly taken for exposure tours to neighbouring conservancies of Kalama, Nduba and Namunyak. At some point after conflict resolution, we agreed to work together.

- Nakuprat Gotu key informant interviewee

There are several objectives of the approach:

1. To promote peace and security among conservancy members within and outside the conservancy in neighbouring communities to end livestock/cattle raiding, armed conflict over dwindling and scarce natural resources (pasture and water) especially during the dry season, poaching and encroachment into wildlife habitats.
2. To manage natural resources – wildlife management for wildlife species, their habitats and seasonal migratory routes (corridors) that traverse the landscape through communal land owned by different ethnic groups. The wildlife management techniques include anti-poaching and monitoring of wildlife populations and species numbers, management of grazing blocks, interethnic and interagency conservation and management of migratory corridors through other conservancies and forest lands.
3. To promote enterprise development as a means of diversifying and generating financial income with direct household benefits thereby providing a financial leverage point and incentive for communities to conserve wildlife on their community land. Furthermore, enterprise development (tourism, beadwork trading and livestock marketing) creates financial sustainability of conservancies since part of the financial benefits are used for day to day operations and management of the conservancy.
4. To enhance and fasten community development among nomadic pastoral communities through establishment of student bursaries, medical support and supplies, emergency re-stocking of livestock after drought catastrophic events, provision of water for livestock and people, and construction of infrastructure related to health and education.

Participants of focus group discussions and key informant interviewees unanimously reported that NRT's first community entry meetings were held with both selected elders from the Turkana and the Gotu community to build peace and reduce natural resource and armed conflict (banditry). The motivation to establish a conservancy was driven by the need to end conflict between the ethnic groups, build peace, attain land tenure through registration of unregistered land, improve livelihoods for pastoral communities (community development projects) and rangelands for their livestock grazing, and diversify community income through tourism, employment and operation of microenterprises. Participatory activities involved the following:

- Organized tours of selected community elders from both ethnic groups to visit already established community conservancies in other parts of the northern rangelands.
- Peace building and conflict resolution meetings held with Turkana and Borana community members (men and morans – youth and women), facilitated by NRT and KWS.
- NRT facilitated mobilization and creation of awareness meetings among Turkana and Borana community members (men and youth) to form the conservancy through community wide meetings, barazas and in consultation with customary elders, faith based and spiritual leaders.
- Other stakeholders included county council representatives and provincial administration officers within the area.

Capacity building on basic principles of conservancy operations and leadership workshops were held for newly elected board members and employed staff of the conservancy. The same year that the conservancy was established is also the year that NRT began to implement active rangeland management activities. There was need for quick action because the rangelands had been negatively impacted by uncontrolled use especially cutting of trees for charcoal burning by the Turkana ethnic group and overgrazing in some areas: “The Turkana people were burning so much charcoal and degrading the habitats. It is good that NRT moved in because they were then expanding their over exploitation towards Gotu area. Because of armed conflict, we could not do much so NRT’s move was timely” (key informant interviewee, Gotu community October 2020).

6.3 Governance model

The owners of Nakuprat Gotu community conservancy are the landowners drawn from two ethnic groups: Turkana and Borana communities. The key community governance structure is a democratically elected 12-member conservancy board elected by community members from both ethnic groups on a 50:50 ratio. Each community has 6 board members. These board members are responsible for employing all conservancy staff for the daily management and operations of the conservancy under the leadership of the conservancy manager.

Each ethnic group is represented by 6 board members, (2 women, 2 youths and 2 elders). A senior chief and an assistant chief from each ethnic group also sit on the board. The main community decision making body is the conservancy board which represents the voices of the community members. Detailed discussions held with respondents in focus group discussions and also during key informant interviews showed that the decision-making process by the board members is participatory and involves all community members through a feedback mechanism. Sitting on the board are 12 members each representing a zone, with 6 zones from each ethnic group. In total, 4 zones (2 from each ethnic group) are represented by women, 4 by youth and 4 by elders. Before the board meetings, each board member meets with the community members of his/her zone and discusses on pertinent issues for further deliberation at the board meeting. The board members represent the people’s voices from the zonal meetings to the entire board. These issues are discussed, a decision is made, and the board members go back to their zones, and call meetings to present feedback to the community members.

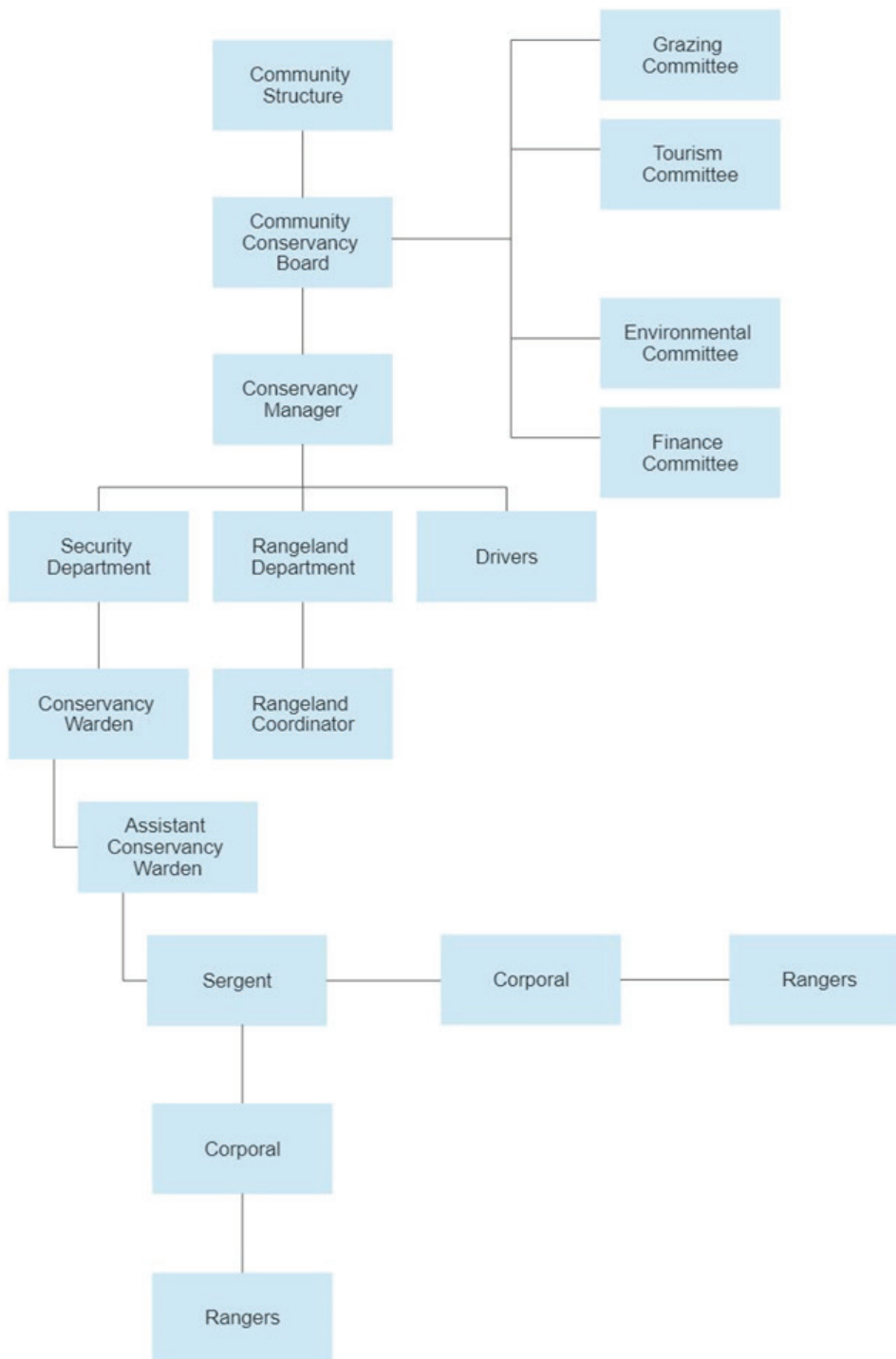
At the different meetings held by the various committees, the same feedback mechanism is used to deliberate on different issues of tourism, grazing, environment and rangeland management. For example, in the case of grazing plans, the board members within their respective zones call for community wide meetings to collect views of community members on issues around grazing plans. Their views are represented in the board meetings and referred to the grazing committee for further deliberations upon which a decision is made and the same feedback mechanism from the grazing committee to the board members and then to the community members at the zone level is used.

In addition, the Annual General Meeting held once every year by conservancy members reinforces ownership and relevance of the conservancy to its community members. During the AGMs, the conservancy board communicates progress to its community members who participate in making decisions for example on budgetary allocations and take disciplinary actions on board members who do not adhere to the established code of conduct. Therefore, the conservancy board and the AGM are the two main decision-making arms of the conservancy.

The day-to-day operations and management of the conservancy is performed by a conservancy manager who is in charge of several other officers in security, finance, logistics, accounts and rangeland management with clear reporting lines. The conservancy manager is also the secretary to the conservancy board and the AGMs. He/she reports directly to the conservancy board.

Furthermore, the conservancy board, its various sub committees and the conservancy manager also work hand in hand with the customary elders who are consulted to attend various meetings especially on matters of seasonal grazing blocks and peace and security. Some of the customary elders have also played a key role as peace ambassadors in spearheading multi-ethnic peace negotiation and peace building among these communities through the NRT Peace Building Program.

Figure 6.1: Nakuprat Gotu Conservancy governance structure.



6.4 Financial sustainability

Clear information reported by key informant respondents showed that overall NRT was and has been the main development organization that offered and continues to offer financial, technical and advisory support from the time there were plans to set up Nakuprat Gotu conservancy. NRT continues to do so with funding from donor agencies, as well as national and county governments. Although Nakuprat Gotu conservancy has been in operation since 2011, currently, the conservancy cannot be independent and financial sustainability is far from being achieved (see Text Box). Nakuprat Gotu depends on donor funding for most of its conservancy budget and for financial support of its

community development projects. Therefore, the conservancy heavily depends on donor funding and cannot be able to sustain its operations without the support of NRT. In the past there were various financial streams for Nakuprat Gotu such as Joy's Camp, a tented lodge in Shaba which paid a conservation fee, game bird shooting, and mobile camps. However, game bird shooting was banned in 2013, and with the security situation being very poor, there are currently no income generating projects. Generally, high levels of insecurity could be the main problems affecting investors' willingness to get into business contracts and agreements with the conservancy. There is only one campsite, as mentioned in the quote above, and this camp barely generates revenue that can be used to cover the annual conservancy budget and additionally support community wide development projects.

Our conservancy does not have a tourism lodge. Our ways of making income are limited. When we began, Joy's camp site was doing very well, but insecurity set in in that area and this made it impossible to continue to receive tourists into the camp site. We have not stabilized with operations of the camp site hence our conservancy sources of income barely amount to nothing, so we totally rely on donor support through NRT.

- Key informant interviewee, Nakuprat

6.5 Ecosystem outcomes

During focus group discussions with men drawn from both Nakuprat and Gotu areas, detailed information on participatory rangeland scoring was gathered as represented in the tables below. The data and information gathered from these discussions shows that there have been tremendous ecosystem-wide changes following establishment of the conservancy. Although generally they reported the rangeland condition for the conservancy not to be as good in the areas identified as that of comparison sites, conditions in the conservancy have been improving since its creation. Most participants from both focus group discussions reported that the positive changes have been due to enhanced and well-organized rangeland management activities. Overall, ecosystem outcomes have generally been fairly positive with:

- Increased wildlife species numbers: Current wildlife population numbers have gone up due to reduced human wildlife conflicts, armed conflicts leading to poaching and encroachment into wildlife habitats and unnecessary killing of wildlife.
- Better management of pasture through grazing plans and establishment of grazing blocks for regulated and seasonal grazing of livestock to allow regeneration of vegetation.
- Clearing of invasive species and reseeded of cleared areas with palatable species of grass that support populations of grazing species of wildlife.
- Construction of water holes and sand dams coupled with other rangeland/habitat management activities to attract wildlife into the core conservation area to enhance wildlife-based tourism.
- Establishment of NRT peace building and security program, there are daily patrols by rangers professionally trained at KWS Manyani training camp to curb and report any incidences of poaching, encroachment and to monitor wildlife species within the conservancy.
- Community members are sensitized and are aware of the need to conserve wildlife and to report any suspicious activities occurring within the conservancy.

In particular, male focus group discussion participants in the participatory rangeland scoring exercise from the two ethnic groups reported some improved level of habitat conditions in the conservancy with a reduction in areas of bare ground, and slight improvement in control of invasive species, all attributed to active rangeland management activities involving conservancy members (Table 6.3).

Table 6.1: Participatory rangeland scoring – focus group in Nakuprat

Indicators	Treatment Site: Nakuprat side		Treatment Site: Chafagafarsa side		Reference Site: Nasuulu		Comments from participants
	Before	After	Before	After	Before	After	
	Absence of bare ground	3/5	2/5	5/5	5/5	2/5	
Presence of pasture	3/5	5/5	5/5	5/5	1/5	3/5	Before, conditions of pasture were very poor, currently there is better rangeland management and pasture has improved in Nakuprat Gotu. This has led to better livestock health over the years since the conservancy started operating. In both conservancies there is positive change in animal health due to the establishment of grazing blocks/ where grazing is controlled and monitored and also due to establishment of water resources for the animals. Nasuulu: Before pasture was poor but with establishment of grazing blocks, pasture has improved. Chafagafarsa: Chafagafarsa, has a spring and it is inside Nakuprat Gotu conservancy and there is always plenty of water and green pasture, so when the livestock feed there during the dry season, their health is very good.
Absence of bushes/ invasive species	1/5	2/5	5/5	5/5	4/5	3/5	In Nakuprat Gotu Conservancy, bush clearing of invasive species and reseeding has been done but it is not at its best because the invasive species still pose as a problem. They have a high population of shoats which highly contribute to seed dispersal of the invasive species seeds because the shoats feed on their shoots, flowers and seed pods. In Nasuulu conservancy, the invasive species are not widespread. Clearing and reseeding has been done though the invasive species still pose a problem. There is a spring in Chafagafarsa inside the conservancy. There is always plenty of water and it is green. There are no invasive species.
Presence of water	2/5	2/5	5/5	5/5	2/5	4/5	In Nakuprat Gotu water resources have not changed even after the conservancy. Construction of water resources like digging of boreholes now compared to 6 years ago. Chafagafarsa (before and after): Water is plenty in all areas because of the spring. It never runs out even when there is no pasture.

Table 6.2: Participatory rangeland scoring – focus group in Gotu.

Indicators	Treatment Site: Nakuprat Gotu		Reference Site 1: Kom		Reference Site 2: Magado Crater		Comments from participants
	Before	After	Before	After	Before	After	
Absence of bare ground	2/5	3/5	5/5	3/5	5/5	5/5	Nakuprat Gotu (before and after):Activities for clearing of invasive species and the reseedling program of cleared areas with palatable grass species, has reduced the amount of bare ground. In Kom (before and after):There is some level of overexploitation of pasture by high livestock numbers because several ethnic groups meet here for dry season grazing hence there are few areas with bare ground. Magado crater (before and after):At Magado crater, not as many ethnic groups visit the area for dry season grazing hence there is no bare ground.
Presence of pasture	2/5	2/5	5/5	3/5	5/5	3/5	In Nakuprat Gotu, the presence of pasture varies according to the zone, but generally there is no water and no good pasture. There is limited grazing area since after zonation, communities cannot graze in the core conservation area and there is limited grazing in the buffer zone. In the settlement area, there is over exploitation of the available pasture. In Kom, the Dheeda committee regulated grazing very well, that's why there was better pasture before compared to now. Now the pasture quantity has decreased because there is competition from other ethnic groups during the dry season. In Magado, the livestock numbers have gone up hence the decreased pasture quantity.
Freedom from invasive species	1/5	3/5	5/5	5/5	5/5	5/5	In Nakuprat Gotu (before and after):The condition has gotten better because of manual clearing of invasive species and reseedling of cleared areas with good pasture grass species. Kom and Magado crater (before and after): In Kom and Magado, there has been no invasion by invasive species (Acacia refeciens).
Presence of water	2/5	2/5	5/5	5/5	3/5	3/5	In Nakuprat Gotu (before and after): Water resources have not changed even after the conservancy. Kom (before and after):Water is plenty in all areas especially because of the springs. It never runs out even when there is no pasture. Magado crater (before and after):Magado crater only relies on rainfall and the condition has remained the same because the water resources don't get over exploited.

Table 6.3: Participatory rangeland scoring – consolidated scores for Nakuprat Gotu.

Indicators		FG 1	FG 2	Average
Absence of bare ground	Before	3/5	2/5	2.5/5
	After	2/5	3/5	2.5/5
Presence of pasture	Before	3/5	2/5	2.5/5
	After	5/5	2/5	3.5/5
Freedom from invasive species	Before	1/5	1/5	1/5
	After	2/5	3/5	2.5/5
Presence of water	Before	2/5	2/5	2/5
	After	2/5	2/5	2/5
Overall score	Before	9/20	7/20	8/20
	After	11/20	10/20	10.5/20

In addition, focus group discussion participants and key informant interviewees jointly reported that two ethnic communities are involved in multi stakeholder engagement in landscape level approaches to management of rangelands, with their elders negotiating dry season grazing lands with their neighbours:

We have been moving up and down across our neighbouring lands looking for better pasture lands during the dry seasons and our neighbours have also been coming to our area, even before the establishment of these conservancies. We do not have a problem with sharing as long as outside herders come, ask for permission to graze on our land, and follow the rules pertaining to our grazing plans and blocks and engage with us respectfully through our customary elders. Even in my community, we go out to graze on other community land and we usually send our elders to negotiate for pasture wherever we go. Those are our brothers and we cannot lock them out but if they misbehave, then we ask them to leave. (Gotu men's focus group discussion participant, October 2020).

This quote supports the notion of working together with community members across different ethnic groups for the support of rangeland management activities. It further stresses the need for involvement of customary elders in multi-ethnic negotiations and peacebuilding for enhanced positive ecosystem outcomes.

6.6 Livestock production

The conservancy does not support any programs towards enhanced livestock production by conservancy members. Information gathered during key informant interviews shows that plans are underway to involve conservancies in activities supporting livestock production by the conservancy members. This will be a way of motivating members to support wildlife conservation on their community land.

Furthermore, information gathered through scoring from the focus group discussions with women from both ethnic groups on livestock production and livelihoods showed that there has been noticeable changes in livestock herds in the past six years in normal and poorer households (Table 6.4 and Table 6.5). Women from Nakuprat reported a marked increase in the numbers of livestock for shoats, cattle and camels for both normal and poorer households, whereas women from Gotu reported a decrease in the number of shoats and cattle but an increase in camels in both normal and poorer households. Women from both communities reported a decrease in the number of animals sold per year for normal and poorer households. Likewise, similar patterns were reported for milk production and ability of animals to cope with drought among Turkana and Borana communities, with slightly more milk being produced by animals during the wet seasons (Table 6.4 and Table 6.5).

When asked to outline the reasons for the observed patterns, for example, a woman from Nakuprat had this to say:

We have had an increase in the number of animals and especially shoats because of increased security measures coupled with better rangeland management for our livestock and wildlife. NRT has been very supportive, even when they raid our goats, we are provided with logistical support like vehicles to follow our animals and bring them back. We no longer sell animals carelessly just because we are pastoralists, but because we want to pay school fees or take care of other household needs. Slaughtering is only done on special occasions. Even when we deliver as mothers, our husbands prefer to buy small quantities of meat for us than to just slaughter. Milk production is not the same although at present our animals are stronger in withstanding drought. A lot has changed, and we have learned to also change our ways of life to be able to survive” (Nakuprat women focus group discussion participant, September 2020).

From the above quote, the reasons for the observed patterns in the two communities six years ago and now include:

- Increase in average herd size for Nakuprat due to security and better rangeland management while for Gotu it had decreased due to longer drought spells and increased livestock raiding.
- Number of animals a family sells in a year. In Nakuprat, in a typical household, 6 years ago, they would be given in terms of marriage for dowry and now they are sold to educate their children and start different businesses. If they sell, it is the males. In a poor household they sold at most 2 shoats to buy other food essentials but now they don't sell. In Gotu 6 years ago men would not allow the livestock to be sold because it was their property. Now the women can sell because they are empowered, and they do it as a business enabled by the loans they get.
- Number of animals a family slaughters: In a typical household, they would slaughter during wedding, birth and burials. In a poor household they would rather sell than slaughter unless it dies. Overall, they attach value to money rather than the herd size. They will slaughter cattle and/camel during funerals and weddings, slaughter shoats when wives give birth. The poor household in Gotu, would slaughter when livestock gets sick or dies.
- Milk yield: Overall, milk yield is high during the wet season and low during the dry season. 6 years ago, it was higher than today because the milk yields are combined from both shoats and cattle. Cattle milk yield is generally low because there is only the local breed available in this area.
- Ability of animals to cope with drought: In both Nakuprat and Gotu they can cope with drought better right now than they did 6 years ago because of the grazing plans in the conservancy. 6 years ago, they would go to faraway places to graze and there were also a lot of diseases killing the livestock.

Table 6.4: Livestock production and livelihood scoring exercise by Nakuprat (Turkana) women

	Typical household		Poorer household	
	Six years ago	Now	Six years ago	Now
Number of animals the family sells in a year	Shoats: 1	Shoats: 15	Shoats: 1	Shoats: 3
	Cattle: 1	Cattle: 5	Cattle: 0	Cattle: 1
	Camels: 0	Camels: 0	Camels: 0	Camels: 0
Number of animals the family slaughters in a year	Shoats: 9	Shoats: 3	Shoats: 1	Shoats: 1
	Cattle: 0	Cattle: 0	Cattle: 0	Cattle: 0
	Camels: 0	Camels: 0	Camels: 0	Camels: 0
Milk yield (wet and dry season, 5 being very good, 3 good, 2 poor, 1 very poor)	Wet 5/5	Wet 3/5	Wet 3/5	Wet 2/5
	Dry 3/5	Dry 2/5	Dry 1/5	Dry 1/5
Ability of animals to cope with drought	Fair 3/5	Very good 5/5	Fair 3/5	Fair 3/5

Table 6.5: Livestock production and livelihood Scoring exercise by Gotu (Borana) women

	Typical household		Poorer household	
	Six years ago	Now	Six years ago	Now
Number of animals the family sells in a year	Shoats: 0	Shoats: 36	Shoats: 0	Shoats: 3
	Cattle: 6	Cattle: 2	Cattle: 0	Cattle: 0
	Camels: 3	Camels: 1	Camels: 0	Camels: 0
Number of animals the family slaughters in a year	Shoats: 12	Shoats: 5	Shoats: 2	Shoats: 0
	Cattle: dependant on wedding and burials	Cattle: 3	Cattle: 0	Cattle: 0
	Camels: 1 per ceremony	Camels: dependant on wedding and burials	Camels: 0	Camels: 0
Milk yield (wet and dry season, 5 being very good, 3 good, 2 poor, 1 very poor)	Wet 5/5	Wet 5/5	Wet 3/5	Wet 2/5
	Dry 2/5	Dry 1/5	Dry 1/5	Dry 1/5
Ability of animals to cope with drought	Fair 3/5	Very good 5/5	Fair 3/5	Fair 3/5

6.7 Individual household income sources

Generally, based on qualitative data gathered from both men and women who participated in this study through focus group discussions and as key informant interviewees, individual household income has gone up since the establishment of the conservancy. This has been due to diversification of household income by community members. Specifically, Gotu women were very positive about livelihood diversification due to support from NRT Trading:

Before when our husbands sold cattle and we questioned to know why, we would be beaten and told to shut up. Nowadays, we do not bother to ask and follow what they do with their money. Our lives as women have changed. Through NRT SACCO loans, we are able as women to take loans, buy and sell goats at a profit, and also start up small businesses. We continuously receive training from NRT trading on how to start and operate small businesses. We have our own money and do not depend on our husbands' money from livestock selling. Sometimes we even give them money and there is more peace in the household. Our lives are better, we can repay loans and keep taking others to do business. Thanks to NRT trading. (Gotu women focus group discussion participant, September 2020).

Overall, many of the focus group participants specifically reported the following reasons for observed positive changes in livelihoods:

- Direct employment as conservancy staff: rangers (women and men), drivers and other middle level staff.
- Casual/short term employment of women and youth in rangeland management activities like clearing of invasive species, preparation of seeds and reseeding of cleared areas as well as digging and construction of water sources including boreholes, open dams and sand dams.
- Establishment of small enterprises like shops mainly operated by women and youth.
- More active participation of women and youth in livestock marketing whereby they buy and sell large and small stock at a profit. NRT livestock marketing has also provided market for large livestock in addition to the local markets that are more frequently held.
- NRT beadwork trading where women fetch more income through NRT trading with their beadwork being marketed in high end international markets.
- Funding of community wide development projects like construction of schools, classes, dormitories and staff rooms which earlier on was the sole responsibility of community members and they could not manage. This has resulted in a financial relief for community members since they are not paying for these infrastructure from their pockets but focusing on individual household needs.

The above rise in income and diversification has also been attributed to the contributions made to women and youth financial and economic empowerment through NRT Savings and Credit Cooperative (SACCO). Women and youth conservancy members apply and receive loans without collateral but with the conservancy acting as a guarantor.

6.8 Livestock market systems

There has been some level of engagement of marketing of livestock through NRT Livestock Trading although this is not very reliable since NRT does not frequently buy from conservancy members. During focus group discussions, participants complained of the inadequacy of NRT Livestock trading to frequently buy livestock from them and therefore felt this marketing strategy was not reliable. Furthermore, NRT Livestock Marketing uses the kilo as the unit of determining prices. Conservancy members also complained that NRT prices per kilo were low and therefore preferred to sell their livestock in open air markets.

6.9 Nakuprat Gotu Community Conservancy – discussion

Nakuprat Gotu conservancy is a multi-ethnic conservancy that has been in operation since 2011. The results from this study have shown that a majority of the community members from both Nakuprat and Gotu share similar positive experiences of the tremendous changes that have taken place in Nakuprat Gotu since the establishment of the conservancy. These include landscape level changes in ecosystem outcomes with generally better rangeland management for wildlife and livestock resulting in stable populations of both, income and livelihood diversification, increased security with reduced and monitored cases of banditry and cattle and shoats raiding as well as a multi-ethnic peace building program. The peace building among Turkana, Borana and their neighbours is managed and supported under the leadership of NRT Peace Building Program with elders, women and youth (morans) as peace ambassadors across the landscape.

That said there are also challenges faced by this conservancy. Noteworthy is the continuous expression of dissatisfaction between the two ethnic groups who are members of this conservancy with each expressing dissatisfaction with the way the affairs of the conservancy and community wide development projects were being managed in their part of the conservancy. This stems from the fact that each ethnic group feels it should get a bigger portion of the conservancy cake than the other. Secondly, the conservancy is still a trust land and there is poor security of tenure with most of the community members feeling that it is the reason for poor interest by investors to put up a tourism lodge which could bring more income to the communities. Therefore, a lost opportunity which reduces their morale because neighbouring conservancies have tourism lodges.

Additionally, information gathered during focus group discussions shows that the conservancy is faced with a big challenge of encroachment at the Chafagafarsa Spring area. Due to political instigation, a group of farming Borana community members who are not conservancy members have been settled in this area without authority of the conservancy management. Given that Nakuprat Gotu is not yet registered as community land under the new Community Land Act of 2016, there is very poor security of tenure and this could pose a problem to the future continuity and existence of the conservancy in meeting its goals and objectives.

The above issues pinpoint to the issue of establishing and managing multi-ethnic conservancies. Care must be taken that such conservancies do not fall back into worse situations than their original state because of insecurity. As one openly engages the conservancy members from both ethnic groups, there is a silent and tense wave of apportioning blame to each other and a feeling of dissatisfaction. It is very important for the development organization to continue working with elders from both ethnic groups to address some of these sensitive issues that could result in unwarranted lack of peace and heightened conflicts.

The above problems raised by both ethnic groups also need to be addressed by the relevant authorities if this conservancy will continue to operate and advance towards sustainable achievement of its goals. The issue of addressing dissatisfaction among the two ethnic groups is very crucial given that one of the main objectives of establishing this conservancy was to end armed conflict and build peace. Then Nakuprat Gotu cannot fall back into its original state because that would result in poaching, loss of life and livestock raiding through armed conflict.

7 Findings: Sera Community Conservancy

By Elizabeth Mukewa

7.1 General information on the case

Key informant interviews with opinion leaders showed that before Sera Conservancy was established, the area was a battle ground between Somali, Samburu and Borana ethnic groups for cattle raiding, highway banditry, poaching and loss of life through such conflicts. Somalis came all the way to Sereolipi resulting in conflict with the Samburu community. To be able to end this conflict, conserve wildlife and improve community livelihoods, there was need to establish a conservancy. Therefore, NRT and other partners such as KWS engaged the community through various activities towards establishment of a conservancy. In 2001, Sera conservancy was therefore established as a single ethnic conservancy located in Samburu County, Samburu East Sub-county and in Waso ward. This conservancy was formed from Sereolipi trust land and Losesia group ranch. The current membership consists of 1,250 registered members in the Sereolipi trust land and about 890 registered members of Losesia group ranch. These include men, women and youth. Sereolipi trust land is currently undergoing transition into community land under the new Community Land Act of 2016 and is waiting for its title while Losesia group ranch has not started the transition process into community land. Sera Conservancy covers a total area of 340,450 hectares with the core conservation area that covered 51,740 hectares. However, the latter was since replaced with the rhino sanctuary. It is the only conservancy in the northern rangelands with a stable black rhino sanctuary which serves as a key tourist attraction to the conservancy.

Sera conservancy has a current total household number of 5,600 which has grown from its original number of 2000 households since the year 2001. These are mainly semi nomadic pastoral households with seasonal movement to dry area grazing grounds some of which are outside the conservancy in search of water and pasture for their livestock. These dry season grazing areas include Kom (within Biliqo Bulesa but at the boundary of Samburu, Isiolo and Marsabit counties), Namunyak conservancy (Lodosoit area) and Naisha Munye (part of Losesia group ranch that is not designated as the land under the conservancy).

According to key informant interviewees, the main development organization supporting the community is Northern Rangelands Trust (NRT). Additionally, there are other organizations working with the conservancy. These include Kenya Wildlife Service (rangers training), National Police Reserve (peace and security), Samburu County Government (policy issues and technical and financial support), and the Food and Agriculture Organization (community mobilization and awareness creation, capacity building and setting up of necessary community institutions for transitioning from unregistered land to community land under the community Land Act of 2016), United States Agency for International Development (USAID) (major donor funding) World Wide fund for Nature (translocations of wildlife species), Grevy's Zebra Trust (conservation of the Grevy's Zebra) and Ewasonyiro Development Authority (digging of 7 dams for water points).

7.2 Specification of the approach

Generally, information gathered from key informant interviews shows that the NRT approach is a people and community focused approach to community-based natural resource management and conservation. This approach stresses the participation of community members in identifying their problems and taking key decisions on issues that affect their livelihood in the rangelands. NRT promotes this approach by offering technical and financial advisory services to conservancy members and their elected board members, building capacity for and technical expertise within the Sereolipi and Losesia communities through capacity building on leadership skills of newly elected board members after every period of 3 years in office.

The characteristics of this approach have their basis on the Wildlife Conservation and Management Act of 2013 with the main goal of devolution of conservation and management of wildlife to landowners and managers in areas where wildlife occurs, be it communal or private land. In this case of community conservancies, wildlife occurs on communal land, termed as “community land” under the new Community Land Act of 2016.

There are several objectives of this approach:

1. To promote peace and security among conservancy members within, and beyond the conservancy with neighbouring communities (Somali and Borana) including ending highway banditry, livestock/cattle raiding, armed conflict over dwindling and scarce natural resources (pasture and water) especially during the dry season, poaching and encroachment into wildlife habitats.
2. To manage natural resources – wildlife management for wildlife species, their habitats and seasonal migratory routes (corridors) that traverse the landscape through communal land owned by different ethnic groups. The wildlife management techniques include anti-poaching and monitoring of wildlife populations and species numbers, management of grazing blocks, interethnic and interagency conservation, and management of migratory corridors through other conservancies and forest lands.
3. To promote enterprise development as a means of diversifying and generating financial income with direct household benefits thereby providing a financial leverage point and incentive for communities to conserve wildlife on their community land. Furthermore, enterprise development (tourism, beadwork trading and livestock marketing) make positive contributions towards achieving financial sustainability of conservancies since part of the financial benefits are used for day to day operations and management of the conservancy.
4. To facilitate and accelerate community development among nomadic pastoral communities through establishment of student bursaries, medical support and supplies, emergency re-stocking of livestock after drought catastrophic events, provision of water for livestock and people, and construction of infrastructure related to health and education.

The first community entry meetings were held with selected elders from the Samburu ethnic group to sensitize community members on the need to conserve wildlife, manage rangelands for the wildlife and livestock to coexist and to generate wildlife-based tourism related revenue to support community development, and diversify community income through employment and operation of microenterprises. In addition, there was need to end armed conflict which had created a lot of unrest, loss of life, livestock raiding and poaching of wildlife.

Participatory activities involved:

- Organized tours of selected community elders to visit already established community conservancies in other parts of the northern rangelands.
- Peace building and conflict resolution meetings held between Samburu ethnic groups of Sereolipi, Losesia and other neighbouring areas (men, women and youth), facilitated by NRT and KWS.
- NRT facilitated mobilization and awareness creation meetings among the Samburu community members within the designated areas of Sereolipi and Losesia (men and youth) to form the conservancy through community wide meetings/barazas and in consultation with customary elders, faith based and spiritual leaders.
- Other stakeholders included county council representatives and provincial administration officers within the area.

Capacity building on basic principles of conservancy operations and leadership workshops were held for newly elected board members and employed staff of the conservancy. In the year 2005, NRT also began rangeland management activities with the community which included: formulation of grazing plans, and active pasture management for wildlife and livestock through clearing of invasive species and reseeded of cleared areas.

7.3 Governance model

The owners of Sera conservancy are the landowners drawn from Sereolipi trust land (soon to be Sereolipi community land) and Losesia group ranch from the Samburu ethnic group. The key community governance structure/model is mainly composed of a democratically elected 30-member conservancy board elected by community members from both Sereolipi and Losesia on a 50:50 ratio. These board members are responsible for employing all conservancy staff for the daily management and operations of the conservancy under the leadership of the conservancy manager.

Sereolipi has 15 board members and Losesia also 15, all drawn from 30 zones/villages. Respondents in focus group discussion respondents and interviewees reported that men, women and youth are represented on the board (with a total of 6 women board members three from Sereolipi and 3 from Losesia), two senior chiefs and two assistant chiefs. Elections take place after every 3 years in office and board members can only serve for a maximum of 2 terms. Board members meet quarterly after all other sub-committees have met. The board has a Chairman, Vice Chairman and a sitting Secretary who is the conservancy manager. Furthermore, the conservancy board, its various sub committees and the conservancy manager also work hand in hand with the customary elders who are consulted to attend various meetings especially on matters of seasonal grazing blocks, peace and security. Some of the customary elders have also played a key role as peace ambassadors in spear heading multi-ethnic peace negotiation and peace building among northern rangelands semi nomadic pastoral communities through the NRT Peace Building Program.

Sub committees:

There are 4 sub committees under the Conservancy Board of Members. These committees have quarterly meetings, prior to the quarterly meetings of the conservancy board. Every subcommittee only has a Chairman.

1. Finance Committee: The finance subcommittee deals with matters of income and expenditure and preparation of budgets for presentation to the board for approval. In addition, the committee also approves some specific budgets when they exceed the allowance expected of a manager to automatically handle without consultations.
2. Tourism Committee: The tourism committee takes charge of tourism related matters especially in addressing issues around tourism investment plans and agreements with investors before it reports to the board.
3. Sanctuary Committee/Project Implementation committee: The sanctuary committee oversees day to day matters pertaining to the black rhino sanctuary especially construction work within the sanctuary, and translocations in and out of the sanctuary.
5. Grazing Committee/Range Management Committee: The grazing committee establishes and manages wet and dry season grazing management plans. Within the conservancy, there are established grazing blocks with regulated periods of grazing. During the dry season, conservancy members may choose to graze in the neighbouring conservancy called Namunyak (Lodosoit area) and Kom in Biliqo Bulesa conservancy, an area around the boundary between Marsabit, Isiolo and Samburu counties. This happens through joint and peaceful consultations with elders from the neighbouring conservancies to be granted an opportunity to enter the neighbouring area in question and graze for the period allowed. Management of the grazing area is done by the board of members with joint enforcement from the customary elders who are comprised of the oldest age set within the community. This is because the community members listen to what the elders say since they are afraid of customary curses. If a community member grazes in areas that are not allocated for a season, they are fined a cow for every extra day of grazing beyond the restricted number of days allowed.

Within the conservancy, there are 3 zones. Formerly, there was a core conservation area with little or no grazing allowed, a bordering the core conservation area and the settlement area. The core conservation area was subsequently replaced by the rhino sanctuary. Most grazing occurs in the settlement area with established grazing blocks during the wet season and sometimes extending towards the buffer zone in times of extreme drought.

Conservancy manager: The manager oversees day to day management of the conservancy. He is answerable to the board and the community members, through the board and annual general meetings. He is the secretary to the board and the AGM where he takes notes on the proceedings of the meetings.

The manager supervises the Head of Security, the Logistics Officer, the Accountant, the Fence Supervisor and the Rangeland Coordinator. The Head of Security (conservancy warden) oversees security issues and day to day operations of rangers through a very clear chain of command from the conservancy warden, assistant warden, sergeant, corporals and then the rangers. He ensures that there are daily security patrols within the core conservation area and the rhino sanctuary.

The logistics officer oversees procurement of goods and services pertaining to day to day running of the conservancy and supports the work of the conservancy manager. He is also in charge of day to day operation of vehicles. The Accountant manages the financial aspects in terms of budget allocations, disbursement of funds and receipt of incoming funds into conservancy accounts in coordination with the finance department at NRT headquarters. The Fence Supervisor has a team of 24 members and oversees the electric fence maintenance. He monitors any suspicious activity around the black rhino sanctuary. He also ensures that there is continuous repair of electric fence damages caused by the wildlife. Rangeland Coordinator map livestock movements in and out of the conservancy and works jointly or hand in hand with the grazing committee. He oversees all rangeland management activities and programs.

Decision making within the conservancy:

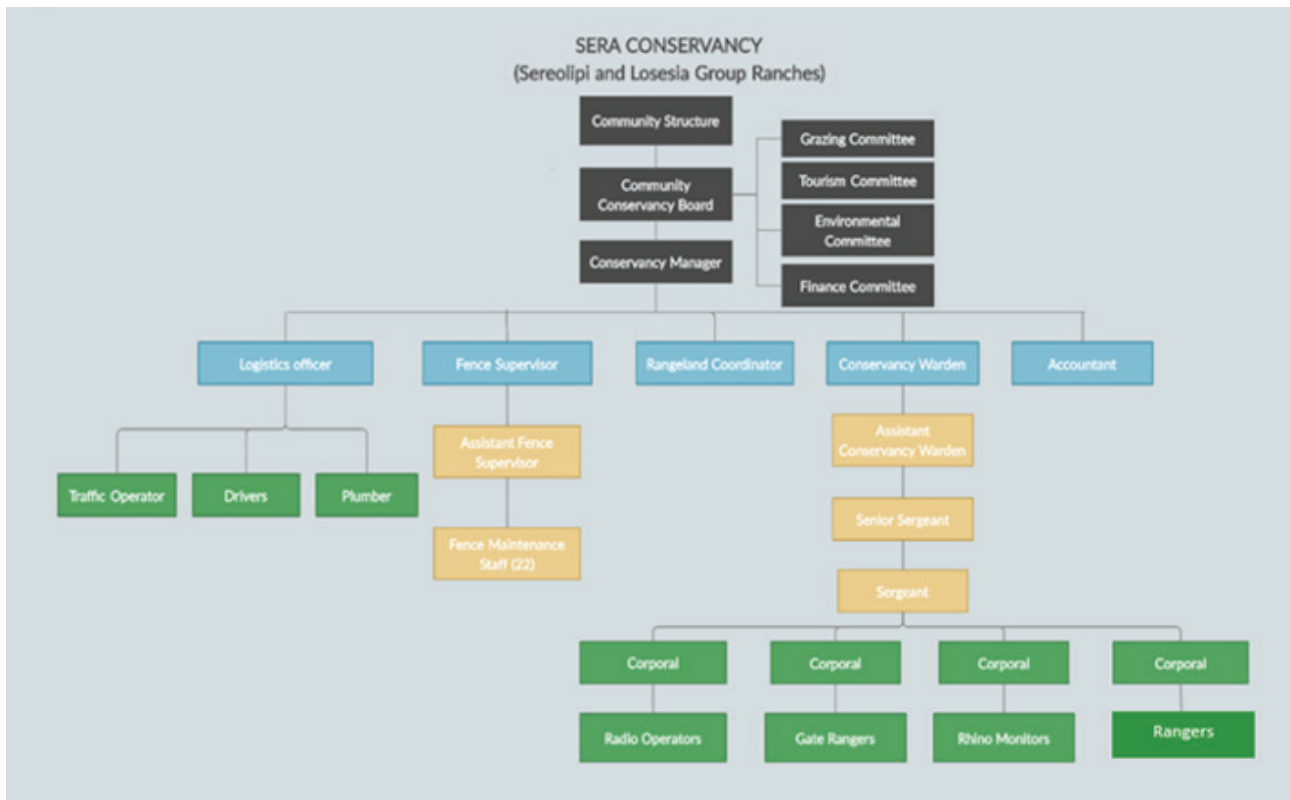
When asked how decisions are made within the conservancy, key informant interviewees reported that decision making is mainly done by the 30-member board, although there are specific decisions taken by the sub committees in consultation with the board. The conservancy board, therefore, is meant to represent the voices of the community members. The decision-making process by the board members is participatory and involves all community members through a feedback mechanism. In addition, budgetary allocations and any other issues requiring approval by the entire community take place during the annual general meeting.

Before the board meetings, each board member meets with the community members of his/her zone and discusses on pertinent issues for further deliberation at the board meeting. The board members represent the people's voices from the zonal meetings to the entire board. These issues are discussed, a decision is made, and the board members go back to their zones, call meetings to present feedback to the community members.

At the different meetings held by the various committees, the same feedback mechanism is used to deliberate on different issues of tourism, finance, rangeland management and grazing and the rhino sanctuary. For example, on the matter of grazing plans, the board members within their respective zones call for community wide meetings to collect views of community members on issues around grazing plans. Their views are represented in the board meetings and referred to the grazing committee for further deliberations upon which a decision is made, and the same feedback mechanism from the grazing committee to the board members and then to the community members at the zone level is used.

In addition, the Annual General Meeting held once every year by conservancy members reinforces ownership and relevance of the conservancy to its community members. During the AGMs, the conservancy board communicates progress to its community members who participate in making decisions for example on budgetary allocations and take disciplinary actions on board members who do not adhere to the established code of conduct. Therefore, the conservancy board and the AGM are the two main decision-making arms of the conservancy. Noteworthy about the governance structure of Sera conservancy as reported by one of the key informants, is that so far, there are no adverse cases of mismanagement of resources by board members. But if such a situation ever occurred, then through a community wide AGM, a vote of no confidence would be passed on the board members and new elections held to elect new board members. Despite such procedures for representation and accountability being in place, dissatisfaction with the conservancy is gradually increasing among some community members. The opinion of an elder on this issue is illustrative:

Figure 7.1: Sera Community Conservancy governance structure.



We have always co-existed with wildlife before, but when rangers are hired to stop us from grazing on our own land, what does that mean? Whose land and whose resources? Are we protecting wildlife for the benefit of some members of the community and outsiders? Why are we protecting rhinos, yet the benefits are not direct and if any it is very little? We are still very poor in Sera even after twenty years since the conservancy was established, our lives have not changed much. It is only those directly employed and on a salary, who can say they benefit at the household level.

7.4 Financial sustainability

Most of the focus group discussion participants and key informant interviewees expressed concern over the low level of revenue generation within the conservancy, which has improved very little since the conservancy began operation practically since 2001, pointing out that NRT offered most of the financial, technical and advisory support to Sera conservancy. One key informant observed, *“We have been in operation for almost 20 years and we still cannot be able to operate on our own without the support of NRT. We cannot generate enough funds to run the affairs of the conservancy probably for just about 15% of the total budget. We are concerned about how much longer we will continue to be in this situation”* (Sera key informant interview September 2020). This quote clearly shows that income generation from the tourism lodge and conservancy fees, only meet 15% of Sera’s annual budget and the conservancy cannot survive without the 85% of donor (international, national and county government) support through NRT. In addition, most conservancy members are illiterate, this even makes it more difficult for the conservancy to be self-reliant in technical and financial areas of its operations.

The ability of the conservancy to stand on its own and the space given by NRT for the conservancy to do so is a concern for some community members. Some community members are not satisfied with the way matters are handled by NRT and feel that if guided in the right direction, they can be at the centre of identifying, and solving their own financial and technical problems (see Text Box). Achieving financial sustainability for conservancies is extremely challenging, and in the case of Sera, with the added cost of the rhino sanctuary, financial sustainability is far from being achieved even 20 years after its establishment.

We can do much better than what we are, and we can move faster if guided into the direction of our own control. We have a few of our sons here who have college education even university education, but they are not actively involved in the conservancy, they are side-lined. My concern is how will NRT allow us to take independent steps with shoes on without controlling us? They want us to walk without shoes so that we get tired and fall down. We cannot be independent because that means NRT goes out of business. Conservancies are simply an avenue for NRT to continue to exist and receive donor support so we will forever be poor.... we can do much better than what we are, and we can move faster, some of our people are still stuck to the old ways of managing their livelihoods and are not easily adaptive to changes. Our people need to be flexible and accept that life is not without changes. If we can accept changes, then it will be easier for NRT and other partners to help us identify and solve our own financial and technical problems.

- Key informant interview, Sera Conservancy

7.5 Ecosystem outcomes

Qualitative data gathered from focus group discussions for participatory rangeland scoring with men from Sereolipi trust land and Losesia group ranch (Table 7.3, below) show that habitat conditions are fairly stable. According to our respondents, in the past, the presence of banditry and armed Somali herders hindered grazing within the area and that is why habitat condition was very good but with a lot of insecurity. Nevertheless, since the establishment of the conservancy the habitat conditions have not deteriorated significantly given that wildlife and livestock can coexist and thrive in the absence of poaching and encroachment, and insecurity cases have reduced. Our respondents believe that it is a win-win situation with reduced insecurity and banditry coupled with availability of pasture and water for wildlife and livestock, leading to stable populations of wildlife. With improved rangeland management activities involving the community, zonation of the conservancy and grazing planning, cases of overutilization of secluded wildlife habitats such as the black rhino sanctuary does not occur.

Table 7.1: Participatory rangeland scoring – focus group in Sereolipi.

Indicators	Treatment Site: Sera		Reference Site 1: Lodosoit		Reference Site 2: Kom		Comments from participants
	Before	After	Before	After	Before	After	
Absence of bare ground	3/5	1/5	3/5	2/5	5/5	5/5	Kom is always covered with good pasture. Presence of invasive species affects growth of grass underneath the ground, hence the presence of bare ground in Sera and Lodosoit.
Presence of pasture	5/5	5/5	3/5	5/5	5/5	5/5	Despite all communities feeding at Kom, pasture is always available. They feed in Kom during the dry season and in the conservancy during the wet season. They graze in Lodosoit, during the wet season and in the short dry season because it is closer, and has a lot of grass (area is mountainous).
Freedom from invasive species	3/5	1/5	3/5	2/5	5/5	5/5	The presence of invasive species has increased in Sera and Lodosoit because the goat population has increased over the years and they act as the seed dispersal agents. In Kom, there has been no invasion of invasive species.
Presence of water	4/5	4/5	3/5	3/5	5/5	5/5	Water is plenty in all areas especially Kom because of the springs. It never runs out even when there is no pasture.

Table 7.2: Participatory rangeland scoring – focus group in Losesia

Indicators	Treatment Site: Sera		Reference Site 1: Naisha Munye		Reference Site 2: Kom		Comments from participants
	Before	After	Before	After	Before	After	
Absence of bare ground	5/5	4/5	5/5	3/5	5/5	5/5	Naisha Munye had no invasive species before but now there are invasive species hence the presence of bare ground since no vegetation can thrive. Before there was no overgrazing because security was a problem. Kom is always covered with good pasture. Presence of invasive species affects growth of grass underneath the ground, hence the presence of bare ground in Sera.
Presence of pasture	5/5	3/5	5/5	3/5	5/5	4/5	In Sera, the area was completely occupied by Somalis before, and insecurity resulted in good pasture condition, but due to the encroachment now by the Rendilles the pasture has reduced. In Naisha Munye there was plenty of pasture due to insecurity but now the pasture quantity has reduced since it is now a common grazing area outside the conservancy. Despite all communities feeding at Kom, pasture is always available. They feed in Kom during the dry season and the wet season in the conservancy.
Freedom from invasive species	3/5	1/5	5/5	2/5	5/5	5/5	The presence of invasive species has increased in Sera because the goat population has increased over the years and they act as the seed dispersal agents. In Naisha Munye there is presence of acacia refeciens. In Kom, there has been no invasion by invasive species.
Presence of water	5/5	5/5	5/5	5/5	5/5	5/5	Water is plenty in all areas especially Kom because of the springs. It never runs out even when there is no pasture. Naisha Munye is near Ewaso Nyiro river and community members can fetch water from the river. There are 50 wells in Losesia (visima hamsini) which is part of the conservancy.

Table 7.3: Consolidated scores for Sera conservancy before and after rangeland management activities were implemented by NRT

		Treatment site (Sera Conservancy)		
Indicators		FG 1	FG 2	Average
Absence of bare ground	Before	3/5	5/5	4/5
	After	1/5	4/5	2.5/5
Presence of pasture	Before	5/5	5/5	5/5
	After	5/5	3/5	4/5
Freedom from invasive species	Before	3/5	3/5	3/5
	After	1/5	1/5	1/5
Presence of water	Before	4/5	5/5	4.5/5
	After	4/5	5/5	4.5/5
Overall score	Before	15/20	18/20	16.5/20
	After	11/20	13/20	12/20

Table 7.4: Consolidated focus group scores for reference site 2 (Kom) for both Sereolipi Trust Land and Losesia Group Ranch

		Reference site (Kom)		
Indicators		FG 1	FG 2	Average
Absence of bare ground	Before	5/5	5/5	5/5
	After	5/5	5/5	5/5
Presence of pasture	Before	5/5	5/5	5/5
	After	5/5	4/5	4.5/5
Freedom from invasive species	Before	5/5	5/5	5/5
	After	5/5	5/5	5/5
Presence of water	Before	5/5	5/5	5/5
	After	5/5	5/5	5/5
Overall score	Before	20/20	20/20	20/20
	After	20/20	19/20	19.5/20

Although rangeland condition has not fared as well in Sera as compared to the comparison sites that were chosen for the scoring exercise, respondents indicated that due to enhanced and well-organized rangeland management activities, ecosystem outcomes have on the whole, been fairly positive and successful as reflected in the positive ecosystem outcomes according to respondents in the focus group discussions and key informant interviews. Specific positive outcomes as reported by respondents from key informant interviews and focus group discussions include:

Since the establishment of Sera conservancy, a lot has changed, for example the wildlife species numbers have gone up - black rhinos, elephants, elands and Grevy's zebra just to mention a few. Our community members are actively involved in rangeland management activities like formulation of grazing plans, clearing of invasive species and reseeded. With these increased wildlife populations, our rangers are constantly on patrol to report any suspicious activity related to poaching. In fact, just to note, we are the only conservancy in the northern rangelands with a black rhino sanctuary. For us this is a remarkable achievement.

- Sera Conservancy key informant interviewee

- Increased wildlife species numbers: Current wildlife population numbers have gone up due to reduced human wildlife conflicts, armed conflicts leading to poaching, unnecessary killing of wildlife and encroachment into wildlife habitats
- Better management of pasture through grazing plans and establishment of grazing blocks for regulated and seasonal grazing of livestock to allow regeneration of vegetation.

- Clearing of invasive species and reseeded of cleared areas with palatable species of grass that support populations of grazing species of wildlife.
- Construction of water holes and sand dams coupled with other rangeland/habitat management activities to attract wildlife into the core conservation area to enhance wildlife-based tourism.

NRT has been organizing and facilitating us for peace building, conflict resolution and consensus building meetings with Borana, Somali and Turkana ethnic groups. We meet with our neighbours to discuss how we can share common resources like water and pasture. And that is why we all go to Kom and agree on how to graze our livestock together. Our leaders take the lead in negotiating use of common resources. In addition, we meet and talk about how we can facilitate security and protection to wildlife species across different conservancies. We have seen the benefits of wildlife to our communities and it is good to work together for our own benefits.”

- Sereolipi trust land focus group discussion participant

- Establishment of NRT peace building and security program.
- There are daily patrols by rangers professionally trained at KWS Manyani training camp to curb and report any incidences of poaching, encroachment and to monitor wildlife species within the conservancy and especially the black rhino population within the sanctuary.
- Community members are sensitized and are aware of the need to conserve wildlife and to report any suspicious activities occurring within the conservancy.

Most focus group discussion participants reported that they have been involved in multi stakeholder engagement in landscape level approaches to management of rangelands because wildlife migratory corridors traverse several conservancies and provide ecological connectivity between different key habitats for wildlife species. Migratory habitats cannot be managed and conserved in isolation but require conflict resolution and building multi stakeholder consensus to enhance connectivity across the landscape (see Text Box). Therefore, there is need to apply ecosystem level approaches and engage a wider public and the relevant institutions across the landscape for the success of habitat connectivity and conservation of migratory species of wildlife.

7.6 Livestock production

Women who participated in two different focus group discussions in Sereolipi and Losesia, respectively, stated that the conservancy does not support any programs towards enhanced livestock production by conservancy members. Information gathered during key informant interviews shows that plans are underway to involve conservancies in activities supporting livestock production by the conservancy members. This will be a way of motivating members to support wildlife conservation on community land. One woman who participated in a focus group discussion described this situation like this:

A lot has changed. Our herd sizes have reduced especially for cattle. The shoats have gone up because they are survivors and can eat almost anything available including licking bare ground. If a man has more than one wife, it is proving difficult to have him slaughter an animal every time a wife gives birth. Slaughtering has been left for special ceremonies. If it is not for NRT SACCO loans, then I do not know how we would survive because we have not as many cattle to sell and we need money for various household needs. For example, we now have our children going to school compared to a few years ago and we need school fees. Taking loans to operate small businesses has helped us to cope” (Sereolipi Trust Land Women focus group discussion participant, September 2020).

The above quote shows that there have been major changes in livestock composition and numbers as well as in milk production (see Table 7.4). Poorer households are typically worse off currently compared to six years ago and also much more than the typical households in terms of herd sizes, slaughtering, selling and milk production. Focus

group discussion participants on livestock production and livelihoods reported that, generally, while cattle numbers have declined across northern Kenya due to drought and diseases, resulting also in relatively fewer sales, the number of shoats has gone up because they can survive on anything including feeding on the shoots and flowers of the invasive species that cattle cannot feed on. To be able to cope with the reduced number of cattle available for selling compared to 6 years ago, conservancy members with the help of NRT SACCO loans have been able to diversify their income sources so that they are able to cope with the increased demands of the costs of living. Likewise, family slaughtering of animals per year has gone down with reduced herd sizes and with cattle only slaughtered during special cultural ceremonies. Apparently, current milk yields have decreased compared to 6 years ago based on the herd sizes although focus group discussion respondents did point out that there was relatively more milk produced during the wet season compared to the dry season. With prolonged drought spells, the ability of livestock to cope with drought has also reduced resulting in huge losses during the long drought seasons (see Table 7.4).

7.7 Individual household income sources

Generally, individual household income has gone up since the establishment of the conservancy especially for those households who have members directly drawing income from businesses and employment related to the establishment of the conservancy. Income diversification has now become a common feature in some of the households with its members engaging in different income generating activities (wage employment and/or micro business ventures) such as:

Direct employment as conservancy staff: rangers, drivers and other middle level staff and as lodge workers.

- Casual/short term employment of women and youth in rangeland management activities like clearing of invasive species, preparation of seeds and reseeded of cleared areas as well as digging and construction of water sources including boreholes, open dams and sand dams.
- Establishment of small enterprises like shops mainly operated by women and youth.
- More active participation of women and youth in livestock marketing whereby they buy and sell large and small stock at a profit. NRT livestock marketing has also provided a reliable market for large livestock
- NRT beadwork trading where women fetch more income through NRT trading with their beadwork being marketed in high end international markets.

Table 7.5: Average scoring of Sera Conservancy Livestock Production and Livelihoods (averages for the two focus group discussions)

	Typical household		Poorer household	
	Six years ago	Now	Six years ago	Now
Family's average herd size	Shoats: 215 Cattle: 350 Camels: 35	Shoats: 450 Cattle: 80 Camels: 3	Shoats: 50 Cattle: 40 Camels: 5	Shoats: 120 Cattle: 5 Camels: 0
Number of animals the family sells in a year	Shoats: 25 Cattle: 20 Camels: 7	Shoats: 130 Cattle: 18 Camels: 0	Shoats: 10 Cattle: 25 Camels: 2	Shoats: 60 Cattle: 5 Camels: 0
Number of animals the family slaughters in a year	Shoats: 55 Cattle: 4 Camels: 0	Shoats: 20 Cattle: 10 Camels: 0	Shoats: 60 Cattle: 10 Camels: 0	Shoats: 30 Cattle: 0 Camels: 0
Milk yield	Wet 5/5 Dry 4/5	Wet 3/5 Dry 2/5	Wet 3/5 Dry 1/5	Wet 2/5 Dry 1/5
Ability of animals to cope with drought	Good 4/5	Poor 2/5	Good 4/5	Poor 2/5

The above rise in income and diversification has also been attributed to the contributions made to women and youth financial and economic empowerment programs through NRT SACCO. Women and youth conservancy members apply and receive loans without collateral but with the conservancy acting as a guarantor. They are able to establish and venture into new micro enterprises and/or expand existing ones.

7.8 Livestock market systems

Generally, there has been some level of engagement of marketing of livestock through NRT Livestock Marketing although this is not very reliable since NRT does not frequently buy from conservancy members. During focus group discussions held with men, participants complained of the inadequacy of NRT Livestock marketing to frequently buy livestock from them with long periods of waiting:

NRT Livestock marketing originally began and we thought that we did not have to walk with our animals for long distances to far away markets. But with time, NRT is not helping much. Like now, we have been waiting for several months for them to come and buy our livestock. When they come, they use the kilo and the price per kilo is so low. We make losses, but if one is in a desperate situation with a pressing and urgent need for money, there is no choice. Sometimes we still prefer far away markets because our animals can fetch more (Losesia Group Ranch men's only focus group discussion participant).

They therefore felt that this marketing strategy was not reliable. Furthermore, NRT Livestock Marketing uses the kilo as the unit of determining prices. Conservancy members also complained that NRT prices per kilo were low and therefore preferred to sell their livestock in open air markets. There are also entrepreneurs fattening market livestock in Sera conservancy, but no conservancy benefits are factored into this activity.

7.9 Sera Community Conservancy – discussion

Qualitative findings from this study have shown that Sera Conservancy has made some tremendous steps in having a governance structure that is people oriented and participatory by the conservancy members, achieving improvements in rangeland management, building peace and resolving conflicts between conservancy member community and neighbouring ethnic groups. Other achievements include ecosystem level outcomes through consensus and transethnic conservation of migratory corridors, improving and diversifying livelihoods as well as including youth and women in decision making on matters on the conservancy. Although, all these are positive outcomes associated with establishment of Sera conservancy, almost 20 years down after, there are still challenges experienced.

Many conservancy members through focus group discussions expressed concerns over some level of continued conflict over resources in the common dry season grazing area of Kom especially because of the availability of water. There has been a challenge in pastoralists trying to water their herds because they all want to do it at the same time and not take turns. This has been a recurring problem although temporarily resolved by having inter- ethnic meetings between elders on how to share common resources. They have also been able to manage that by allowing 2 people to have their cattle drink at the water point at the same time - even though at times it is still an issue.

According to respondents, there has also been corridor conflict where Samburus who are not part of the Sera conservancy have been stealing cattle from the Borana causing the Boranas to attack the Sera community thinking it is them. This creates tension between the Sera conservancy Samburu and Borana.

Women play a very important role in sustaining livelihoods within their households. However, during the focus group discussions with Sereolipi women, many participants expressed their concerns over the leadership of NRT Trading BeadWORKS because the women had items for sale lying in their houses (even after being given specific orders by NRT BeadWORKS leaders) with no one to spearhead marketing of these products.

Findings from this study have also shown that financial sustainability in Sera conservancy is far from being achieved and currently the conservancy can only sustain 15% of its annual budget with 85% coming from donors through NRT. Hosting the rhino sanctuary creates added costs for Sera, yet community members still have the desire to be financially independent. This situation poses concerns about how much more time is needed for the Sera community to be able to be autonomous in its financial operations. Bearing all this in mind, the community members have nevertheless accepted the conservancy and they feel a sense of ownership and are willing to participate because they can see some benefits accruing through the community wide development projects and are hopeful for better days to come. Many community members are expecting both communal and individual benefits to reach everyone. Apart from those who work directly for the conservancy and lodge on a monthly salary, it is not still clear on how this will happen.

Security has also improved in the conservancy – according to the conservancy manager, security has been about 90% achieved through the inter-ethnic NRT peace building program spearheading the involvement of elders, youth (morans) and women in resolving conflicts and reducing security related incidences, conservation of wildlife has been moderately successful. The conservancy takes pride as being the first community conservancy in the northern rangelands to establish a successful black rhino sanctuary.

In conclusion, after 20 years since establishment, Sera conservancy is still many miles away from achieving independence from donor funding through NRT. However, we cannot overlook the high costs of maintaining the operations of the rhino sanctuary which may be far from the community's reach and therefore donor funding will always be required. There is need for an accelerated and practical plan of action towards achieving sustainability, a plan that addresses conservancy operations and community development. Without this plan, only time will tell how much longer communities can be able to operate without financial autonomy and independence. Moreover, some community members feel that the individual benefits from the conservancy have been inadequate, which could well become a challenge for their acceptance and support of the conservancy and NRT.

8 Findings: Merti Rangeland Users' Association

By Alphayo I. Lutta

8.1 General information on the case

The Merti Rangeland Users' Association (RUA) was established as a modern institution anchored on customary natural resource management by the Merti community and was strengthened to manage rangeland and water resources in drought fallback areas. This, according to focus group discussants, was necessitated by the devastating impacts of the 1999 drought which decimated livestock and left communities in a poor state as a result of the loss of their livestock. Respondents in focus group discussions explained that, before the establishment of the RUA, community elders would always come together during the drought season to form a Dheeda committee that would advise the community on the grazing patterns and movement. The committee, according to the majority of our respondents, would be moribund after the drought season and only came back to life with the onset of another drought season. The Dheeda committee, however, lacked the authority to enforce traditional customary laws; and most of the time they would be usurped by chiefs. As a result of this, there was unregulated number of animals at boreholes, including an influx from neighbouring areas. All the boreholes then were under the management of the District Steering Group, a cross-sectoral committee made up of senior officials at district level, which according to our respondents decided when the boreholes were to be opened and closed. The District Steering Group had very weak presence on the ground which undermined the effectiveness of boreholes in mitigating the effects of drought. According to the executive director of the Merti Integrated Development Program (MID-P), in 1999 various development organizations working in Merti such as ActionAid through MID-P together with the District Steering Group initiated a community reflection process on drought emergency management and the need to strengthen customary natural resource management rules. This process led to establishment of the RUA which was registered as an institution to regulate rangeland resources in Merti in the year 2000 with membership of 1,464 registered households serving an estimated population of 15,000 people. Each household paid annual membership fee of KSh. 1,000. The RUA took over the management of all the drought reserve boreholes including responsibility for storage of pumps and generators during the wet season.

Eventually, the RUA faced various challenges, some of which are described below (Sections 8.3.8 and 8.9. And by 2015, community members withdrew their support and the RUA ceased functioning. Currently, elders from each sub-location in Merti Sub-county have formed committees under the leadership of Ward Administrators and the Ward Development Planning Committees, and these elect representatives that form the overall Dheeda council that manages the grazing resources in the ward.

8.2 Specification of the approach

The Merti Rangeland Users' Association was a hybrid institution which combined elements of a formal institution and the customary system. It drew on customary natural resource management laws that evolved out of community need and run by community members through the Dheeda system. According to the MID-P executive director, it was established through a participatory process with assistance from ActionAid and MID-P on a cost sharing approach for community-managed disaster risk reduction. The community shared the cost of managing boreholes through water levies where every livestock that used water from the boreholes managed by the RUA were charged a subsidised water levy of KSh 2 per cow and KSh 1 per shoat. The water levy was subsidized by funds from ActionAid through MIDP. Community members participated in the management of their grazing land and were involved in all stages of decision making regarding the use of pasture and water in their area and reducing the risks of overgrazing and loss of livestock to droughts.

8.3 Governance model

8.3.1 Development of the governance system

For a long time, grazing land in Merti was managed by customary Dheeda elders who made all decisions regarding rangeland use within their jurisdiction especially during the drought seasons. However, due to challenges experienced by the Dheeda in the management of grazing resources and enforcement of rules and grazing plans, the RUA was established by the community as a good option for strengthening customary natural resource management rules. MIDP facilitated the RUA to adopt a community managed disaster risk reduction approach in the year 2000. The community-managed disaster risk reduction approach, according to one of the RUA leaders, brought about a significant change in terms of community attitude to the management of their rangeland. MID-P, according to its executive director, facilitated the capacity building of the RUA committee in areas of proper natural resource management, conflict resolution, participatory rangeland management, participatory needs analysis, and pasture conservation through planned grazing, management skills for community-based organization, proposal writing and fundraising. The training was to ensure effective community-based governance and sustainable natural resource use. Through capacity building, the community became fully aware that it was within their means to ensure that their rangelands were not invaded by undesirable vegetation. According to community informants, they made a choice to mix the new with the old practice where they involved other stakeholders to decide on the number and type of livestock that could graze on the reserved pasture land, as determined by the capacity of the boreholes to serve a given number of livestock. According to one of the RUA leaders, boreholes with larger capacity would be allocated a greater number of livestock than those with smaller capacity. This was meant to avoid crowding and overgrazing around the boreholes during the dry season. Settlement patterns were also controlled in order to preserve key migratory routes. Together, they decided on the schedule of opening the reserved areas and penalties in case of violating the by-laws. According to one of the RUA leaders, the RUA management committee effectively created and enforced by-laws together with the community members in a general assembly. This resulted in, minimal conflict on reserved communal pastureland through fair use. The RUA management committee, according to a government official we interviewed, was becoming an important community organisation; filling in the gap created by the weakened traditional rangeland management system. MID-P and other development organizations supported the RUA until its capacity reached a level of self-management. They were able to negotiate with government bodies and other institutions to scale up the benefits, adoption of local solutions, approaches and practices.

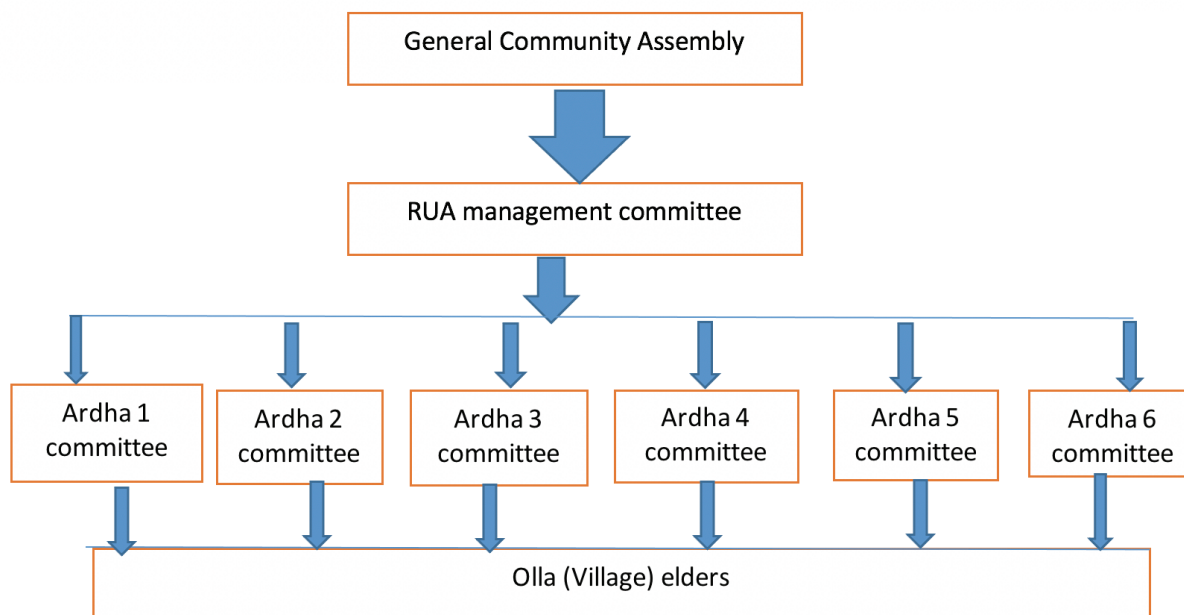
8.3.2 Governance arrangements

All respondents in our focus group discussions indicated that the RUA was established as a result of a long process of community self-mobilization to address problems of poor and weakened governance systems, the loss of resources to non-locals, and rangeland degradation. The jurisdiction of the RUA covered six locations in Cherab ward and two locations in Sericho ward in Isiolo County. Each location, according to our respondents, had its elders who would manage their grazing area in accordance with defined communal rules of natural resource access and would educate members within their location on customary laws. They were also responsible for paying fines in case a member from their location violated community laws, which in turn provided strong motivation to ensure that they collected those fines from the offender. Elections for the management committee were held every 3 years. Following the way that the customary Borana Dheeda system selected representatives, elections would begin from the lower village level. Every village had a representative elder who would join others at the *Ardha* level (several *olla*) to make up the *Ardha* council (location level male elders). The *Ardha* elders would then elect two representatives amongst themselves who would make up the RUA management committee of 16 members from which an executive committee comprising of the Chairman, Secretary and Treasurer would be elected. The principal governance structure for RUA was therefore the RUA management committee. The management committee, in consultation with community members during the general assembly meeting, appointed a borehole attendant, pump attendant and a revenue clerk to each borehole. The committee was responsible for making joint decisions on access to pasture, water and migration, regulating grazing; wet, dry and drought fallback areas, and maintaining reciprocal natural resource access.

The executive committee of the RUA comprising of the chairman, Secretary and Treasurer was responsible for the following:

- Manage drought reserve boreholes and grazing resources around the 6 boreholes (only 3 of which are currently operational now)
- Enforce customary laws relating to water and pasture
- Represent members and wider community in district (now sub county) forum on NRM and drought management
- Collect levies and penalties set during general meeting on users when boreholes were operational
- Regulate the number of animals allocated to each borehole based on available pasture/browse and borehole yields
- Regulate influx of animals from neighbouring communities through application of customary rule on reciprocal access to cross border resources
- Periodic pasture surveillance during non-drought period to ensure utilization of drought reserve pasture by neighbours
- Seek government recognition as representative of rangeland users and participate in decisions on development of additional water points in the drought reserves
- Advise community on available dry season grazing reserves in other areas such as Kom, and Chari that had a lot of conflicts (Note: Chari reserve was the best drought grazing reserve option for the community before it was put under the management of a conservancy in the year 2007. The significant role played by Chari in mitigating drought disaster situation is no more. This has adversely interrupted the community's coping mechanism in times of drought).

Figure 8.1: The RUA organogram.



8.3.3 Women and youth in RUA governance structure

Although women play a critical role in resource use and management, they had a very minimal role in decision making structure of the rangeland users' association. Focus group discussions with women revealed that they are culturally tasked with managing the home-based livestock herds, made up mainly of milking, sick and young animals, although men held primary power and predominated in roles of leadership, moral authority, social privilege and control of property and hence most decisions were made by them. The RUA constitution provided that 2 women and 2 youths be elected on the RUA management committee, however, according to discussions with women, they live in a

patriarchal society, where the relations among individuals are based on kinship, which decides the position of every individual within the community. Kinship is traced through the father and as a result, men occupy a higher position than women in the social hierarchy. Their role is chiefly seen in relation to child bearing, child rearing and household tasks. The decision-making rests with the male head, who serves as the arbiter in disputes and the custodian of family properties. The views of women are only represented in meetings through their husbands. Discussions with women focus groups also revealed that gender roles are not favouring them as much as men in decision making. According to women respondents in focus groups, both men and women are involved in community activities, in producing food and generating income, and in preparing food and taking care of their families, but their roles vary by gender. According to women, men are better represented on local committees because they have more opportunities to travel outside of the community to meetings and trainings than women, who have the primary responsibility for child care and work longer hours. These different roles according to women can affect whether and how men and women are able to participate in, and how they are impacted by, decisions about resource management.

“I would say there was unequal representation of women in decision making structure of RUA. Even though two women were required to be part of the management, we were underrepresented in the management committee. Most decisions were made by men and women and youth only ratified them in agreement. Our culture has placed a lot of family responsibilities on women. We are preoccupied with responsibilities of looking after our children. You can’t abdicate them for a leadership position. You will be divorced. And therefore, only men have the time to travel all over in meetings and trainings. A chance we admire to get but lack the opportunity. During general community meetings, there is no way a woman would stand up to challenge an elder. It is not just possible in our community...” Woman participant in Merti focus group discussion

Women respondents also said that they scarcely get the requisite information about programs and activities undertaken by development organizations as fast as men do. According to them, information about programs and activities run by development organizations in communities is commonly addressed first to leaders, chiefs or committee chairs, who are usually men. As a result, women and youth are often dependent on these men to pass on the information. This reliance, combined with the relatively low literacy levels of rural women means that in some situations, information does not reach marginalized members of communities, including many women and youth. Women also said that there are limits to participation. When both men and women are present in meetings and workshops, there may be social and cultural reasons that mean women are less likely to speak up or contribute toward decisions. According to women, when selection of participants relies on male community leaders, most participants are usually men, even when the leaders are explicitly requested to invite women to events.

8.3.4 Involvement of customary institutions

According to the Borana Culture, customary institutions such as Dheeda were involved in all management of natural resources because they were the custodians of all the laws, customs, norms, values and the culture of Borana people. According to our respondents in focus groups, all decisions made with regards to movement of people and animals were solely done by elders. In the RUA, the management committee was equally guided by the advice of the Dheeda council of elders. The elders would determine and predict weather conditions and advise the RUA committee on whether to open the boreholes in the grazing reserves or not. According to one of RUA leaders, compliance with the advice, laws and regulations provided by RUA was relative to the extent to which they reflected local customs, traditions and value systems of the Borana people. Therefore, the decision-making process in the use and management of natural resource for the RUA was more participatory and it provided mechanisms through which local practices and cultures were mainstreamed into official regulatory frameworks for natural resource management.

8.3.5 Formal recognition

The RUA as a hybrid institution which drew on customary natural resource management laws was registered with the government as a community-based organization which evolved out of the community need and managed by the community itself. Although the establishment of the RUA was supported by the government, the regulations and by

laws were majorly unwritten and therefore not binding. The majority of our respondents in focus groups indicated that the offenders of the regulations put in place for management of grazing resources by the RUA and the Dheeda would also seek recourse and even bribe the chiefs and walk away scot-free. Lack of formal recognition, according to our key informants led to the diminished capacity of the RUA to negotiate shared or reciprocal access with elders from other ethnic groups particularly the Somali who did not recognize the grazing patterns set in place by the RUA. Respondents in focus groups for rangeland condition scoring indicated that community members began settling in the dry season grazing areas because the RUA was unable to evict other ethnic communities from their grazing reserves. According to them, there was little motivation for the host community to respect the rules and regulations because drought grazing reserves and other regulations were flouted by other ethnic groups. Respondents further stated that the influx of other ethnic groups was apparently protected by chiefs and the host community decided to settle in the grazing reserves of Yamicha to prevent the influx. The diminishing authority of the RUA led to more natural resource-based conflict and the eventual collapse of the RUA.

“...We have our community laws and regulations that guide the use of grazing resources here. But those laws are only for us. You cannot take an outsider to court and charge them for breaking your customary laws. This is the loophole that has been used by Somalis and Samburus who invade our area. That is why we end up fighting with them because we know the government cannot help us and according to the government, the land is for the entire community. So, the only option we have is to defend ourselves by simply asking young energetic people to forcefully drive them away” ...Male participant in Saleti focus group discussion.

Currently, however, the county government is in the process of recognizing local institutions through legislation which intends to recognize the local governing councils as legal customary institutions. This rangeland bill provides for establishment of a Council of Elders to coordinate the management of water and pastures; recognition, and use of indigenous knowledge systems in management of natural resources; ensure that all-natural resources are adequately conserved, protected and sustainably used; and ensure that all members of the community have access to water and forest resources available within the county. The bill further provides for penalties for the commission of any prohibited activity that may negatively affect the sustainability of the resources.

8.3.6 Multilevel planning

Rangeland planning was mainly done by the RUA management committee in consultation with elders and community members. At the Ardha level, elders would manage use of boreholes and other water points within their locations in accordance to defined communal rule of natural resource access. The RUA management committee would make decisions regarding the use of grazing reserves in consultation with elders. According to focus group discussions revolving around rangeland condition, respondents indicated that movement of livestock outside the jurisdiction of the RUA was prearranged by the RUA with the respective Dheeda council of elders who would assess spare capacity in terms of water and grazing resources.

The use of grazing resources by neighbouring pastoral groups was also negotiated in advance between RUA management committee and the affected Dheeda councils. The failure of other pastoral groups to negotiate access prior to migration into RUA managed areas was cited in focus group discussions as a frequent source of conflict. This, according to one of the RUA leaders, posed a challenge for the RUA to manage these movements in such a way as to reconcile demands from residents and non-residents without creating over-grazing and conflict. Due to the comparative weakness of leadership in neighbouring areas, the RUA had difficulties in negotiations with some neighbours such as Somalis. In early 2014, the Resource Advocacy Program (RAP) together with the National Drought Management Authority organized for a cross-border meeting between communities of Isiolo and Garissa Counties to provide a platform for dialogue on cross-border resource sharing between Isiolo and Garissa Counties. The meeting, according to our respondents, involved County government officials, RUA management committee, other local pastoral leaders, local politicians and representatives from local organisations. In the meeting, migration routes were developed as well as seasonal timelines for cross border mobility. However, our respondents suggested that traditional institutions for negotiating resource access in Garissa County were very weak and not recognized by the government or by a majority of the pastoralists

from Garissa. This was therefore not implemented by the Somalis. Decision-making was limited to the household level and both households and livestock from Garissa migrated in large numbers in an uncoordinated way and then once they arrived in Isiolo in sufficiently large numbers they would then request access to water points. This form of negotiation was very different from the traditional system whereby access was negotiated prior to migration. One of the RUA leaders indicated that cross-border meetings for resource sharing can only be effective if and when all Somali community members are involved and sensitized and not just sensitizing their leaders alone in the workshops. He further said that some of the leaders who were involved in cross-border meetings were not representatives of the Somali community and therefore they did not pass the message to the targeted people.

8.3.7 Inclusivity, accountability and legitimacy

In terms of inclusivity, the RUA functioned through community consensus whereby pasture and water resources were managed to benefit the community as a whole. There was general consensus in all focus group discussions that as a model born out of the need of the community, all community members were involved in general meetings where crucial decisions regarding the use of the range were discussed except non-Borana neighbouring communities that were not involved in the planning and management of resources. This was however, cited by respondents as the main cause of resource-use conflicts. Neighbouring communities who migrated into areas under the jurisdiction of the RUA were not aware of the RUA grazing plans in place and would come in to graze in total disregard of set regulations. Discussions with community members in focus group discussions revealed that the important link between natural resource management and social relations between clans and ethnic groups was majorly downplayed by the RUA management committee. Pastoralist groups must move, and in doing so they inevitably move into each other's territory, sometimes in competition for resources. According to key informant interviews with government officials, natural resources management is intimately linked with the management of the relationships among pastoralist clans and ethnic groups.

According to them, these relationships do not take place in an institutional vacuum, but depend on rules, behavioural norms and principles to maintain and restore collaboration within competition and to provide a framework for managing conflict over divided-but-shared resource base. In particular, a government official among our respondents explained that normative principles of reciprocity and mutual cooperation should have customarily guided and informed sharing mechanisms among clans and neighbouring ethnic groups. According to our discussions in focus groups on rangeland condition, the use of and access to natural resources in the areas where the RUA management committee was operating was premised on customary rules, including the prohibition against trespassing on a common dry season reserve grazing area or watering animals directly from a water source. From our discussions, the modalities of customary negotiation to gain access to natural resources also appeared to have been maintained. Rights of access to the natural resources of both bordering communities appeared to be negotiated directly with the committee, rather than separately with elders of each community. This contributed to misuse of resources that eventually haunted the operations of the RUA.

“Everyone in the Borana community was included in our decision-making process. In fact, in our last AGM it took almost four days to conclude and all community members were invited and majority attended including politicians. Our headache as the committee was how to incorporate non-Borana communities on the management committee or even creating awareness to our neighbours on the grazing plans we had. We believe if we had included them in management or informed them, then they would not be grazing in our reserves without our permission. But we didn't have that power...”
– one of the RUA leaders

Accountability guides the actions of leaders towards more socially and environmentally sustainable results, by ensuring that the voice of community enter the decision-making process. According to our respondents, the community, in the initial stages of the RUA, agreed to enhance accountability of RUA management through community tracking of RUA revenue and expenditure during AGMs and independent assessment of the management of the RUA every year. The RUA constitution also specifies that an annual general meeting should be held to review and reflect on performance, to present annual accounts to members, and to elect the management committee (every three years). However, this has not happened since the year 2015 when the last AGM was held neither has elections for the management committee been held since then.

Awarding of contracts for constructions and repair of boreholes has been an area particularly vulnerable to corruption in northern Kenya, and therefore RUA management committee was required to provide for fair, clear and transparent awarding procedures, access to information and contract transparency. The RUA management committee, according to the discussions in focus groups, was required to disclose all the information and build accountable systems for collecting, managing, investing and spending revenues. RUA was also required to have adequate safeguards, checks and quality controls in place to guard against conflicts of interest and undue discretion, with oversight mechanisms such as independent audits. It was apparent in the focus group discussions with the community members that the RUA management committee failed in being transparent. The RUA committee was accused of providing piecemeal information on the award of contracts for borehole repairs and the revenue collected through donors, annual membership fee and water levies. The RUA was not able to disclose information about the whole chain of decisions, with a complete, complementary set of information. For instance, in the focus group discussions, respondents indicated that revenue data was not accompanied by information on the number of community members who paid, number of livestock that accessed the water point and the actual items bought and their market prices. Such information was not disclosed at an appropriate level of disaggregation such as location, project and product type. Transparency was therefore poor and community members stopped paying their annual fees to the RUA due to claims of corruption, bribery, embezzlement, misappropriation and diversion of community funds, abuse of office, trading in influence, favouritism and extortion.

RUA was the best model for natural resource governance in this area. We all embraced it and at some point, we were doing much better than all our neighbours in terms of pasture and water availability. I remember we had a period of dry weather, but no one migrated outside Merti because of the good adequate pastures we had. Our people religiously paid both membership and water levies because we all knew how important RUA was to our community. Challenges began in 2014-2015. We had a dry spell in 2014 and therefore we needed to migrate our livestock to the grazing reserves. Normally, RUA would buy fuel from the revenues collected and hire someone to go and operate the borehole. But this particular time, RUA was unable to buy fuel and hire someone. When we inquired about it, we were told they did not have money in the account. The community requested RUA to convene a general assembly so that they explain to us how funds were utilized. We were shocked that there were no detailed records of how much had been collected and how it was utilized. The community was not satisfied with the explanation given by the RUA management committee and that is how members began withdrawing their contributions..... narrated by former member of the RUA

Regarding its legitimacy, the RUA was a community institution which evolved out of community need and run by community members. In our focus group discussions with community members, it was acknowledged that the RUA managed to streamline the operation of drought reserve boreholes and a sense of ownership of boreholes and rangeland among communities and the authority of community to regulate pasture and water use was restored. The community, according to respondents, committed to the RUA through timely payment of annual membership fee and water levies charged during the dry season. The RUA therefore had a strong legitimacy from the Borana community it represented, and from which all its members were drawn. As a locally based mechanism with multiple levels, it was considered very appropriate and in line with local natural resource and cultural norms, values and practices. Decisions were also made on a consensus basis, which gave members the opportunity to voice their opinions. This however changed when, around 2015, some community members began to suspect RUA executives of embezzling community funds and the RUA lost the political goodwill. The RUA lost its legitimacy and operations of some boreholes were taken over by a section of community members.

8.3.8 Institutional sustainability

Initially, the RUA was institutionally sustainable. There were annual general meetings to discuss and plan for every succeeding year. Elections were also held every 3 years where committee members were elected. An AGM according to the existing chairman who has served since 2015 runs for an average of four days and requires a huge budget to finance it. There was broad consensus among our respondents that due to outside interference and alleged embezzlement of funds as well as the inability to control influx of neighbouring communities, the RUA has been

unable to discharge its duties effectively since the year 2015. The RUA was unable to control migrating livestock such as camels because these livestock were utilizing water sources over the county border. Camels, according to the discussions in the focus groups, have a far greater range than cattle which enabled them to migrate into Isiolo while still watering in their own county. The RUA, according to one of the RUA leaders, did not have the capacity to negotiate effectively with institutions for the neighbouring wards/counties because of the comparative weakness of such institutions in neighbouring areas and their consequent inability to control migration. The result of this institutional weakness was that during periods of drought, uncontrolled numbers of livestock moved into Merti area and affected the grazing plans put in place by RUA. Use of the boreholes were tightly controlled but there were several 'open-access dams' which compromised control of surrounding grazing resources according to our respondents in focus groups. The large dam in Yamicha allowed migrating livestock from other counties to utilise the drought reserve during the dry season when grazing was prohibited locally. The RUA did not have adequate capacity to monitor the drought reserve throughout the year and as a result it was frequently found to have been grazed during the dry and even wet seasons. According to informants, the county government was unable to assist the RUA and instead encouraged community members to settle in Yamicha so as to prevent the influx of communities. This led to permanent settlement of communities in dry season grazing reserves negating the entire RUA concept of natural resource management.

8.4 Financial sustainability

In the process of establishment of the rangeland users' association, several costs were incurred. According to key informants, major costs were incurred through creation of awareness and consensus building among community members across all location in Merti Sub-county. Several community meetings were held in every location in order to:

- Exchange information and ideas on the water resource use;
- Discuss potential developments that would affect water usage and conflicts thereof;
- Organise, plan and mobilise public barazas for election of an interim committee; and
- Develop of a constitution.

Costs were also incurred through capacity building on development of grazing plans, pasture and water surveillance and conflict management and resource mapping. For its operation, the RUA managed boreholes in Boji, Urura, Yamicha, Duma and Dogogicha, Bambot and Machalo areas. During the dry season, each borehole required two generators running in alternating 8 hour shifts and diesel fuel. There were also significant costs associated with staff payments, fuel transportation and purchasing of spare parts for the boreholes.

The main income sources for the RUA were:

1. Membership fee. Every household that had livestock was required to pay KSh 1000 per year.
2. Water levy: During the dry season, RUA would open boreholes in the grazing reserves and livestock owners were required to pay KSh. 2 per cow and KSh 1 per shoat that used water from the boreholes.
3. Government support: RUA committee was supported by government institutions particularly the National Drought Management Authority through fuel subsidies during drought periods.
4. Donor contributions: RUA management committee successfully sourced funds from development partners to cover operational costs.

According to focus group discussions, the RUA collected money through levies and membership registration that would manage and repair boreholes as well as pay for the attendants. Although RUA leadership admitted that money collected was not enough to pay for the fuel especially when the drought season was long like the case of 2010-2011 drought. In these situations, the RUA relied on donor funding and government assistance which in most cases would

delay. In the past six years, donor funding was cut after many community members alleged that the RUA management committee embezzled funds. Due to lack of funding, the RUA was unable to run the boreholes and some boreholes were taken over by a faction of community that now collect water levies from community members.

For financial transparency, the RUA was required by its constitution to give a breakdown of all the revenue collected and how it was utilized during the AGM. Water levies, according to community respondents, were charged at the boreholes and records were to be kept of how many and which species of livestock used water from the boreholes including additional information concerning the ownership of livestock. Records for each borehole were kept by the revenue clerks who submitted monthly reports to the RUA executive committee. An independent audit was also required to ensure all resources were effectively used for the benefit of the community. According to community members in focus group discussions, records and audits were successfully done until the year 2015 when RUA management committee was unable to give full details of all the revenue collected and how the donor funds were utilized in the AGM. An audit was not equally done, which according to focus group discussions represented lack of transparency on the part of the RUA management committee.

8.5 Ecosystem outcomes

8.5.1 Vegetation condition and trend

In order to determine the trend for rangeland condition, participants in two focus group discussions on rangeland condition and trends, identified three time periods for comparison. The first period was the year before the establishment of the RUA (1999), the second period was when the RUA was operational (between 2000 and 2015) and the third period was when RUA lost control of grazing resources (between 2016 and 2020). The “before date” used for the exercise was 1999 when consultations to establish the RUA began. During this period before RUA was established, there was a weak customary Dheeda system which was not able to sustainably manage the grazing land. According to community respondents, the Dheeda was only effective during the drought season when the community was already losing livestock to drought. There was an increase in the loss of woody species due to charcoal burning and general vegetation cover was low as a result of overgrazing. High quality palatable pasture was lost and the range condition was generally poor with more patches of bare ground attributed to unsustainable grazing management practices.

The second period was the year 2000 when RUA was established to the year 2015 when the active operations of the RUA ended. During this period, respondents in the focus groups stated that grazing land was distinctly partitioned into wet and dry season grazing units and drought grazing reserves, according to the type of resources available at various times of the year which significantly improved rangeland condition. The sustainable management of these pasture resources was mainly achieved through proper water source management. According to our respondents several factors determined where, when and how long grazing units were used, including the availability of pasture and water, security, disease vectors, disease occurrence and other ecological, social, political and economic factors. According to community members, wet season grazing areas were mainly lowlands with abundant surface water sources, dominated by short-lived forage plants that had to be used before the end of the rains. Dry season grazing areas had permanent sources of water and were dominated by perennial forage species which were accessed when the transient resources were exhausted. This grazing plan put in place by the RUA ensured that the rangelands were used sustainably to provide multiple benefits, and yielded positive results in terms of a good rangeland condition. These, according to participants, included the recruitment of woody species and general cover in the drought reserves after a ban on charcoal burning and the recovery of grazing lands as a result of temporary closure of boreholes to avoid overusing the pasture around water points.

The third period is between the years 2015 to 2020. This is the period when RUA began experiencing management challenges leading to the downfall of its operations. According to all our respondents, the range condition has significantly deteriorated. The RUA management committee has been unable to meet and call for an AGM since 2015 and this has affected the management of strategic grazing reserves. The withdrawal of donors and annual membership fee paid by community members starved the RUA management committee who were unable to manage boreholes and therefore lost control of water uses. As a result, some community members decided to settle in Yamicha which

was one of the best dry seasons grazing reserves and the boreholes that served Yamicha during the dry season were taken over by individual elites who have kept them open across all seasons allowing settlement and subsequent overgrazing and loss of palatable species. The bare ground as a result of overgrazing has led to proliferation of invasive *Prosopis juliflora* which has shrank the grazing resources as reported in our focus group discussions. Mismanagement of resources and a lack of functioning customary institutions has led to land degradation and conflict over the scarce resources. According to informants, climate variability and change will increase forage and water scarcity, exacerbating the situation caused by mismanagement.

“When RUA was functioning, there was enough grass for our animals. We always knew there was reserved pasture for dry seasons. We also had very good grass that animals would feed on and produce a lot of milk. Nowadays that key grass species are decreasing and hard to find. We have very poor grass that is not best for milk production. We are now forced to graze our livestock at the same place for a long time because we have very few alternative places to move our animals unlike before. There are settlements almost everywhere...” – focus group discussion participant in Saleti Sub-location.

8.5.2 Attribution of range condition to governance system

According to focus group discussions, managing vegetation resources is the most crucial components of sustainable rangeland management. With some vegetation resources only found at certain times of the year or in specific areas, respondents in focus group discussions averred that the RUA management committee provided the requisite flexibility of grazing regime to harness the vegetation when and where it was available. The RUA partitioned and treated grazing units as unique entities that respond to management differently, whose use depended on the interrelationships with, and overall management of, the other units. The partitioning of grazing land into units, according to our respondents, meant to ensure that pastures are rotated, short-lived water and pasture resources were used before they disappeared, and areas were reserved for bad spells to help communities overcome extended dry periods and droughts, which devastate pastoral herds. The drought grazing reserves acted as forage and water banks and were only accessed during prolonged dry seasons or when the rains failed. They had permanent water sources and perennial grasses, as well as important browse species. The RUA management committee in conjunction with the Borana council of elders regulated access to and use of the various resource patches — the wet and dry grazing areas and the drought grazing reserves. This ensured that there was enough pasture across all seasons resulting in good animal condition and productivity and animals survived the drought season. There were minimal livestock and wildlife conflicts as most livestock remained within their grazing zones. The proliferation of the invasive species was also controlled due to proper grazing management by the RUA management committee.

This however changed after the collapse of the RUA due to external pressure and communities decided to settle in areas that had been reserved for the dry season grazing with the help of the county government undermining the gains that had been made in ensuring good range condition. The respondents in all the focus group discussions on rangeland condition scoring assessed the current range condition as “bad”. The range is severely utilized to an extent that does not allow regrowth after defoliation; the incidences of undesirable forage species has increased at the expense of more palatable forage species. The community in focus groups reckoned that management of grazing plans led to a significant regeneration of pasture and browse in all livelihood zones within a short period of time guaranteeing livestock producers a moment of enhanced productivity. Forage and water were available in good amounts and quality within the traditional grazing areas. With ample amounts of forage, the majority of animals had significant recovery and more productivity. Their body conditions improved considerably enabling farmers to fetch better market prices.

*“Degradation of our rangelands is associated with restricted livestock mobility, poor grazing management practices and the ensuing overgrazing. Rangelands here are largely exploited through livestock grazing and grazing intensity influences the sustainability of grazing lands. Before RUA, and even after the collapse and settling of communities in dry season grazing reserves in Yamicha, the high grazing intensity has affected the botanical composition and species diversity of the grazed pasture by depressing the vigour of dominant palatable species. This has resulted in colonization by highly competitive and tolerant *Prosopis Juliflora* that you see all over here” – a senior staff member of MID-P.*

Water availability in major sources, both temporary and permanent, was good during the period the RUA was operational. According to community members in focus group discussions, natural water was an important resource in their livelihoods production and its adequate availability boost their ultimate recovery. Increased pressure on the few existing water resources, has undermined their recharge capacity according to a government official working in the area. This has been compounded by the depressed rainfall and recurrent droughts resulting to lack of pasture and overgrazing, as livestock congregate in areas with pasture, and conflicts over scarce resources.

Mismanagement of water and grazing resources, mainly by not adhering to prescribed customary regulations and sometimes through the absence of regulatory mechanisms is now a big challenge. Respondents attributed this to the community's disregard of their customary institutions and the lack of government recognition of — and support for — the local resource governance system.

8.5.3 State of bare ground

There were two main reference sites identified by the community during the focus group discussions namely, Shurr in Marsabit County and Sericho in Garbatulla Sub-county, Isiolo County. Shurr was put under the management of a conservancy in 2013, two years before the collapse of active RUA management. Sericho on the other hand is under customary management of the Dheeda system. Comparing the same period when RUA was actively in place (2000-2015) bare ground in Cherab was relatively low compared to Shurr and Sericho. This was attributed to proper management plans put in place by the community that enhanced biomass production. Respondents acknowledged that there was adequate vegetation cover and more quality pasture for livestock. Currently, bare ground has increased substantially and according to the community, the bare ground areas are now in the process of being invaded by *Prosopis Juliflora*. Shurr is under the management of community conservancy with core grazing areas. This has also reduced bare ground in core conservation areas due to an increase in plant cover. Rangeland scoring exercise proved that bare ground has increased after the collapse of the RUA which was attributed to overgrazing (Table 8.1). The bare ground areas are however being colonized by the invasive species.

8.5.4 Livestock production

Because of the low wildlife population in the area, respondents in focus groups reported that wildlife conservation was not a priority for the community in Merti and therefore the RUA concentrated mainly on sustainable rangeland management for increased livestock production. The main mandate for the RUA was to manage community boreholes and pasture to ensure that livestock within their jurisdiction did not suffer during the dry seasons. There was therefore very little action by the RUA in areas other than rangeland and water point management.

Table 8.1: Consolidation of focus group scores

		Treatment site (Cherab) 2000-2020		
Indicators		FG 1	FG 2	Average
Freedom from invasive species	2000	3/5	2/5	2.5/5
	2015	4/5	5/5	4.5/5
	2020	1/5	1/5	1/5
Presence of palatable species	2000	1/5	1/5	1/5
	2015	4/5	4/5	4/5
	2020	2/5	3/5	2.5/5
Good animal condition	2000	1/5	2/5	1.5/5
	2015	4/5	4/5	4/5
	2020	2/5	3/5	2.5/5

Treatment site (Cherab) 2000-2020				
Indicators		FG 1	FG 2	Average
Absence of bare ground	2000	1/5	2/5	1.5/5
	2015	4/5	4/5	4/5
	2020	2/5	1/5	1.5/5
Overall score	2000	6/20	7/20	6.5/20
	2015	16/20	17/20	16.5/20
	2020	7/20	8/20	7.5/20

Reference site 1 (Sericho)				
Indicators		FG 1	FG 2	Average
Freedom from invasive species	2000	4/5	4/5	4/5
	2015	5/5	4/5	4.5/5
Presence of palatable species	2000	2/5	3/5	2.5/5
	2015	4/5	4/5	4/5
Good animal condition	2000	2/5	3/5	2.5/5
	2015	4/5	4/5	4/5
Absence of bare ground	2000	2/5	2/5	2/5
	2015	3/5	3/5	3/5
Overall score	2000	10/20	12/20	11/20
	2015	16/20	15/20	15.5/20

Reference site 2 (Shurr)				
Indicators		FG 1	FG 2	Average
Freedom from invasive species	2000	2/5	2/5	2/5
	2015	3/5	3/5	3/5
Presence of palatable species	2000	1/5	2/5	1.5/5
	2015	3/5	4/5	3.5/5
Good animal condition	2000	2/5	2/5	2/5
	2015	3/5	4/5	3.5/5
Absence of bare ground	2000	2/5	1/5	1.5/5
	2015	3/5	2/5	2.5/5
Overall score	2000	7/20	7/20	7/20
	2015	12/20	13/20	12.5/20

The following observations were made during focus group discussions with the community:

- Herd size was relatively large when the RUA was functional compared to before RUA and after RUA. The trend is also increasing at 5% per year (According to county government's livestock officer) with general livestock population increasing despite reduced per capita herd size. Per capita livestock numbers were high during RUA's time because of the increase in the availability of pasture and water across the seasons. This prevented the loss of livestock to droughts. It was also reported in the focus group discussions that the RUA management committee would contract specialists who would conduct livestock disease surveillance in the area, and this also prevented loss of livestock to diseases as well as increasing livestock productivity. There was a general consensus in all focus group discussions that per capita livestock herd sizes have gone down even though general livestock population has gone up due to increased population of people who own livestock.

- Offtake rates were low. Although, pastoralists are embracing the cash economy, offtake rates are still low as pastoralists actively use markets to sell animals largely to meet their immediate cash needs as reported in the focus group discussions. Between the year 2000 and 2015 when RUA was functional, there were no developed markets in Merti and according to our respondents, herders had to trek for long distances to access markets. Livestock markets were far apart and the distances that the pastoralists had to cover in order to sell their animals were very long which affected the proportion of livestock sold. Respondents in our focus groups reported that due to the long distances to the nearest markets, the costs of moving animals to the markets were very high. Considering that some pastoralists had to take more than three days on the road looking for good markets for their animals, the monetary value of the time spent in marketing was high according to the respondents. However, there are closer markets now in Merti and with various livestock marketing groups coming up, the proportions of livestock sold are rising.
- Livestock condition was good due to the availability of pasture and water throughout the seasons. Animals would not cover long distances in search of pasture and water which reduced livestock physical stress and the shifting of energy to combating the walking stress. According to the respondents, long-distance walking scenario in search of food, compromises livestock productive performance in terms of significant reduction in growth, milk and reproductive performance. Milk yield was therefore good due to the good livestock condition and the availability of pasture and water. The situation currently has changed. According to majority of the respondents, the collapse of the RUA affected the grazing plans that had been put in place to ensure availability of pasture throughout the seasons. Most drought reserve areas have been turned into settlements for example in Yamicha and this means that animals are more exposed to the drought season than before. They also have to cover long distances to access pasture and water during the dry season which affects the productivity of livestock (Table 8.2).

8.6 Individual household income sources

Pastoral herding remains the most important income-earning activity for the majority of households. However, according to majority of respondents in the focus groups that centred on livelihoods and income, non-pastoral income activities including petty trade, retail shop activities and casual (non-livestock) labour are gaining traction in the past six years. The main non-pastoral income activities reported in focus groups include:

- Casual labour: Labour for wages both within the settlements and externally in urban centres including employment as security guards, construction and related labour tasks and transportation.
- Gathering and sale of wild products: Mainly firewood, and honey for sale within the settlement and externally.
- Retail shop activities: Retail shop activities in the area include sale of food stuffs, toiletries, miraa, animal drugs and related goods. Retail shop activities are carried out from a permanent point (shop/kiosk).
- Trade in livestock products: Sale of milk, meat and hides.
- Petty trading: Trading in products both food and non-food involving mobility of the trader mainly dealing with clothes, perishable food stuff, mobile phones and accessories.
- Formal wage employment: Income from wage employment by the government, NGOs and private sector including teachers, social workers and sales representatives of private companies.

Table 8.2: Summary of changes in livestock production indicators

			Typical household		Poorer household	
			Six years ago	Now	Six years ago	Now
Family's average herd size	Shoats	FG 1	180	100	15	10
		FG 2	200	140	20	5
		Average	190	120	17.5	7.5
	Cattle	FG 1	120	70	20	5
		FG2	135	100	10	5
		Average	127.5	85	15	5
Number of animals the family sells in a year	Shoats	FG 1	15	30	1	2
		FG 2	20	25	1	3
		Average	17.5	27.5	1	2.5
	Cattle	FG 1	10	8	2	5
		FG2	15	10	2	5
		Average	12.5	9	2	5
Number of animals the family slaughters in a year	Shoats	FG 1	6	5	0	1
		FG 2	5	5	0	0
		Average	5.5	5	0	0.5
	Cattle	FG 1	2	2	0	0
		FG2	2	2	0	0
		Average	2	2	0	0
Milk yield		FG 1	Very Good	Good	Good	Poor
FG 2		Very Good	Good	Good	Poor	
Ability of animals to cope		FG 1	Good	Fair	Good	Very poor
FG2		Good	Fair	Good	Fair	

Focus group discussions with women revealed that there is more significant involvement of men in non-pastoral income than women both in terms of prevalence and involvement in high value non-pastoral income. More men participate in livestock trade, petty trade and retail shop activities. It was apparent in the discussions that while non-pastoral income is generally available to all, women engage only in a few of them such as the gathering and sale of wild products. Women participants noted that although a large number of women still engage in milk trading, there is a large number of men engaging in milk trade.

8.7 Livestock market systems

According to focus group discussions with community members, there was no structured approach to livestock marketing. Livestock of all ages, classes and sexes were sold and bought depending on demand and buyer preference. Participants in focus group discussions averred that prices are affected by season, holidays and events such as back to school and the animals' sex, body condition and size. During the rains, stock selling prices are usually high, due to low market supply. At such times, pastoralists tend to hold onto their livestock because pasture is abundant and having come from a dry season, they hope to build their herds and fatten the animals to fetch better prices. It was also reported by respondents that in the dry season, supply is usually high and prices may be half what they were in the wet season which is also the case when parents sell some animals to pay school fees. During the holidays and festive seasons, increased demand for meat pushes livestock prices up, and according to community members, wealthy pastoralists, who have large herds, seize the opportunity of selling some of their livestock at favourable prices. Those

with smaller herds hold on to the few animals to rebuild their household herds and are only forced to sell their animals when they need money for urgent consumption needs. Because prices are determined by the forces of supply and demand, community members complained that exploitive livestock brokers cheat on prices.

During the dry season, the government through the National Drought Management Authority (NDMA) facilitates the commercial offtake programme in Cherab by sensitizing and mobilizing livestock traders through the livestock marketing associations. The livestock market associations (LMAs) are mandated to manage the markets and offer services like; cess/fee collection, enhance security, infrastructure development or identify facilities that need improvement and repairs/maintenance, coordination, disseminate market information, market promotion, disease control and surveillance among others. LMAs comprise traders and brokers. NDMA is supporting traders through LMAs by providing a transport subsidy during drought emergencies where it covers 50% of the transportation costs which encourages traders to go for livestock in all parts of the county and ensure that prices favour pastoralists. The RUA had no major role in livestock marketing. Currently, women in Cherab have organized themselves in livestock marketing groups where they buy livestock from community members and sell them at a better price. According to the women in livestock marketing groups, group marketing has enabled them to pool their resources together and take advantage of economies of scale. The group empowers them to bargain and negotiate for better trading terms which has increased the extent of market participation among the pastoralists. Through the groups, women get the requisite market information that is essential for marketing hence improving cooperation among pastoralists, reducing transport costs and consolidating supply, and also improve their collective bargaining power.

8.8 Challenges, outcomes and subsequent developments

According to our respondents, some of the challenges faced by the RUA included irregular annual meetings due to cost implications, outside interference, misappropriation of levies collected due to poor record keeping, and overreliance on governmental and NGOs for major repairs. There were also no women and youth in management committees. These challenges weakened RUA management and in 2015 all members withdrew their annual contributions citing lack of accountability and transparency. Due to internal community differences with the RUA management committee and the allegations levelled against them, development partners withdrew their support hence paralyzing the operations of the RUA. Political leaders, according to the key informants, began setting up parallel Dheeda grazing committees and took over management of some strategic boreholes in the dry season grazing areas. As such, some dry-season grazing reserves are now grazed year-round, livestock movements were restricted, and land degradation increased, consequently undermining the sustainability of the pastoral livelihood system.

Around the time of the demise of the RUA, in 2015, Isiolo County enacted the Isiolo Wards Development Fund Act which led to establishment of the Ward Development Fund Committee. The committee, now currently referred to as Ward Development Planning Committee (WDPC), comprises of residents elected by Ward residents, a representative for the youth, a representative for the women, a representative for persons with disabilities, a representative for the non-governmental, community-based organizations and a representative for the faith-based organizations carrying out development projects in the ward. The purpose of the committee is receiving and preparing project proposals and budgets; supervising projects implementation; monitoring and evaluating projects implementation; providing liaison between projects implementation committees and the County Government. The WDPC is required by law to convene open public meetings in consultation with the village council in every village or among a cluster of villages in the ward to deliberate on development matters in the village and the ward. Due to the lack of a functional RUA, the WDPC together with local administration has revived Dheeda committees in each sub-location so that the committees can manage the grazing resources to improve the deteriorating rangeland condition. According to our correspondence in focus groups, each sub-location has elected elders who form the sub-location Dheeda council. The executive members of the sub-location council come together at the ward level to elect the ward Dheeda governing council. So far, the ward Dheeda governing council has managed to develop grazing rules that currently guide the use of the rangeland. WDPC chairman of Cherab ward stated that WDPC consults Dheeda at the ward level on the development matters and the ward programs and acts as the nexus between the community and the county government. As a result of this, WDPC interacts with the decision-making that happens at Dheeda level.

Respondents in focus groups stated that Dheeda council at the ward level has now designated the wet and dry season grazing areas as well as drought fall back areas that had been lost due to uncoordinated and continuous grazing that happened after the demise of the RUA. This, according to them, is going to improve their rangeland condition.

8.9 Merti Rangeland Users' Association – discussion

Good governance of resources in this dryland pastoral context means supporting mobility, communal land tenure and reciprocal access to pastures and water across administrative boundaries; and supporting mechanisms for resolving competing claims. Communal management systems therefore require multi-level participation that is inclusive and involves deliberation at all levels to ensure they are well linked, legitimate and recognised to provide leadership and enforcement of the rules, norms and grazing management agreed upon. The RUA was established as a modern institution anchored on customary natural resource management by the Merti community and was strengthened to manage rangeland and water resources in drought fallback areas. As a hybrid institution, the RUA was registered with the government as a community-based organization which evolved out of the community need and managed by the community itself. Made up of opinion and religious leaders selected by the community, the RUA was responsible for regulating access to and the use of natural resources to ensure that rangelands are used sustainably and provide multiple benefits. Members were guided by regulations set and respected by the community: customary laws derived from Dheeda that preserves traditional laws and codes of conduct with amendments and additions based on the evolving environmental, social and cultural context. In their duty to ensure the sustainable use of rangelands, the RUA management committee had to strike a delicate balance between livestock numbers, water supply and the amount and quality of standing pasture within range of the water points.

For a time, the RUA seemed to have strong leadership, more opportunities for knowledge exchange, and rules for resource use, which were significantly associated with greater social outcomes including the use of traditional and innovative rangeland and herd management practices and social networking. As a recognized institution with a governing constitution, during its existence the RUA gained support from donor projects to support community-based natural resource management as a potential option to address problems of rural poverty and resource degradation. Its constitution specified that an annual general meeting should be held to review and reflect on performance, to present annual accounts to members, and to elect the management committee every three years. This projected the RUA as a traditional innovative institution that was accountable and transparent. The community made contributions through annual membership fees and water levies collected which was subsidized through donor funding on a cost sharing approach. Some donors purchased generators and pumps, others funded diesel, spare parts, generator maintenance, deworming programmes and trucking of water. Other donors funded meetings and workshops on condition that RUA funded part of the cost. Funding was received both from government and from international donors.

Having been registered as a trust with a constitution endorsed by general assembly of all community members, the authority of community to regulate pasture and water use was provided through the RUA. The operation of drought reserve boreholes was also streamlined. The RUA management would sit on the District Steering Group, now the County Steering Group. They effectively mobilized resources for development of storage tanks, additional water troughs and boreholes and was recognized and involved in proper selection of sites for the development of new water sources within its jurisdiction. These substantially reduced the loss of livestock directly related to drought.

Through the proper grazing management put in place by the RUA management committee, the state and health of the range as well as biomass production improved because the frequency and duration of grazing were controlled. Repeated defoliation of palatable plant species was also avoided. Through proper utilization, forage quality increased thereby creating environmental conditions that prevented the survival of invasive species, while favouring recruitment and survival of palatable forage/browse species. Our respondents overwhelmingly indicated that the planned grazing economically provided quality forage to meet the animal's nutritional requirements, while maintaining forage in a healthy vegetative state as opposed to the current state of continuous grazing that is highly detrimental to the survival and production of quality plants. For close to 15 years, the RUA was considered by the community as a model for transforming customary institution for sustainable management of natural resources in Merti Sub-county.

All community members were involved in general meetings where crucial decisions regarding use of the range were discussed, except non-Borana neighbouring communities that were not involved in the planning and management of resources. The RUA evolved out of a community need and was run by community members. According to community members, it managed to streamline the operation of drought reserve boreholes, and a sense of collective ownership and responsibility for the rangeland and the boreholes use was restored. This earned the trust of the community and the community committed to the RUA through timely payment of the annual membership fee and water levies charged during the dry season. RUA therefore had a strong legitimacy from the Borana community it represented, and from which all its members were drawn. As a locally based mechanism with multiple levels, it was considered very appropriate and in line with local natural resource and cultural norms, values and practices. Decisions were also made on a consensus basis, which gave members the opportunity to voice their opinions. It is important to note that the success of the RUA was anchored on multilevel participation which was inclusive at all levels and community members were allowed to deliberate and voice their concerns in all community meetings and general assembly during annual meetings.

An important aspect of the RUA's management of communal resources was negotiation of reciprocal use agreements between neighbouring pastoral groups. The RUA according to community members was also required to regulate influx of animals from neighbouring communities through application of customary rule on reciprocal access to cross border resources. This begs the question of cross-border governance of natural resources. According to community respondents, the RUA did not have the capacity to negotiate effectively with institutions for the neighbouring areas because of the comparative weakness of such institutions in neighbouring areas and their consequent inability to control migration especially from Wajir and Garissa. The result of this institutional weakness was that during periods of drought uncontrolled numbers of livestock moved into Merti area and affected the grazing plans put in place. The RUA did not have adequate capacity to monitor and guard the drought reserves throughout the year and as a result it was frequently found to have been grazed during the dry and even wet seasons. This resulted in the resource use conflicts and loss of motivation from RUA members to conserve pasture and even instigated the withdrawal of members from the association.

Conservancies have also had a positive and negative impact in the management of natural resources according to discussions with focus groups. According to them, community conservancies have done well in social development (such as building of health centres, bursaries, employment, transportation and supporting women) and conservation of biodiversity in areas they have been established. They have also managed to protect wildlife on which a large part of their livelihood depends through tourism.

"...Human-wildlife conflicts in this area has greatly reduced. Conservancies have managed to concentrate wildlife in certain areas and now only very few such as hyena strays away to disturb us..." said a male participant in Merti.

On the negative side, majority of respondents in Merti decried that conservancies have brought an element of "resource entitlement" where communities within the conservancies feel that they are more entitled to pasture and water resources than others. This entitlement according to community members has intentionally or unintentionally, reshaped rules of inclusion and exclusion. According to them, various forms of exclusion are unfolding: access is provided to certain people or communities and not others who are considered 'bad' in the management of rangelands. Depicting certain areas or people as 'bad' shapes the processes of inclusion and exclusion based on an environmental conditionality. The processes of inclusion and exclusion have also become linked to ethnicity, and therefore 'harden' the lines between ethnic territories as is the case between Borana and Samburu. This has therefore restricted herd movements resulting in reduced pastoral productivity and increased the risk of livestock death during droughts. They argue that management board of conservancies have undermined community elders in decision-making processes. One of the roles of the RUA management committee, for example, was to advise the community on Chari and Kom reserve areas when pasture was depleted. The communities used to access Chari as a drought reserve area but now it has been put under the management of the conservancy and the RUA management committee was unable to negotiate with the conservancy board to allow access of pasture by their members during the drought season. Conflicts in Kom (another drought reserve area) according to focus

group discussions have been exacerbated by the allocation of some of the area for conservation in total disregard of traditional grazing patterns. They argued that such disregard of traditional movement patterns has restricted movements, increased tensions and fuelled inter-pastoral conflict by appearing to favour one ethnic group over another and entrenching their land claims.

It is also important to note that gender equality and equity is key to rangeland rehabilitation, conservation effectiveness and sustainability which should be considered by all resource governance models. The RUA had only two women on their management committee which according to community members, was underrepresentation of women. Women’s unique knowledge on natural resource management, their influence on youth and their role in stewarding ecosystems makes them an important stakeholder group in determining and developing sustainable rural economies. Given gender-differentiated roles and responsibilities in natural resource management, sustainable rangeland management must address the specific needs and opportunities of women and men in order to reduce inequalities, stimulate growth and reverse environmental degradation. The recognition of women’s land and resource rights would reinforce their social and economic empowerment resulting in financial security and decision-making power. There are however good developments with women participation in natural resource management. With the new WDPC, more women are being involved in the decision-making process with the current committee having at least four women. Women are also taking over the marketing of livestock and regrouping themselves in women marketing groups.

“We are told conservancies are good and we do not dispute that. We have seen them getting a lot of assistance from NRT and they even have a vehicle that helps their people when in need. Conservancies also retain grass reserves during the dry season and provide opportunities for their members to access good-quality forage. However, they have reduced access to large areas of former grazing land and imposed restrictions on livestock mobility. Traditionally, Chari and Kom were the community’s refuge during droughts because of the permanent water sources and various forage species that were good for livestock. Now the restricted access to this area has greatly undermined the survival of our livestock. The protection of these areas has highly restricted the movement of livestock and access to resources such as water and pasture. Since the time I was young, we all knew these areas belonged to all of us and our elders would tell us not to graze there during the wet season. They only allowed us to move there in the dry season. Right now, as we speak, we cannot go there. Those young boys (conservancy rangers) cannot allow you there.....” said an elder and member of Dheeda committee

Figure 8.2: Grazing planning at Cherab.



Rangelands in Cherab are being degraded through misguided rangeland investments and policies. Some of these policies undermine communal laws and regulations put in place by the community. According to informants, weak land tenure has held back sustainable livelihoods and development in the area. In Yamicha for example, the political leaders encouraged communities to settle in the area which was serving the community as a dry season grazing reserve. As such dry-season grazing reserves have been lost, livestock movements have been restricted, and land degradation has increased, consequently undermining the sustainability of the pastoral livelihood system. As a result, the common property regime which has traditionally allowed pastoralists to sustainably manage vast areas of land is being undermined by policies that do not favour pastoralism. Formal recognition of these communal laws and regulations through an act of parliament will strengthen the local governance structures. Isiolo County government is in the process of recognizing the traditional/local governance systems through the rangeland bill which provides for establishment of a Council of Elders to coordinate the management of water and pastures as well as recognition, and use of indigenous knowledge systems in management of natural resources. This may greatly solve some of the challenges that the RUA went through and enhance legitimacy and sustainability of local institutions.

9 Findings: Sericho Dheeda

By Alphayo I. Lutta

9.1 General information on the case

Understanding and managing vegetation resources are crucial components of pastoralism and sustainable rangeland management. In Sericho, the Borana council of elders—the Dheeda council—has regulated access to and use of grazing resources for a long time, although with some changes and ups and downs over the years. This system is meant to ensure that rangelands are used sustainably to provide multiple benefits. The Dheeda system is an indigenous community-led approach for natural resource governance comprising of religious and opinion leaders selected by the community. According to respondents in focus groups, the leaders of the Dheeda are guided by customary laws that preserve traditional codes of conduct with amendments and additions based on the evolving environmental, social and cultural context.

Until 2017, Sericho was part of the Garbatulla Dheeda, but eventually it was realized that this scale was too large for effective decision making, and also missed opportunities for taking advantage of resources available at ward level. Therefore, according to our informants, the Dheeda system in Sericho was revived in 2017 with the ward now being treated as a dheeda. Support along the way was provided by the Resource Advocacy Program—a local NGO—which helped the community to prioritize the strengthening of natural resource governance and significantly move from vulnerability to resilience. The Dheeda system aimed to sustainably plan grazing areas and their access, and to undertake resource surveillance. According to our respondents, the surveillance has led to preservation of dry season grazing areas and strategic drought reserves. This zoning is designed to cater for pastoralists' needs in different seasons of the year and ensures that the resources are used sustainably. According to focus group discussions for rangeland scoring, the choice of the grazing areas is made by community members who meet regularly under the council of elders. The grazing area consists of different grazing blocks. At the start of each of these grazing periods, community members aggregate all cattle into one large herd. The aggregated herd is then herded in the grazing blocks sequentially, with grazing being completed in one block before the herd moves to the next block, allowing sufficient recovery time after defoliation, hence reducing overgrazing.

The Dheeda council, according to the current chairperson, serves a total of nine hundred households with an estimated population of 15,000 people in Sericho who make and agree on the laws governing the use of their rangeland resources including: rotational grazing, bunched herding, banning tree cutting for charcoal, and rangeland reseeding. Proper management of water points, preventing degradation and overgrazing and preserving dry season grazing areas has had a positive effect on biomass yield and water storage capacity which traditionally benefited the community across the seasons.

9.2 Specification of the approach

While the practices of resource surveillance and Dheeda meetings to strategize grazing practices were relatively well established and widely used among the Borana community, this was not so much the case in Sericho ward until the year 2014 when the county experienced a long dry spell. Through a significant support from the donors, the county government invested in adaptation to climatic change through local customary institutions, as reported by the key informants from the county government of Isiolo. A County Adaptation Fund was established and managed at the local level to ensure that funds were available to the vulnerable communities where they were needed. Because the Dheeda was not well organized and accustomed to receiving and capitalizing on external support, RAP provided a platform for reviving and strengthening the Dheeda council so that it could benefit from the climate

adaptation fund and build the resilience of communities to climate stress. According to our respondents in focus groups, Sericho for a long time had elders who would make decisions regarding the use of their rangeland and represent the community at the larger Garbatulla Dheeda council. This according to the respondents was not effective because the elders would only reconvene when there were challenges in the community that needed urgent attention. For effective natural resource management at the ward level and the need to collaborate with the WDPC in development interventions, the community decided to strengthen and build the capacity of Dheeda council at the ward level. Through a participatory scenario analysis, the benefits of strengthening the capacities of Dheeda for natural resource stewardship were discussed with the aim of preparing for climate change, variability and drought risk in the area. All stakeholders including local administrators such as chiefs, county government, and pastoralists were brought together through RAP and involved in the discussions to find a common ground for strengthening the Dheeda system at the ward level. According to majority of the respondents, the discussions began in mid-2015. The participatory scenario analysis approach, according to the participants, enabled the community to reflect on the past, present and future scenarios for natural resource management. RAP facilitated community sensitization and awareness creation up until the months of August 2017 when elections for the first Dheeda council was held. RAP facilitated the capacity building of elected Dheeda representatives in areas of needs assessment, conflict resolution, resource mapping and on how to successfully run a community-based organization and in the late 2017, the first general community assembly meeting was convened by Dheeda council officials to actively begin the management of grazing resources. According to the current WDPC chairman, the Climate Adaptation Funds enabled the Dheeda council to review their institutional functions and procedures and to hold strategic meetings, including cross border meetings with resource users from neighbouring counties. Dheeda members then invested their own funds to boost resource surveillance and management of the grazing areas over the dry season. According to informants, participation of community members through meetings and workshops held in all locations ensured better inclusion and integration of the existing values, experiences, and various types of knowledge in the community. Local expert knowledge and experiences from elders improved the quality of information used for decision-making, increasing its credibility and legitimacy.

9.3 Governance model

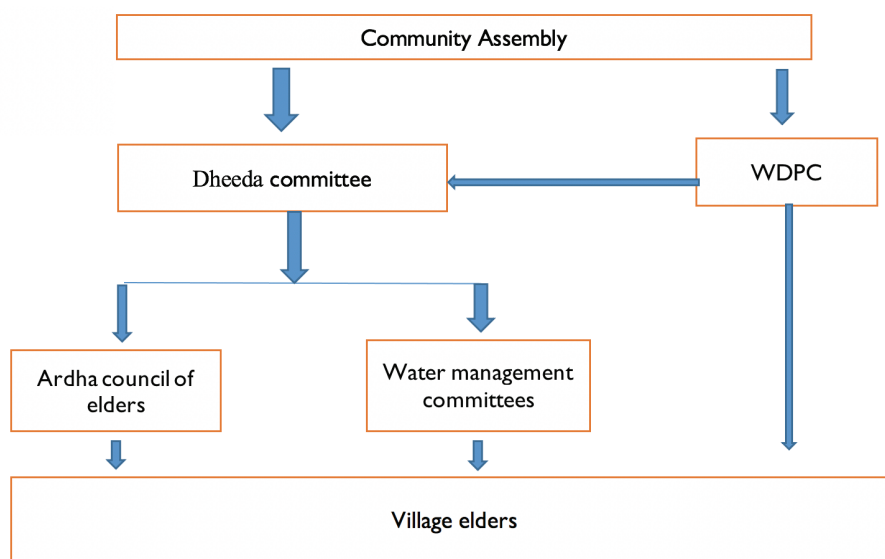
9.3.1 Development of the governance system

Through the climate Adaptation Fund, Isiolo County established and supported Ward Adaptation Planning Committees from rural wards to build the adaptive capacity of communities to shocks and climate variability by strengthening customary institutions. According to the key informants from the county government, the customary institutions were to identify, develop and implement priority projects for adaptation to climate change. A Dheeda council, a traditional system of governance, was identified as an ideal institution that would enable the Sericho community to cope with seasonal variability through the designation of areas with ephemeral water sources for grazing during the wet season, and others where there are permanent water sources to be conserved for the dry season and drought periods. RAP initiated the process of strengthening the Dheeda council in Sericho. To achieve this, RAP organized workshops and community meetings for participatory scenario analysis. Through the participatory scenario analysis approach, the community conducted participatory resource mapping and planning which helped the community to appreciate where they were coming from and heading to in terms of natural resource management. These activities initiated a process for improving capacity of local communities to manage their institutions through effective participatory decision-making processes. The effective participation approach, according to the county government informants, gave the community the skills to engage in decision making processes, through the endorsement of their own legitimate systems of management and use, as well as building their capacities in new skills of management and planning. The current chairman of Dheeda council reported that the capacity building activities done by RAP included the preparation and facilitation of strategic processes and meetings to strengthen the functions of the Dheeda, peace building, conflict resolution and the development of community grazing plans.

9.3.2 Governance arrangements

The overall traditional governance structure for Sericho flows from the highest council of Dheeda management committee, which is supported by the local councils at the location level. The location councils are organized along territorial lines. Further down the hierarchy is the household, which constitutes the smallest unit in the social organization. The spatial organization of Sericho community is such that the basic unit is composed of stationary settlements of households (locally called *Warr*). Several households form a village (*Olla*) which is headed by a village elder. According to elders, the head of the *Olla* is the first man believed to have founded the *olla* or his senior male descendant. He decides in consultations with all household heads on movement of *Olla* as well as solving any disputes that may arise within *Olla*. A cluster of villages with a common land-use pattern make up a neighbourhood (*Ardha*). The heads of *Olla* that makeup the *Ardha* come together to elect their representatives within the local council (*Ardha* council of elders). The *Ardha* council of elders then elect their representative who make up the overall Dheeda committee council. Elections are held after every three years. According to informants, the Dheeda council is responsible for ensuring that dry-season and wet-season grazing patterns are closely observed and monitors the seasonal movements of animals. When the grazing resources become depleted in one area, the community members are instructed by the Dheeda council to move their livestock to other areas where there are better grazing and browsing resources, allowing the depleted grazing land to regenerate. There are also other appointees who deal with decentralized management units such as boreholes, operating under the auspices of the Dheeda. The Dheeda council works together with the WDPC in development projects in the ward on behalf of the community. According to all the respondents in focus groups, both Dheeda and WDPC reports to the community. That means all decisions regarding rangeland use and management are made during the general community assembly meeting. Dheeda and WDPC officials then implement those decisions agreed upon on behalf of the larger community.

Figure 9.1: Sericho Dheeda governance structure.



9.3.3 Women and youth in RUA governance structure

In terms of youth and women engagement, the new reinvigorated Dheeda system has incorporated women and youth in their decision-making process. According to informants, women are now actively getting involved in the natural resource planning process as opposed to previous years where the entire council was made of men. The Ward Development Planning Committee (WDPC) which works with Dheeda council in planning for development projects in Sericho is currently made up of 11 members, out of which 4 are women and 2 are youth. The Sericho WDPC (previously known as Ward Adaptation Planning Committee) is chaired by the chairman of the Dheeda council and draws majority of its membership from the Dheeda council. Discussions with focus groups of women revealed that there is lack of consideration for gender issues in management of most projects and often times they are built on

assumptions and generalized gender stereotypes that women are only natural resources users, not the decision-makers. This is because all assets including livestock tend to be in the men's names and therefore their tradition believes that all major decisions with respect to the environment should be made by men.

“The distinct roles and interactions men and women have with the environment mean that any intervention will impact on them in different ways. Men and women usually have different roles in the family and community. For example, men are responsible mainly for income generating activities and decision-making, while women take on subsistence activities and looking after the family. When it comes to environmental protection and management, they're also likely to have different opinions, attitudes, priorities, and power over resources. They also interact differently with the environment, which provides them with different opportunities to protect and manage it more sustainably...” – a county government official.

According to our focus group discussions with women, men are often considered the official decision -makers within their community and have power and control over the way natural resources are managed. As such, most development partners tend to speak to the men when assessing the needs of communities and end up having more men in decision making organs. According to informants, social and cultural barriers may prevent women from decision making, and women often lack the confidence to voice their opinions, too. So, most of the time, they are largely absent from decision making in environmental management, despite being critical actors in natural resource management. Some women averred that their existing responsibilities don't allow them time to engage in such roles. According to majority of the respondents in women focus groups, both women and men use natural resources and influence the condition of the environment. However, women's roles are often less visible than men's, and aren't formally recognized. For example, women in focus groups said they frequently carry out labour on land over which they hold no formal tenure rights; and spend a great deal of time collecting water, fuel wood and fodder for family subsistence, but all this is culturally not considered 'work'.

9.3.4 Formal recognition

Despite the importance of the Dheeda system to the sustainable management of rangelands and its resources' in Sericho, these traditional systems are not yet recognized by the government or even by the temporary users who access some shared resources during the dry seasons. Our respondents in focus groups reported that the lack of recognition and the increasing influence of local administration are weakening the Dheeda system and the leadership they provide in terms of rangeland management. This was corroborated by our key informants, who indicated that the ultimate weakening of the traditional governance systems, as well as changes in land use and inappropriate resource development have caused damage to the way in which resources have been managed.

“We make very good laws and regulations that govern the use of resources here. But the challenge is that those laws are not legally binding. It only our community members who are obliged to follow them due to the respect they have had for elders. But neighbours who come intrude our space do not recognize them. And we cannot charge them in the court of law. They believe this is a community land and they are free to graze. So, the only option for us is to evict them and that is why you hear a lot of conflicts around....” – one of the Dheeda leaders

9.3.5 Multilevel planning

Development of grazing plans and management of rangeland resources is done by the Dheeda council in consultation with the entire Sericho community and local government institutions. Local councils at the location (*Ardha*) level manage grazing resources within their locations in accordance to defined communal rule of natural resource access. There is also another level of management at the ward level under the Ward Development Planning Committee which deals mainly with the development projects in the ward. The purpose of the committee is receiving and preparing project proposals and budgets; supervising projects implementation; monitoring and evaluating projects implementation; providing liaison between projects implementation committees and the County Government. The WDPC, according to its chairperson in Sericho, is required by law to convene open public meetings in consultation

with the village council in every village or among a cluster of villages in the ward to deliberate on development matters in the village and the ward. The WDPC therefore consults with the Dheeda council at the ward level and links them with the county government. In Sericho, the WDPC and Dheeda are both chaired by the same person.

Despite the acknowledgement from community members that the Dheeda system has played a significant role in the management of grazing resources, there were various concerns on the constitution of the council as well as that of the WDPC. According to focus group discussions with both men and women, local chiefs are ex-officio members of Dheeda and according to them they have interfered with Dheeda committee and compromised its objective decision-making process. They indicated that chiefs influence decisions made by Dheeda committee and are also involved in negotiations with cross-border groups from neighbouring communities over access to grazing resources. Participants in focus groups alleged that chiefs were personally remunerated by cross-border pastoralists who benefitted from grazing resource, access granted to them by the chief in his capacity as a member of the Dheeda committee. This according to focus group discussion participants, has affected the autonomy of Dheeda in management of grazing resources. Chiefs are government appointees who wield a lot of power in the community and according to the vast majority of our correspondents, the chiefs have become elite captures/gatekeepers who hijack development organizations for their own selfish interests. Although the Dheeda system was reinvigorated as a result of the county government's Climate Adaptation Fund meant to prepare for climate change, variability and drought risk by strengthening local institutions, the by-laws governing the Dheeda system are not legally binding and therefore a chief yields more power than the Dheeda council.

“When we make decisions as a community, we have to involve the chief, Dheeda committee, as well as WDPC. In all this levels, the Chief is regarded as superior. When there is a conflict with neighbours, it's the chief who wields more powers and he is the one who negotiates on our behalf. This arrangement is not working. We should allow elders to take lead. Offenders of community laws end up paying something small and are left scot-free. This undermines the whole idea of Dheeda ...” Male member of Dheeda committee.

9.3.6 Inclusivity, accountability and legitimacy

According to discussions with focus groups and key informants, everyone in the community was represented in the Dheeda committee. Most decisions are made in a community baraza where all households are usually invited. However, on the leadership of Dheeda committee council, there were no women representatives except on the leadership of WDPC which has 4 women and 2 youth representatives. The views of women, according to respondents in focus groups, were largely expressed through their husbands. In the past 3 years, more women are taking up responsibilities and actively participating in community meetings. According to the Dheeda chairman who doubles up as the WDPC chairperson, water committees that manage community boreholes have more women representatives than men.

In terms of ethnicity, the entire ward is largely made up of one ethnic community, the Borana, with very few members of the Somali community. The Somali community was not represented on the Dheeda committee. According to focus group discussions, Somalis are not aware of the grazing plans put in place by Dheeda and therefore end up grazing their livestock in reserved areas, leading to conflicts with the Borana Community.

Reservations were also raised with regard to the operations of the WDPC and the influence of elites in Dheeda meetings. According to all respondents in our focus groups, wealth in Sericho was closely associated with the impression of being successful and having the ability to make good choices, thus shaping people's relative authority in decision-making processes. Major wealth indicators included having livestock, educated children and big houses. The poor, according to respondents in the livelihood and income focus groups, were identified as those without livestock, without education, and those who relied on livelihoods such as casual labour, charcoal production or petty trade. According to the majority of respondents, the opinions of the wealthy people during barazas are not challenged and the community end up doing what they suggest. Our respondents also reported that as much as committee members for both the Dheeda and the WDPC are “democratically” elected, those who are supported by the wealthy members end up winning.

“Access to resources and positions here are to a large extent dependent on your place in a social hierarchy, your authority to influence decision-making processes and your links to economically or politically powerful people, which in turn is shaped by gender, age, livelihood and wealth.” Woman participant.

Respondents argued that wealthy, well-educated people with large social networks were able to capitalize on their ties with people in power to channel resources and positions to their own families and ethnic kin. Some local informants reported that they felt bypassed and neglected by both development projects and humanitarian assistance from government, and argued that these interventions were influenced by existing power structures such that those who were marginalized in the community were effectively restricted from accessing assistance or positions in development projects. Even though every community member was free to attend meetings convened by Dheeda council and participate in elections which were held after every three years, participants in focus groups reported that there was a lot of social, political, and economic inequality and underlying power dimensions that dictate whose voice is heard and whose realities are accounted for in community meetings. This undermines effective participation by all community members in Dheeda meetings.

“When organizations come here, they first stop at the chief’s office. The chief being a member of Dheeda council ends up making decisions on our behalf. The only thing he does is to inform us about it and most of the time we all agree even when some of us have a contrary opinion. The chief here is the son to the Dheeda chairman who is also the WDPC chair. So essentially, we follow what the two of them say. This for me, is not participatory planning that I know, its rubber stamping...” male participant in Biliki.

In terms of accountability, there are *no* methods put in place to hold the Dheeda council to account. However, according to the local informants, the council is only offering advice regarding the use of grazing resources which is usually done in community barazas.

The legitimacy of the council was demonstrated through a strong sense of ownership for the Dheeda committee despite some challenges. Discussions with focus groups revealed that the community acknowledges the Dheeda council as the only natural resource governance body that can effectively manage their rangeland. Through participatory natural resource mapping and planning processes, the community understood and enacted their rights to engage in decision making processes that determine how natural resources are utilized and managed. The engagement of the county government through the WDPC gave the process some legitimacy. According to informants, the community was given a voice in the design of a government-recognized planning process and have been able to express their opinions on future interventions through WDPC which works under the leadership of the Dheeda council. Through WDPC, the community, according to county government informants, is now active in the devolved systems of natural resource management and it’s the community giving endorsement for planned development activities in the area by a range of different actors. The plans developed by WDPC under Dheeda are also guiding discussions on natural resources and land use in the ward as well as decisions on public investments.

9.3.7 Institutional sustainability

According to all respondents in the focus groups held in the ward, the Dheeda governance structure is self-sustaining. The Dheeda in Sericho is run, managed and financed by the community. They have so far managed to hold one election for Dheeda council officials through their own contributions. All financial needs and operational costs are met by community contributions. According to one respondent, a government official, the decision by the county government to work towards developing a new Act and set of rules and regulations for traditional governance systems such as Dheeda is in itself an effort to ensure sustainability of Dheeda system as it seeks to put in place a system that would ensure continued community engagement in decision making and management.

“Other than what RAP supported us with, we have not had any other sponsorship relating to management of Dheeda. In fact, they only managed to put us together, and train us on resource management and creating awareness on the essence of having a functional Dheeda. After that, they left us on our own. We have financially supported ourselves since then and am happy my people are very cooperative. We know each other as a family and whenever we have an issue that requires money, the community comes out supportively. ...” -one of the Dheeda leaders

9.4 Financial sustainability

Whenever the community has an issue that requires urgent attention, the Dheeda council convenes a community meeting and together agree on how much money would be required to address the issue and how much every household contributes and they easily solve the issues. According to one of the members of Dheeda council, community members have been cooperative in giving their contributions and this has enabled Dheeda to effectively discharge their functions for the greater good of the community.

The main costs for the Dheeda system, according to one of the Dheeda council members, were incurred through the review of institutional functions and procedures and holding strategic meetings, including cross border meetings with resource users from neighbouring counties during its establishment. Dheeda members invested their own funds to boost resource surveillance and management of the grazing areas. Since then, Dheeda has supported itself through funds collected from community members:

1. Community contributions on need basis. Whenever there is an issue that requires funding, the community comes together to contribute towards the same under the leadership of Dheeda management committee.
2. Water levies. There are two water pumps in Sericho that charge water levies for the users. Every user pays two shillings for every 20 litres of drinking water while cows and shoats are charged KSh 5 and KSh 2 respectively, with these funds meant to cover fuel, labour and maintenance.

To enhance transparency, all the levies and contributions collected from community members are recorded and read out to all community members during community barazas convened by the Dheeda council.

9.5 Ecosystem outcomes

9.5.1 Vegetation condition and trend

The general observation of the rangeland condition by respondents was that there has been a considerable increase in the bare surface and built-up areas, but that activities undertaken by the revived Dheeda system has begun to reverse the trend and improve vegetation cover. Forage quality however remains low with less palatable species but much better than before the Dheeda system was revived. Availability of forage increased across the seasons due to the grazing plans put in place by the Dheeda council. Wildlife populations in the areas has declined with more settlement and general increase in livestock population despite the reduction in per capita livestock sizes.

9.5.2 Attribution of range condition to Dheeda system

According to the focus group discussions that revolved around rangeland condition, the pastoral community of Sericho moves seasonally from home areas to dry season areas while accessing buffer zones bordering reserved areas. Carefully negotiated rules ensure access to seasonal water points and dry season grazing areas reserves. According to a government official among our respondents, control over livestock water points has been a prime determinant of availability and access to pastures in different seasons. Ownership of water sources is usually vested in the collective rather than in individual households. As a result, the community is allowed to graze in communally agreed areas. This effectively decreases land degradation hence increasing vegetation cover. During the period between 2017 and 2020, all respondents in focus groups reported that there was an improvement in vegetation cover and successions from low quality forage to good quality forage. According to our respondents in focus group discussions, the Dheeda council has controlled threats like wildfires, overgrazing and tree felling for charcoal production which has increased vegetation cover and the availability of pasture (Table 9.1).

Our key informants indicated that the Dheeda was revived to reduce biodiversity degradation through the promotion of communal responsibility to conserve the resources for sustainable benefits. In both focus group discussions

that revolved around rangeland condition, respondents averred that the increasing haphazard human settlements, unregulated use of pastures, charcoal burning, logging of trees and more so wildfires posed major threats to the vegetation cover in Sericho. Our respondents further indicated that, efforts like conservation education and enforcing regulations by the Dheeda council prevented overgrazing, wildfires and resource use conflicts that could severely impact on biodiversity. The riparian vegetation does not suffer much losses to wildfires and other threats that negatively impact on vegetation according to the respondents in focus groups. Elders have managed to control livestock grazing in the core zones to limit competition resulting to increased vegetation cover and availability of pasture. This has also kept emergence of invasive species at bay according to our respondents.

The scoring exercise by community members shows that there is a significant improvement in the availability of quality pasture and that management activities have reduced the expansion of bare ground. This was attributed to sustainable grazing plans put in place by the Dheeda council that has contributed to improved livestock condition (Table 9.1).

“...To be fair, we have seen a lot of changes in terms of vegetation cover and availability of pasture and water. The enforcement of grazing plans has helped us a lot. We all plan on how to move with animals and we are not scattered all over as before. This has reduced overgrazing. Bare ground has also reduced. Intra-community resource-use conflicts are no more. Despite the few challenges here, Dheeda has done very well. We are very optimistic that in case we experience another long dry spell, we shall be able to survive. We have dry season grazing reserves, drought fall back areas and we are managing our water resources very well. You have not seen a lot of Prosopis here. This is because we are managing it. Right now, through WDPC, we have programmes for reseeding our bare ground. This will help to control invasive species that colonize bare ground and increase vegetation cover.....” - focus group discussion participant who is member of group involved in rangeland reseeding.

Table 9.1: Consolidation of focus group scores

Treatment site (Sericho)				
Indicators		FG 1	FG 2	Average
Freedom from invasive species	Before	5/5	4/5	4.5/5
	After	5/5	5/5	5/5
Presence of palatable species	Before	1/5	1/5	1/5
	After	3/5	4/5	3.5/5
Good animal condition	Before	1/5	2/5	1.5/5
	After	4/5	4/5	4/5
Absence of bare ground	Before	3/5	2/5	2.5/5
	After	2/5	3/5	2.5/5
Overall score	Before	10/20	9/20	9.5/20
	After	14/20	16/20	15/20
Reference site 1 (Garbatulla)				
Indicators		FG 1	FG 2	Average
Freedom from invasive species	Before	2/5	1/5	1.5/5
	After	2/5	2/5	2/5
Presence of palatable species	Before	1/5	2/5	1.5/5
	After	3/5	3/5	3/5
Good animal condition	Before	1/5	2/5	1.5/5
	After	4/5	3/5	3.5/5
Absence of bare ground	Before	1/5	2/5	1.5/5
	After	2/5	2/5	2/5
Overall score	Before	5/20	7/20	6/20
	After	11/20	10/20	10.5/20

Reference site 2 (Loll Kuta)				
Indicators		FG 1	FG 2	Average
Freedom from invasive species	Before	1/5	2/5	1.5/5
	After	2/5	2/5	2/5
Presence of palatable species	Before	1/5	2/5	1.5/5
	After	2/5	2/5	2/5
Good animal condition	Before	2/5	2/5	2/5
	After	3/5	3/5	3/5
Absence of bare ground	Before	2/5	1/5	1.5/5
	After	2/5	2/5	2/5
Overall score	Before	6/20	7/20	6.5/20
	After	9/20	9/20	9/20

9.5.3 State of bare ground

For comparison, two neighbouring areas were identified by the community members. This included Garbatulla ward and Loll Kuta area. In both focus group discussions that revolved around rangeland condition, respondents indicated that, bare ground has increased compared to the last six years. However, comparing to the other two areas, Sericho is much better due to good management practices. Our respondents acknowledged that most areas in Garbatulla and Loll Kuta have more bare ground which are being colonized by the invasive *Prosopis juliflora* species. Sericho has managed to control the spread of *Prosopis juliflora* by reducing incidences of overgrazing. According to focus group discussion participants, deforestation, climate change, and habitat degradation have led to the loss of biodiversity and have allowed for the proliferation of invasive species in other areas. *Prosopis juliflora* spreads quickly in areas where overgrazing has caused highly degraded soils and has no forage value to livestock. To make matters worse, respondents indicated that it releases a chemical that displaces other species and further degrades the rangeland by suppressing the growth of grasses preferred by livestock. Loll Kuta does not have a functioning institution that controls the use of the range. The haphazard grazing, according to focus group discussion respondents, has caused overgrazing of land and proliferation of invasive species. This has increased the level of bare ground in the area.

9.6 Livestock production

The entire objective of rangeland management in Sericho is to increase livestock productivity. According to one the members of the Dheeda council, wildlife conservation and tourism is not a priority due to few wildlife available in their area, significant enough to attract tourists. Discussions with the focus groups revolving around livelihoods and income, revealed that there is a general increase in the livestock population but a reduction in per capita livestock sizes. According to a majority of respondents, livestock ownership is increasingly being concentrated into fewer and fewer hands of wealthy pastoralists, and the gap between rich and poor is increasing as the rich are able to employ strategies that minimize their own and capitalize on other losses during droughts.

Offtake rates are still low though slightly better than six years ago due to availability of markets and the women initiatives of group marketing. Participants in focus groups reported that long dry spells result in seasonality of the markets in the sense that the livestock move to inaccessible areas and those accessible would be in poor body condition for sale. This vicious circle explains why there is low offtake rates. Our respondents in focus groups who participate in livestock marketing indicated that, owing to frequent drought, traders could not make good savings because they are in good business during normal seasons and consume the money during drought season. Such reluctance to sell, according to majority of respondents, may stem not only from the livestock's important economic value but also from their social insurance function, which facilitates important social networks that are especially helpful in times of need. Furthermore, access to terminal markets is often limited.

The planned grazing of livestock has resulted in availability of pastures across the season which has led to a general increase in the condition for livestock and livestock productivity in terms of milk yield as well as the ability of livestock to survive the frequent droughts experienced in the area. Discussions with focus groups and key informants, revealed that livestock body condition for all species were good. The animals' body condition improved significantly compared to the previous years when Dheeda was not strong enough and this was attributed by respondents in focus groups to better access of forage resources and shorter trekking distances when accessing pasture and water.

“Wealthy pastoralists may send their livestock for grazing at ranches in other areas during extended dry seasons or droughts, or bribe park rangers to send their livestock for grazing inside Meru National Park. And that is why when you look at stocks per head, the average is very low yet there are so many livestock in general here... .” Woman respondent in focus group discussion.

Milk production was fair with a significant improvement since the year 2018. The production, according to key informants, was expected to improve further in the coming months as forage resources condition continue to improve both in terms of quality and quantity. Respondents attributed the significant improvement in milk production to the improved and better access to regenerating pasture and browse and water resources in the ward (Table 9.2).

Table 9.2: Changes in livestock production indicators, Sericho Dheeda

			Typical household		Poorer household	
			Six years ago	Now	Six years ago	Now
Family's average herd size	Shoats	FG 1	200	150	30	15
		FG 2	180	120	20	10
		Average	190	135	25	12
	Cattle	FG 1	100	50	15	5
		FG2	80	60	20	8
		Average	90	55	17	6
Number of animals the family sells in a year	Shoats	FG 1	3	8	3	1
		FG 2	5	14	2	1
		Average	4	11	2	1
	Cattle	FG 1	5	8	2	1
		FG2	3	10	2	0
		Average	4	9	2	1
Number of animals the family slaughters in a year	Shoats	FG 1	5	5	1	1
		FG 2	4	3	0	0
		Average	4.5	4	1.5	1.5
	Cattle	FG 1	3	2	0	0
		FG2	2	2	0	0
		Average	2.5	2	0	0
Milk yield	FG 1	Good	Very good	Fair	Fair	
FG 2	Good	Good	Fair	Good		
Ability of animals to cope	FG 1	Poor	Good	Very poor	Fair	
FG2	Poor	Very good	Poor	Fair		

9.7 Individual household income sources

In terms of income proportions, livestock income consistently accounts for the largest share of household income according to majority of respondents in focus groups. Although livestock is the main source of income, participants in focus group discussions reported a consistent increase in salaried, business, and casual income that could imply household diversification of income sources away from livestock.

We also observed from the discussions, a gradual diversification of livelihood into other non-livestock income activities was mainly common among households with few livestock. Households with more livestock, in contrast, continue to focus mainly on livestock husbandry according to the key informants. As a result, livestock income accounts for a higher percentage of income for households but as herd sizes decline, households have a greater demand for income from alternative sources and thus they turn increasingly to non-livestock activities to help smooth their consumption and meet other immediate household needs. According to our respondents, business income is mainly from petty trading in food stuffs, fuel wood, honey, livestock and livestock related products, sale of farm manure, or other basic commodities as well as shop keeping. Casual labour includes wages from temporary off-farm jobs, farm labour and herding for pay.

9.8 Livestock market systems

Discussions with focus groups and key informants revealed that there were no properly functioning marketing systems in Sericho where market outlets are clear and support services such as marketing information and animal health are easily accessible. There is a free play of market forces where free market principles of demand and supply operate.

“...It is a free market. Willing buyer, willing seller. As for me, this is a disadvantage for the pastoralists. It is quite unwise to let livestock trading in the ASALs to operate fully under those tenets as the challenges facing this region are enormous and therefore there is need for intervention on many aspects. Market liberalization will not contribute to the reduction of poverty until better market linkages have been forged, our people are exploited”

- Senior county government staff

There are also important gender issues which relate to livestock marketing that were highlighted during focus group discussions. According to women focus group discussions, woman-headed households were disadvantaged in their access to land, livestock, assets, education, credit, and extension services. The pastoralists' culture is very strong on gender issues. Ownership and control of resources on gender basis is quite clear in Sericho. According to focus group discussions, women are the major managers of small ruminants—sheep and goats—and have control of small ruminant income benefits. Sheep and goats when in control of women can be liquidated for investment purposes. Unlike cattle, which tend to be in the domain of men, be it for market, cultural, or social reasons, sheep, goats and poultry are owned by women. Women market sheep, goats and poultry and control income from this enterprise. Hence, this access enables women to meet some of their basic needs.

In the past three years, more women have also come together to form women groups where they are involved in purchase and sale of livestock. This has seen a tremendous number of women engaging in livestock trade in the recent times. According to the chairperson of one of the livestock marketing groups, the group buys weak emaciated livestock from other livestock keepers at a relatively cheaper price, then deworms, vaccinates and fattens them for three to four months before selling them at a fair price. Women groups have been trained on savings, record keeping, developing business plans and starting other businesses. They share profits from the sale of livestock and access loans whenever they have financial challenges.

Fluctuating market prices is a major challenge as reported in focus groups. There is very little information about livestock prices and only few pastoralists would go to the market to observe transactions and collect price information first-hand. Respondents who were members of women's livestock marketing groups reported that, most of them rely on information networks to generate and distribute reliable, timely information about market conditions. They gather information about livestock prices primarily through traders, but also sort information from friends, relatives, and livestock brokers. However, with the extension of the country's mobile phone service system, it is reported that availability and use of mobile phones is making it easy to communicate about current market conditions in other terminal markets. Besides that, the mobile money saving and sending technology (M-Pesa services) is enhancing livestock trade and reducing risk of cash transactions according to women respondents. The major challenges reported by women groups involved in livestock marketing include high capital requirement for

buying enough livestock to achieve sufficient economies of scale to earn a reasonable profit, cash transactions and limited bank services, lack of loaning facilities in the area, poor and fluctuating market prices, high cost of transporting livestock to terminal markets, livestock diseases and insecurity. High illiteracy and low education levels of women have led to limited ability to understand the intricacies of how to successfully navigate livestock markets.

Some respondents feel that pastoralists are also exploited by middlemen in the livestock trade. According to the county livestock officer, too many middlemen affect the efficiency of the livestock markets in the region. Many livestock keepers engage in very little direct livestock trading and hence, the involvement of middlemen reduces the profit margin for the livestock keepers. They lock out the livestock producers from trading directly with the buyers and therefore reduces their profits. Due to the involvement of middlemen in these situations, the producers' profits are minimized.

To ensure that livestock keepers exploit the potential of livestock resources in order to reduce poverty and increase their wealth, impeding constraints must be tackled according to key informants. According to them, some of the factors constraining market development in the area are insecurity through cattle rustling, recurrent droughts, low literacy levels, endemic livestock diseases and inappropriate policies which hamper rather than facilitate trade. Others are high animal health costs and delivery problems, poor or absent marketing infrastructure, poor roads, insecurity, lack of organized markets and lack of credit facilities.

The National Drought Management Authority is the main institution supporting livestock marketing in Sericho. According to NDMA county coordinator, NDMA facilitates the commercial offtake programme by sensitizing and mobilizing livestock traders through the livestock marketing associations (LMAs). NDMA is supporting traders during drought emergencies through LMAs by providing a transport subsidy. NDMA covers 50% of the transportation costs which encourages traders to go for livestock in all parts of the county and ensure that prices favour the pastoralists. NDMA has also come up with innovative ways of mitigating droughts related risks such as promoting livestock insurance against droughts, promoting pasture/fodder production for finishing livestock before marketing and orienting pastoralists toward commercializing pastoralism through continuous education. Outside of drought periods, the LMA plays a key role. The role of the youth is pivotal in steering the future of livestock production and trade, and hence they are being inducted in livestock trade as well.

9.9 Sericho Dheeda – discussion

Among pastoral communities, traditional systems involving customary institutions, councils of elders, and customary laws and mediators have been important for resolving disputes, enforcing widely agreed standards of behaviour, and uniting pastoral communities within bonds of mutual assistance. One of the key natural resources, around which rules of management are organized, is water. The manner in which water is managed has a range of implications, such as access to vegetation, pasture, crops and other pastoral resources. As the society has modernized, the application of many of these rules and regulations on land, water, environment, as well as their enforcement has weakened considerably, particularly as a result of the transformation from a communal to a more individual approach to the planning and use of natural resources. Local chiefs and ward administrators play an increasingly important role in enforcement of rules and regulations. This, according to community members, has not yielded significant results in management of resources. In view of this, Dheeda council in Sericho was revived to be the main institution around which the planning and management of natural resources was organized. The Dheeda council manages all water points in the ward as well as grazing resources. As communal use of land for grazing remains the major land use system in Sericho, one would expect that customary rules with regard to this would not only remain in existence but also that they would be largely enforced. Discussions with focus groups revealed that enforcement is lacking or inadequate mainly because of the rapidly diminishing influence of the role of elders as a result of modernization of governance systems.

The incursion of modern activities and forms of governance are often seen as challenging the prerogatives of these customary institutions. Discussions with community informants revealed that establishment of WDPCs was one way of trying to replace the Dheeda system. They argued that the roles and mandate of the WDPCs are to oversee

adaptation projects in the community and enhance resilience to climate change. This means that they have a significant role in natural resource management. However, one requirement for being an official in the WDPC is to have basic education. This according to community members is one way of locking out most elders whom the community would have preferred to be members of the WDPC and yet, this committee is vital in terms of planning and implementing development projects in the ward.

The use of traditional structures, systems and institutions in community resource management has also achieved very little because the formulation of laws, policies and legislations by government institutions least recognized and integrated existing indigenous structures and institutions in natural resource management even though the sustainable use and management of natural resources largely depend on the kind of relationship that exists between the management institutions. This has resulted in poor relationships between local institutions and the county/state governments. The poor relationship was attributed to the fact that the local institutions are not consulted in the planning and formulation of natural resource management policies. Community members attributed poor management of natural resources to intrusive state policies which undermines traditional institutions in the management of community resources. WDPCs were formed to enhance the relationship between the government and community members. In Sericho, the leadership of the WDPC and that of the Dheeda council overlaps although the membership of each is not identical. This, according to the chairperson of the Dheeda council, was to ensure that the leadership of the WDPC does not undermine that of Dheeda. The Dheeda council has therefore been trained on natural resource management skills for community natural resource management and have managed to sustainably manage water and pasture resources in the ward. This shows that when traditional institutions are given the necessary training skills, opportunity and resources to develop their own management systems, they can do so very well.

Also, the role of women in natural resource exploitation and management cannot be understated. The issue of natural resources management has always been dominated by men, though women in Sericho generally depend heavily on natural resources for their survival. An understanding of gender issues in natural resource management requires a look at the different roles and relations of men and women. These gender-differentiated roles play a decisive role in the conservation, management and improvement of natural resources. Through their activities and management practices over the years, women have developed different expertise regarding the management and use of natural resources. Yet women's capacity in natural resource management remains largely low and insignificant in both the Dheeda and WDPC institutions in Sericho. It is important to recognize the fact that sustainable development would be illusory without empowering interventions such as education for the enhancement of women's status in natural resources management. To foster sustainable, effective and equitable management of natural resources, governance structures must address the concerns and needs of both men and women – and the ways they, individually and collectively, relate to the resource base by incorporating women in the decision-making organs because women's opinions and decisions are as important as those of any other member of the community.

Results of this assessment also demonstrate that integrating modern and traditional management systems into natural resource management policies can ensure holistic and sustainable natural resources management in pastoral systems. Traditional authorities have over the years managed natural resources through the use of religious beliefs, moral sanctions and a range of sacred and cultural practices. These local management systems which evolved over time have proved more effective and sustainable than other forms of management in the Borana community. Building policies on these existing management systems would ensure a holistic and sustainable natural resources management. These management practices could be harnessed for policy inclusion at all levels in policy formulation processes. As such, there have been some efforts by the county government of Isiolo to advance the rangeland bill from the bottom-up, thus involving traditional authorities and communities in the policy formulation processes, the findings from this assessment seem to suggest that they are least consulted at the planning stages of the policy formulation.

The capacity of all traditional institutions needs to be strengthened and/or developed by means of short-term and long-term programmes. Formal institutional structures for natural resources management are inadequate and, more importantly, do not adequately reflect the aspirations of the local people. Building communities' confidence in their own indigenous knowledge in natural resource management through capacity strengthening will enable them

understand and engage with local governance structures and institutions and service providers on how to access information, resources and services they require as such, actions will be based on indigenous knowledge systems. This would also bring about joint responsibilities in the management of natural resources, joint benefit sharing as well as joint visits and exchanges to erode mistrust and build confidence in both government and traditional institutions in natural resources management.

10 The livestock and products marketing system in the landscape of community conservancies

By Francis Chabari

10.1 Introduction

The assessment focused mainly on the following:

- The role of NRT, especially the NRT-T component, in influencing marketing behaviour of the pastoralists in the community conservancies
- The behaviour of key players at main livestock markets, with significant marketing infrastructure, inside or in the proximity of the conservancies
- The aggregating trade routes for livestock and raw milk to the key markets and outward movement to consumption destinations
- Price discovery mechanisms in markets of choice by conservancy members
- The range of marketing costs and profitability margins as examples
- The increasing role of women in the livestock and milk trade
- Developing enabling policies for investment in, and management of the markets
- Impact of key market shocks like insecurity and the recent market closure as a containment measure for the COVID 19 pandemic
- Mobility (across conservancies, across counties and national borders), seasonality, behaviour from the members of the conservancies.

Pastoralism, as practiced in the communities assessed is largely a subsistence economy, but expanding demand for live animals and meat is increasingly creating substantial pull for live animals into the markets. In response to this, young local traders traverse vast landscapes to aggregate livestock, which they mainly sell at the local formal markets. Previous and on-going initiatives to commercialize production systems have not changed much at household level. There is limited individual freedom at household level to practice anything else as the property (conservancy) is communally utilized and individual households are culturally obliged to largely conform, especially in the mode of utilization of the natural resources. However, decisions on the consumption, sale, purchase, gifting or exchange of livestock are a preserve of the household. Decisions to slaughter or sell small stock are easily arrived at but becomes increasingly hard to decide to sell or consume the cattle and even harder for camels. None of the conservancies practiced grazing quotas, rather herd and flock maximization were the common strategy to ensure secure livelihoods. The strategy targets to ensure households are left with sufficient livestock after major drought shocks.

The assessment was done in the height of the dry season, although the year 2020 is considered a very wet year for the drought-prone counties of northern Kenya. No livestock deaths had been reported even though animals had started losing weight. In the Drought Cycle Management calendar for Kenya, this would be the period recommended for “commercial livestock offtake”, i.e. before livestock significantly decline in market value. Still some livestock in very good body condition, especially goats, were observed in significant quantities at Isiolo, Oldonyiro and a bit less at Merille markets.

Besides the dry spell, the assessment was carried out during a lull phase of the COVID-19 pandemic. The pandemic had indeed created a shock in the markets; in fact, all market sites had been closed for business from March 2020 until mid-September 2020. The traders were back in the market scene but transacting less numbers as a result of the Corona virus depressed economy.

The livestock markets within reach of the members of the community conservancies, including the two cases selected for deeper assessment in this study, are widely scattered in a much wider landscape. The local traders aggregate widely and sometimes outside of the borders of the conservancies.

10.2 Marketing system—findings

10.2.1 The livestock market dynamics in the study area - Northern Kenya supply areas

At the time of this assessment, Northern Kenya was nearing the peak of the long dry season. Fortunately, this has been a good year and no livestock deaths had been reported in Samburu, Laikipia, Isiolo or Marsabit counties that far.

The assessment on the marketing activities for livestock revolved largely around three key secondary market sites (markets at which the majority of animals bought and sold originate from other, “primary” markets rather than directly from the original pastoralist/farmer): Merille in southern Marsabit, Isiolo town livestock Market and Oldonyiro livestock market. Significant numbers of livestock aggregated in the NRT supported conservancies in Samburu, Marsabit and Isiolo pass through these three key secondary markets. Isiolo livestock market has the potential to upgrade to a terminal market once the Isiolo export level abattoir is complete and functional. The assessment also looked at the buying activities of the Northern Rangelands Trust-Trading (NRT-T) and the regular marketing activities spread widely in the zone of interest.

Whereas NRT-T primarily targets to buy livestock directly from households in the conservancies, the practical pastoral mobility necessitates adjusting buying sites to locations where household livestock move to. Fortunately, NRT-T utilizes mobile crushes and weighing scales and buys livestock on basis of liveweights, so any significant gathering of herds, e.g. major watering point in a dry season, is a potential buying site as long as ownership is linked to members of the conservancies.

The numbers of livestock on offer at the major markets are expected to peak in months of September and early October as the shortage of feed and water in traditional grazing areas is experienced. This is when the pastoralists act to offload some non-productive livestock (males and cull cows).

10.2.2 Marketing and related activities by the Northern Rangelands Trust

The Northern Rangelands Trust Trading

The Northern Rangelands Trust Trading has been in existence since 2014 and is the business wing of the Northern Rangelands Trust. NRT-T buys both unfinished and slaughter beef cattle, on weight basis, from the conservancy pastoralist communities in Isiolo, Marsabit, Samburu, Laikipia and Baringo. The main intention is to support the pastoral households in the conservancies to get reliable, fair, equitable and transparent markets for their cattle. The mature cattle are sent for slaughter directly while the feeder cattle are kept on natural fodder for an average three months and finished on enhanced feeding regime in the last three months by adding own-formulated concentrates. The additional cost of supplementing with concentrates is estimated at KSh 100 per month per animal.

Up until 2018, NRT-T bought livestock from each conservancy on a quota basis, setting up buying centres in areas where there are no formal markets. However, the numbers on offer to NRT-T became highly fluctuating as the conservancies that had reliable weekly markets and patronized by local livestock traders and brokers started losing

confidence on selling on the weight. The campaign against selling on the weight, which is largely regarded as a very transparent form of price discovery, was driven by trader cartels. NRT-T waved the earlier arrangement of buying on quota basis from the conservancies, and NRT-T now buys livestock from any receptive conservancy to meet its target. The NRT managers of the conservancies interested in selling cattle provide intelligence on which conservancies are willing to sell on the scale.

NRT-T currently targets to buy cattle weighing between 250 kg live and above, but in some cases buy cattle with good potential for weight gain with a minimum of 240 kg live weight. NRT-T utilizes a graduated pricing system in favour of heavier lots as incentive for the producers to keep heavier livestock. The heavier cattle are desired by the terminal markets because they have good/desired yields of primal cuts. NRT-T also sells ready cattle following a graduated price system. The current live weight buying and selling structure is as shown in Table 10.1.

Table 10.1: Live weight buying and selling structure of the NRT-T.

Weight range (kg)	NRT-T buying prices for 2020 (KSh per kg)	Weight range (kg)	NRT-T average selling prices for 2020 (KSh per kg)
400 and above	130	380 and above	160
300 - 399	125	350 - 379	155
280 - 299	120	320 – 349	153
240 - 279	115	319 and below	150

All NRT businesses contribute to the development of the conservancies' corporate social responsibility as per recommendations of the NRT governing body. For all recorded transaction, NRT-T contributes KSh 2,000 per head to the conservancy where the livestock came from and the seller is also obligated to contribute KSh 1,000 as service fee to the conservancy. In addition, the NRT-T pays the statutory tax fee at KSh 400 per head to the county Government of Marsabit; KSh 300 per head to Samburu and Isiolo and KSh 100 per head to the governments of Laikipia and Baringo.

NRT-T does not own any land but leases grazing from the commercial ranches along the Isiolo-Meru border and in Laikipia Counties. Lewa Wildlife Conservancy charges KSh 450 and per animal per month. NRT-T has a working relationship with Lewa Wildlife Conservancy for keeping cattle on a well agreed protocol and rate of KSh 450 per month. Also, NRT-T uses Lewa Conservancy as the quarantine centre for all newly purchased livestock. NRT-T further leases grazing in a few ranches in Laikipia County at current rates of KSh 550 and 600 per month per head of cattle. NRT-T has established that the feeder cattle must gain between 6 and 7 kgs per month to reach a target liveweight of 350 Kg to be able to cover the keeping costs. The company utilizes the Radio Frequency Identification (RFI) tags to track all feeder livestock on the ranches. The livestock are weighed monthly and all the performance data analyzed to optimize feeding. Use of advanced technologies like tracking performance through RFI and ammonization of low-quality feed to improve quality are some of the efficiency enhancing technologies that NRT-T uses and has the potential for delivering high quality meat products to the market. NRT-T has also invested heavily in fodder conservation as a drought mitigation strategy for its herd.

The NRT Savings and Credit Cooperative (SACCO)

The SACCO is owned and operated by its members. It is a democratic financial cooperative where members save together and contribute to one another's loans from their combined savings power. The initial seed capital was provided via a program of USAID. At the time of assessment, 35 out of 39 conservancies under NRT have joined the SACCO. The SACCO has registered 2,808 paid up members and has managed a loans disbursement of KSh 100 Million within four years. In 2020 alone up until the time of the research, the SACCO had rolled out KSh 40 Million. It was reported that 40 % of the members are the youth and 60% women. Most of these members of the SACCO have benefitted from short term loans, with the male youth mainly investing in livestock trade. Each borrower pays 10%

of the value of the loan as administration fee in advance, i.e. receives 90% of the loan applied for to remain compliant with both commercial and Sharia laws. The 10% administrative fee is broken down as: 4% administrative fee, 2% for insurance, 2% for commissions for business leaders who follow up the loans and 2% as conservancy fee. Any profit the SACCO makes is shared out between the members at the end of the year.

From experiences with SACCOs elsewhere, a well-managed SACCO has the potential to create employment and wealth for a large number of youth and women groups, especially those engaged in *boda boda* transportation, trade in livestock and milk products.

The SACCO facility also addresses a key constraint that has in the past disadvantaged many small-scale traders/aggregators in the market links. The youth and women can now play a meaningful role in the trade with the support of the SACCO funding. The SACCO would have, without doubt, an impactful NRT influence in marketing behaviour among members of the conservancies.

The Meat Market for NRT-T

NRT-T sells off the finished high-quality stock either live or carcasses to a variety of customers. NRT-T supplies high quality meat products to high end outlets: Farmers Choice and Alpha Fine Foods transport live cattle for slaughter at their abattoirs while Tusky's chains of supermarkets receive NRT-T beef processed at the OI Pejeta Ranch slaughter house in Laikipia County. NRT-T delivers between 20 and 25 carcasses per week based on the signed contractual obligations. The Naivas Chain of supermarkets also buys live cattle from NRT-T and processes the meats via Neema Slaughterhouse in Nairobi. It is significant to mention that Neema abattoir has a wide ownership base from pastoralist communities and caters for a large segment of traders from northern Kenya, including the traders from pastoralist households in the community conservancies.

Some high-end restaurants in large towns and Nairobi have sourced their meat directly from NRT-T. The urban centres in Meru County also regularly buy finished live cattle from NRT-T. In the year 2019, NRT-T traded a total of 2,890 head of fattened livestock and planning to sell 2,500 head in 2020, significantly lower than the target of 3,500 head due to the COVID 19 pandemic.

The potential for expanding the meat market for both domestic and export market for NRT-T is significant with the recent completion of Isiolo International Airport, the LAPSET corridor in progress, a rapidly growing town and proposed development of a new resort city in Isiolo. The region also has significant and expanding number of eco-tourist lodges that would require good quality meat products for the high-end customers. Most of the new county sectoral policies emphasize in-county value addition and some measure of protection to give competitive advantage to local commodities at market outlets.

For NRT-T, the meat market also has faced clear challenges and risks: generally highly fluctuating demands for meat; relatively small size of the high-end meat market; undifferentiated consumption preferences on basis of meat quality for the large segment of urban consumers; drought cycles in the production and finishing ranches impacting on fattening stock on inventory; and more recently, loss of fodder from locust invasions and the collapse of the hospitality industry due to the COVID-19 pandemic.

10.2.3 The key secondary markets in the study area

A The Merille Market

The main market day at Merille is on Tuesday every week.

Historically, the marketing activities in South-Western Marsabit have gravitated around the Merille market. The supply areas include the entire Melako Conservancy and extends west to include Illaut and Korr, Ngurunit, South Horr and southwards to include parts of Sera Conservancy. Almost all the camels sold at Merille originate from Illaut-Ngurunit-Korr areas of South Western Marsabit. The numbers on offer at Merille market, in the third week of September,

were depressed by incidences of banditry and stock theft along the Isiolo-Marsabit highway. Some regular and well-established large-scale buyers had kept off the market as reconciliatory negotiations between the local communities were on-going. The insecurity situation had also affected the supply as the aggregators had reduced their zeal in this market.

The other major factor affecting the supply at Merille market is the recent rise in demand for young fattening cattle for the feedlots in Southern Ethiopia. NRT-T faces the same competition when buying livestock from most of Marsabit County, especially the northern half of the county. Young livestock from the conservancies in Marsabit (Songa, Jaldessa and Shurr) frequently end up in the feedlots in Ethiopia.

During the visit to Merille Market (third week September) there were an estimated 500 small stock on offer, but the market has handled a high of 3,000 head of small stock on a single day. There were an estimated 200 head of cattle and about 100 camels. The cattle in the best body condition had arrived to the market from Ngilai and Baragoi areas of Samburu County, having migrated from Baragoi a short while before escaping from a wave of livestock rustling. This in-migration was also confirmed through an interview with the manager of Sera Conservancy. The prices at this market ranged between KSh 30,000 for smaller cattle in fair condition, to KSh 40,000 for the average medium size and KSh 52,000 for the best grade cattle. Goats in good body condition sold for an average KSh 5,000 and KSh 3,000 for the lower grade. Sheep were sold at the same prices as the goats. Prices of camels ranged between KSh 52,000 and KSh 58,000, only marginally better than cattle. The buyers of the camels came from Isiolo mainly and most of the camels bought were slaughtered and consumed in Isiolo town.

A weighing scale installed at this market has never been used as the buyers are dead against buying on the weight. Even the sellers were not keen to know the weight of the livestock they sell.

B The Oldonyiro Livestock Market

Situated in the western end of Isiolo County, Oldonyiro is a vibrant market although it has been plagued with incidences of insecurity. In fact, on the day of the assessment, all traders from Nanyuki and Isiolo had to be escorted to and out of the market and this happens literally every market day. The conservancy security teams are given the task to patrol the major roads used by traders on designated market days. From the Nanyuki/Nyeri/Nairobi direction all the traders had to be escorted between Oldonyiro and Il Polei centre deep in Laikipia.

The market site is within the township but surrounded by several community conservancies who treat this as their main selling point. An estimated 50 cattle and 2,000 small stock were on offer but not a single camel was in the market on the day of assessment.

Unlike Isiolo and Merille (the key markets) Oldonyiro had very few middlepersons or brokers. The LMA Chairman and Secretary interviewed on site indicated that most of the sellers were either owners of the stock or itinerant traders who have aggregated livestock for sale here. What was also significant is the large presence of women in the livestock sale yard.

The livestock on sale were also in a much better body condition compared to the lot on offer at Merille Market.

C The Isiolo Livestock Market

Isiolo market has traditionally been the biggest market in the region. It acts as the neck of a funnel for livestock moving from the northern counties of Samburu, Marsabit, Wajir, Mandera and northern Garissa. Located on the *cordon sanitaire*³, livestock from northern Kenya enter Isiolo market without any Contagious Bovine Pleuropneumonia (CBPP) testing. However, all stock intended to go for further fattening in the counties south of the cordon sanitaire must undergo the mandatory CBPP testing to check the spread of CBPP to non-exposed herds.

3. Cordon sanitaire is an imaginary line separating the northern counties, considered CBPP endemic counties, from the counties south of the cordon considered free from CBPP

A team of officials from the local LMA manages the market with specific responsibilities: manage the livestock operators at the site; maintain security; resolve all conflicts; maintain the infrastructure and collect livestock market information.

Isiolo has two main market days a week for all species of livestock- Monday and Friday. Wednesday is set aside exclusively for small stock at the main market site, although fewer numbers of small stock are sold on all other days at the roadside nearer to the town. Isiolo market is characterized by a huge presence of cartels/brokers who literally block access by individual producers. Their role only increases transaction costs and lengthens the process of price discovery. The prices the brokers sell at and the money he/she transfers to the seller remain very discreet. Some brokers double up as traders when necessary, buying and selling in the precincts of the market site.

The market was assessed on Wednesday and Friday. It is a beehive of activity for buyers, brokers and sellers on Fridays at this market as all species are offered. As in Merille and Oldonyiro, the market is just recovering from the depression caused by COVID-19 pandemic and the numbers were nowhere near the peak as explained by the Chair of the LMA.

The Chair of the LMA explained that some of the livestock at the market actually come from as far as Rumuruti, from Samburu County, Isiolo County and southern Marsabit. This supply area includes most of the community conservancies under assessment. Livestock from Madogashe/Sericho Ward would normally pass via Kinna to Markets in Maua and Kianjai areas of northern Meru County. The buyers at Isiolo market came from Nanyuki, Nyeri, Meru town and the hinterland towns of Meru County.

On the Friday of the assessment, only 60 head of cattle were on offer, averaging KSh 45,000 for the large animals and KSh 30,000 for smaller stock. An estimated 1,200 small stock were on offer and only 500 had been sold by early afternoon, the normal time the transactions slow down to prepare for movement paperwork and loading. The LMA officials assessed the numbers as low and indicative of a depressed market; again, explained as the effect of COVID-19.

The visit on Wednesday observed about 800 small stock on offer. Surprisingly, most of those on offer appeared to be in good to excellent body condition. A couple of castrate males, said to have originated from the Chalbi Desert region of Marsabit County, were bought for a record KSh 13,000.

D Other significant feeder markets in the study area:

According to the Manager of Sera Conservancy, members of the conservancy access the *Sereolipi Livestock Market* every Thursday of the week. This is one of the feeder markets for both Archers Post and Isiolo markets but, as mentioned earlier, some of the sellers from the conservancy find their way back north to Merille, which is by far a larger market than Sereolipi. In mid-September, the prices of large cattle at Sereolipi were in the range of KSh 40,000 to KSh 60,000 for those in best condition. Average prices for the younger and low-quality cattle were given as KSh 15,000. Slaughter camels were sold at average KSh 70,000 and KSh 90,000 for good breeding females. Prices of small stock were in the range of KSh 3,000 for young stock, KSh 4,000 for average stock and KSh 7,000 for stock in good to excellent body condition.

The *Archers' Post livestock market*, also along the Isiolo Marsabit road, is only 42 km from Isiolo. It is a feeder market for Isiolo market.

The *Lolnkuniani livestock market* in Ngilai Conservancy in Samburu County was described by the Sera Conservancy Manager and Director of Indigenous Movement for Peace Advancement and Conflict Transformation (IMPACT) as a significant market. Although off the main highways, Lolnkuniani attracts buyers from Samburu and Rumuruti in Laikipia.

Kipsing livestock market feeds into Oldonyiro market, only a short distance away. Historically, Kipsing was utilized as a Livestock Marketing Division Holding Ground for feeder livestock undergoing CBPP testing and expected to move south of the *cordon sanitaire*.

Merti livestock market feeds into main Isiolo market. There exists an organized Livestock Marketing Cooperative at Merti with 46 members, but operations are at nascent stages.

Kinna market is well established and feeds into northern Meru. It is a main transit point for all livestock originating from Sericho, Madogashe and Garbatulla areas in Isiolo.

Kimanzo is a key market located in Laikipia. Livestock originating from Oldonyiro may be sold at Kimanzo; although most of the livestock from Oldonyiro market would move on trucks directly to Nanyuki, Nyeri and Nairobi.

Illaut market is a significant source of market livestock, especially camels from South Western Marsabit into Merille market.

10.2.4 Marketing enhancement initiatives in the study area

Physical structures

Trading livestock in one-on-one bargain method in open spaces may seem chaotic and daunting but somehow it has worked well in pastoralist setups, though labour intensive. Market structures recently installed at Oldonyiro, Isiolo and Merille under the FtF REGAL-AG Project, have significantly enhanced the safety and handling of livestock purchased at these markets. The buyers at these markets rated the holding pens and the loading ramps as very useful.

The maintenance of the structures is now the responsibility of the County government and the LMA/G that have taken up the roles of co-management or organizing the actors.

Policy dimensions/changes reflecting county needs

Clearly the county governments have taken keen interest in the development of conservancies and working to increasing the conservancy gains in the livestock sector. Isiolo County has already enacted a Sales Yards Bill⁴ while Samburu County has a specific Conservation Bill. The Bills seek to enhance management of the sales facilities and enhance revenue collection from livestock transactions. Both counties are now proposing that each new conservancy covers an entire administrative ward to enhance ethnic harmony and for ease of planning and allocation of county resources as the wards are the lowest administrative units.

Development of the enabling policies will also provide for the methods of operating the export level abattoirs that are under construction in Isiolo and Marsabit. Already a study has been carried out aiming to operationalize Isiolo abattoir under a public-private partnership (PPP) agreement.

10.2.5 The market players

The livestock market aggregators in the study area

The basic livestock aggregators are itinerant traders who in many cases act as agents of larger buyers. These aggregators travel on foot from the initial selling points like bomas and water points as they move along well-established routes to the larger markets. This is a role for the younger energetic persons and almost exclusively a male activity. They may be using own funds for their trade business but, in many cases, the funds are advanced to them by the larger buyers to whom they are then obligated to sell. These itinerant traders often take a break from trading to give closer attention to family production herds/flocks when their presence is needed, as in times of drought induced migrations and heightened insecurity.

In some situations, a loose coalition of aggregators will trust a few in the group to deliver aggregated lots to secondary or terminal markets, sell on their behalf and account on return for next round of aggregation. This arrangement calls

4. Government of Kenya (2016). The Isiolo County Livestock Sales Yards Bill. Government Printer, Nairobi

for the highest level of trust in the coalition considering the levels of risk en route, unexpected costs at terminal/secondary markets, unpredictable prices and sometimes incurring trading losses. Because of these uncertainties, trading coalitions tend to be short-lived.

A recent significant development is the creation of an NRT-sponsored SACCO, owned by members of the conservancies. This is a game changer in many ways for funding income generation activities and offering soft livestock trading loans among other resilience building developments in the conservancies. The conservancy management acts as guarantor for all SACCO loans taken by members of the respective conservancies. As reported earlier, significant number of market livestock aggregators are benefiting from this facility.

Actors at established market sites

An established market site here includes all sites, developed or open spaces, where market transactions regularly take place on set days of the week. Initially these sites primarily transacted in livestock, but most market sites are now a beehive of activity offering a wide range of merchandise. The county governments have crafted by-laws to recognize, manage and regulate market functions. The county governments also collect revenue from these sites, either directly or as co-managed arrangements with the communities with key interest in the market activities. The category of communities with co-management interests – the *Livestock Marketing Associations/Groups* (LMA/Gs) - have been in existence for quite a while now and are the on-ground extension of the Kenya Livestock Marketing Council (KLMC) and the County Livestock Marketing Councils (CLMC). Both the KLMC and CLMC function as lobby and advocacy entities on behalf of the pastoralist livestock keepers and traders in the meat value chain.

The assessment observed active livestock market co-management roles of the LMAs at Merille and Oldonyiro markets sites. Livestock trading at these markets is "free choice". The traders flexibly decide which markets to participate in depending on the following:

- Adequate and assured supply of the kind and quality grade of the livestock they trade in. For instance, the wholesale meat traders from Nyeri have a strong demand for sheep and sought for them at the large markets at Oldonyiro, Isiolo and Merille. Wholesale meat traders and butchers from Meru urban centres sought for goats in good to excellent body condition and were active at the Merille and Isiolo markets. The traders from Nairobi bought the goats and sheep almost in equal numbers, reflecting a varied meat preference at the Nairobi outlets.
- Ease of access to markets and availability of transport to destinations, especially for the larger traders. Most of the traders had trucks at the markets ready to move stock at the end of the buying sessions.
- Security situation at the market and along transport and trekking corridors to destinations. It was indeed observed during the assessment, that Merille and Oldonyiro markets had reduced activities caused by incidences of insecurity. The Merille incident had happened a few days before the assessment where large scale traders lost livestock to rustlers on the highway between Merille and Isiolo. They reacted by staying away from the market, thereby depressing prices. The sellers also reacted by supplying less to the market.

On the day of the assessment at the Oldonyiro market, there was a looming threat of insecurity threatening activities at the market. A large contingent of security personnel had been mobilized to escort traders into and out of the market. Despite the urgent request sent by LMA to security units and development partners at Isiolo to help resolve the conflict (evidence of correspondence seen during assessment) violent conflict exploded in the area a couple of days after the assessment at which several lives were lost.

Clearly the reserve police contingents assigned to the conservancies are mandated to deal with livestock rustling and threats to wildlife conservation in the conservancies but not generalized insecurities between communities as happened in this incident.

The highway bandits have also changed tactics and use motorbikes to disappear after the highway robberies. Unfortunately, most of the traders still carry large amounts of cash on themselves en route to the markets as most of

the sellers may not have mobile banking facilities. It was also explained that these bandits use intelligence information in deciding which traders to target. After gathering the intelligence on their targets from Isiolo, they communicate the information via mobile phones to their armed colleagues waiting at vantage points on the highway.

The role and influence of the community conservancy governance at these markets appear rather insignificant, other than the significant presence of conservancy members as buyers or sellers. The officials of the LMA/G in Merille are, for instance, de facto members of Melako Conservancy but do not display any conservancy character in the co-management and functioning of the markets. In the future, it is expected that the training in BDS that SACCO members will receive via NRT and the SACCO itself will positively influence their performance in the markets.

Access to markets by producers and the role of middlemen

The sellers in the larger markets are usually not the original producers. Most will be the itinerant traders aggregating from the production areas. However, there is a large category of middlemen, often referred to as brokers, who live on “purporting to get the best price for the sellers bringing stock to the markets. The brokers will take possession of the livestock before they enter the sales yard and behave as the owners. Sometimes they act as quick aggregators for the large buyers and often receive a commission from the sellers as well as the buyers.

Information gathered from LMAs and market managers suggests that Oldonyiro had the highest number of owner-sellers transacting directly at the market as compared to Merille and Isiolo.

Most of the livestock offered at these key markets are however aggregated at smaller markets that have developed within the conservancies. It was confirmed that one of the most active markets in Samburu County is located at Lolnkuniani within Ngilai Conservancy. It was confirmed by the management of Sera Conservancy that most pastoralists from the conservancy frequently sell their livestock at Lolnkuniani. An active livestock market has also developed at Sereolipi at the edge of Sera Conservancy on the Marsabit-Isiolo Highway. Sereolipi is a feeder market for both Archers' Post and Isiolo markets.

In the same way, Merti and Sericho livestock markets are primarily feeder markets for Isiolo as confirmed with the staff of the LMS and the interviews by this assessment team.

Participation of women in livestock trade

There has been an increasing active presence of women at the livestock markets, transacting mainly the small ruminants. In Sericho, women groups do in fact buy weakened livestock, fatten them for a few months and offload them to the markets. This is an improvement from the single task women performed a few years back as sellers of beverages and foods at the markets. Currently women do also act as middlepersons at larger markets.

The Chairperson of the LMA at Merille market explained it this way.... “Traditionally women have managed the small stock left behind around the homesteads when the men move with the cattle and camel herds to dry season grazing areas. With time, the men have allowed their spouses to sell some of the small stock at the homesteads to cater for family needs for cash. Now the men have trusted them to trade in small stock as they have proved capable. They have become aggressive middlepersons for small stock at the markets. You only don't see them on the market trails as the young men do, as aggregators, because of family commitments.”

This trend does not only empower women economically but is a significant gain in enhancing household resilience.

Role of the County Government at the livestock markets

The Constitution of Kenya allows the County Governments to develop and manage the markets and also levy taxes on goods and services transacted within the boundaries of the county. Cess or taxes collected at the markets fall in this category. The revenue ideally should be utilized to improve services to the livestock sector and maintain market

infrastructure. In the widest sense, revenue collected from livestock can be utilized to improve water infrastructure and grazing systems, improve disease control to ensure safe and quality livestock and products reach the markets, improve security at the market and along trade routes and promote participation of private sector. The community conservancies are some of the beneficiaries of this revenue stream. In counties like Marsabit, the county government in fact allocates funds through the County Treasury and Department of Environment to support the conservancies.

As a major market commodity in the region, livestock play a very significant role in total annual revenue collected by the County Governments. At the Oldonyiro market, an amount of KSh 60.00 is paid for each small stock and KSh 200.00 for each camel and head of cattle transacted. Additional revenue is also collected from other traders of other merchandise within the market site.

The County Government by-laws also permit arrangements where private entities and community institutions like LMA/Gs can share roles of managing the markets and sharing the revenue collected on an agreed basis. Merille and Oldonyiro markets are examples of key markets co-managed this way. For Merille market, an agreed 60% of the revenue (net of operating costs) goes to the county Government while 40% goes to the LMA/Gs or entities co-managing the markets. At the Oldonyiro market, the revenue is shared equally between the County government and the LMA after deducting the expenses of revenue collectors. The LMA officials are paid KSh 500.00 for each day worked at the market from the LMA share of the revenue. Revenue collection at the Isiolo market is managed fully by the County Government but the LMA are allowed to collect revenue from the stall inside the market site.

Transportation to destinations

Traders operating in the region and supplying the key markets would normally trek the livestock between feeder markets planning to arrive on the scheduled “main” market day at the key markets. Trucking is done for long distance destinations. Figure 10.1 illustrates ingenious ways of holding small stock on top of a truck as the buyers continue buying in the yards. All the trucks lined in the picture were destined to the Nairobi metropolis livestock markets for resale and meat wholesale markets.

Figure 10.1: Loading livestock on trucks at Oldonyiro market [notice livestock on top of truck, second right]: Photo - Author.



There are new developments where butchers from Meru and Nyeri urban centres literally tight-packed and transported small stock in the “Probox” brand of Toyota wagons from Merille and Isiolo markets to their respective destinations. This was clearly in breach of Laws of Kenya CAP. 360, Prevention of Cruelty to Animals [Rev. 2012].

10.2.6 Methods of price discovery

Isiolo is the first county to enact a Bill to regulate and standardize operations at livestock markets (ref. “Isiolo County Gazette Supplement No. 5 (Bills No. 4 of 2016”). The Bill allows for three methods of selling: including eyeballing, public auctions and price setting on live-weight basis.

Past development programs supporting livestock marketing in northern Kenya have invested heavily in infrastructure at some markets, including weigh scales that have never been used. This is because the main livestock traders in the region do not like buying on weight as they invariably end up paying more than eyeballing. Buying on the weight is very objective and clearly a better estimation of the value of mature slaughter cattle. The traders, however, do not favour this method as it lowers their margins.

The common practice of price setting is eyeballing and negotiating one-on-one basis. The traders have perfected the art of estimating killing out weight and therefore the wholesale value of the carcass. They work backwards to estimate the most profitable price. The sellers are virtual price takers at these markets as supply is normally higher than the demand, except for the period during or just before the onset of rains.

10.2.7 The milk trade from the conservancy landscape

The supply of milk via Isiolo township aggregation network has been characterized as largely peri-urban in focus, i.e. being driven by the demand from Isiolo collectors with a main consumption market in Nairobi. Numerous studies estimating the production, demand and supply via Isiolo have been done, most of them indicating a strong and growing demand for camel milk for domestic (Nairobi mainly) and export markets in a processed form (Odongo et al. 2016, Odongo et al. 2017, Noor et al. 2013). The only camel milk processing plant in Nanyuki, the Vital Camel Milk Ltd., however, collapsed a few years back, leaving a clear void for processed camel milk products. The current product for the market can be described as a low grade, low hygiene/safety level unprocessed product, collected from the peri-urban herds, cooled at Isiolo and transported to Nairobi in a semi-fermented form. Milking hygiene, poor cleanliness of containers and poor temperature control are some of the reasons of the low-quality product.

Milk production for the market from pastoral herds is highly seasonal. During this assessment, camel milk was extremely low, and cattle milk was almost non-existent during the assessment period. Aggregating reasonable quantities of milk for the market in the dry season was a daunting task. This assessment investigated sale of camel milk in the towns on Merille-Isiolo highway: Merille, Sereolipi, Archers Post and Isiolo. With exception of Isiolo, there was hardly any milk sold in these towns, all of which are either within or in close proximity to the conservancies.

Trade in both cattle and camel milk has always been women dominated but aggregation and transportation is a preserve of young men on motorbikes and public transport. At Isiolo, two organized women’s groups – Anolei and Tawakal - have specialized in trading with camel milk for some years now and have benefited with support from development partners. Most of the partner support was put into cooling equipment and storage facilities.

This assessment established that deliveries came with herds from as far away as 50 km away from Isiolo town. Mlango areas (Leparua Conservancy) was indicated as the main area of supply for camel milk for these two women groups and was brought in on motorbikes (boda bodas). The suppliers of the milk are actually wealthy businesspersons based at Isiolo but keeping herds of camels within supply distances. The herd owners hire the motorbikes to collect the milk from their mobile bomas and deliver to the women groups. The quality of milk would not always appeal to non-pastoralist communities, but sufficient market exists in Eastleigh in Nairobi where there is a large population of pastoralist camel keepers. Camel milk that is aggregated from Merti, Sericho is brought in on public transport. Camel

milk aggregated at Kulamawe, (on main Isiolo-Madogashe road) and Gotu areas is also carried on public transport, although some is still brought in motorbikes. The group was not receiving any milk from Samburu because, as explained by Chairlady of the group, the herders have migrated to safer grazing grounds in Samburu County, further away from Isiolo town.

According to the Chairlady, Anolei Women Group handles up to 7,000 kg of camel milk per day at peak supply. They were down to 2,000 Kg per day at the time of the assessment. At peak supply, they buy the milk delivered to Isiolo at KSh 60 to KSh 70 per Kg and sell at KSh 100 per kg⁵ in Nairobi. This group has own cold transport that delivers the milk to Nairobi. In the peak supply season, suppliers to the Nairobi market compete with suppliers from Namanga, Garissa and Nanyuki.

The Tawakal Women's Group operate on the same business plan and sell in the same markets in Nairobi. The main supply areas for milk delivered to Tawakal Women group are Shaba, Ngaremara and Mlango. At the same of assessment, Tawakal was receiving 400 Kg per day.

Trade in camel milk was by no means limited to these two women groups. A couple of individual dealers in camel milk were also seen operating in Isiolo town, retailing fresh camel milk to consumers on verandas of shops and the consumers knew where to find them.

Two other private dairy operators (Classic and Afro-Natural Milk processors) have been set in the recent past with support of donors. At the time of assessment, these two were not receiving any milk from the conservancies. In fact, Afro-Natural had closed down from lack of supplies from other counties, mainly Meru.

10.2.8 Other products

Crafts and jewellery from animal by-products

The NRT-T Crafts industry is very active among the women groups and creating support to livelihoods. The crafts industry targets both the local market and the tourism sector. Bones, horns and locally processed leather are becoming important raw materials for high quality products as demonstrated in Figures 10-2a, 10-2b and 10-3 below. In fact, a well-polished product from the long bone of a camel is very easily mistaken for ivory.

Figures 10.2 a&b: Jewellery crafted from livestock bones and horn from a previous program of USAID in northern Kenya: Photo – Courtesy of Author.



The training to produce such quality crafts is available and the equipment needed is cheap. No special premises in needed: only a simple working shed, a low-powered motor/grinder and cutting and grinding accessories. The women and youth pick these skills rather easily. Outside of NRT, the Faiya Women's Group in Isiolo town, initially sponsored

5. Other studies have indicated higher prices in Nairobi

by the Kenya Livestock Marketing Council (KLMC), is still producing quality products from livestock by-products for the local/national market. The products labelled Fig 10-2 above were done at Garsen (Tana River County), by a women group that was then supported by the USAID-Kenya Drylands Development Program (KDLDP 2010 - 2013), which is still doing well in crafts and jewellery business independently.

Gums and Resins (terms of trade)

The trade in gums and raisins is gaining momentum in parts of Melako Conservancy. As a source of household income, trade in gums and raisins is substituting the need to sell livestock to earn income. Currently the good grade product from Acacia Senegal is sold at an average of KSh 550 per kg to an aggregator based in the region. Four to five kilograms of this product easily substitutes a full-grown sheep or goat at the market. It comes almost free except the time spent in harvesting. Young men herding and women collecting firewood will regularly tap the bark of trees producing the sap that hardens into gum and come buy a few days later to collect the gums. The activity does not appear to be regulated yet but many county and community action plans include gums and raisins as rangeland products with commercial potential and worth conserving. Fortunately, *A. senegal* grows abundantly in the mountain ranges along the Samburu-Marsabit border and has the potential for commercial production. A recent film documentary aired on a local Kenyan television channel confirmed that the trade is expanding and that the greatest beneficiaries are women and the youth

Figure 10.3: Beadwork from NRT-T supported Women Groups: courtesy of NRT-T.



Marketing costs and margins

The marketing costs in the marketing function are highly variable and the mode of transportation to the sale or processing points appears to be the most significant for livestock and milk products. Here below are illustrations from a few selected buying points and destinations.

Buying points from Marsabit County to Lewa Downs:

NRT-T buys livestock from several points in Marsabit County and transports them on trucks to minimize weight losses and theft on route to Lewa Downs. NRT-T estimates KSh 1,500, (sometimes rising to KSh 5,500) per head including trucking, taxes to county government, herders and all other field costs included to Lewa Wildlife Conservancy. Two scenarios are illustrated in Table 10.2 and Table 10.3 below: first, keeping cattle for 4 months on grass without supplementation and second one fattening for six months with last three months of supplementation.

Table 10.2: Gross margins for 4 months grass fattening without supplementation for cattle

Item	Estimated Value KSh per head	% of Selling price
Livestock purchase: 300Kg @ KSh 125* per Kg liveweight	37,500	74.7
Trucking, herders, taxes, other costs up to Lewa Downs	2,000	4.0
Contribution to conservancy kitty	2,000	4.0
Keeping costs KSh 550* per month grazing and management fees in ranches and Lewa; 4 months	2,200	4.3
Purchase price plus costs	43,700	87.1
Sale on weight: 328Kg** @ KSh 153 per Kg*	50,184	
Gross Margin	6,484	12.9

Source: NRT-T** Weight gain at 7 Kg per month (Preferred optimum weight gain on grazing per month), determined by season and grazing conditions

Table 10.3: Fattening for 6 months with three months supplementation for cattle

Item	Estimated Cost KSh per head	% of Selling price
Livestock purchase: 300Kg @ KSh 125* per Kg liveweight	37,500	69.1
Trucking, herders, taxes, other costs to Lewa Downs	2,000	3.7
Contribution to conservancy kitty	2,000	3.7
Keeping costs KSh 550* per month; 6 months	3,300	6.1
Supplementation: 3months @ KSh 100* per month	300	0.6
Purchase price plus costs	46,200	85.2
Sale on weight: 350Kg* @ KSh 155 per Kg*	54,250	-
Gross Margin	8,050	14.8

Source: NRT-T

The gross margins improved from 12.9% to 14.8% when livestock were given supplemental feeding for three months and improved quality.

Costs and margins between Merille and Isiolo markets for cattle and small stock

Table 10.4 and 10.5 below presents estimated marketing costs and gross margins obtained by cattle and small stock traders operating between Merille and the key secondary market at Isiolo.

Table 10.4: Marketing costs and margins between Merille and Isiolo markets - cattle

Item	Estimated Cost KSh per head	% of Selling price
Livestock purchase	37,000	82.2
Handling labour, loading	150	0.3
Trucking to Isiolo market	500	1.1
Movement permit	50	0.1
County Government cess	400	0.9
Other marketing costs	200	0.4
Purchase price plus costs	38,300	85.1
Price at Isiolo market	45,000	-
Gross Margin	6,700	14.9

Note: data used in these calculations were obtained directly from the markets

Table 10.5: Estimated marketing costs and margins per head of small stock from Merille to Isiolo markets

Item	Estimated Value KSh per head	% of Selling price
Livestock purchase:	5,000	71.4
Handling, pen minders	10	00.1
Permits/County Government cess, other costs	80	1.1
Trucking, herders, taxes, other costs to Isiolo	200	2.9
Purchase price plus costs	5,290	75.6
Sale at Isiolo	7,000	
Gross Margin	1,710	24.4

Purely on basis of gross margins, trading in small stock appears comparatively more lucrative compared to trading in cattle between Isiolo and Merille.

Estimated costs and margins in the milk trade, between Isiolo and Nairobi

The estimated returns to milk traders appear fairly lucrative, except that seasonality causes huge fluctuations in supply, thereby increasing costs per unit traded. Table 10.6 below presents estimated costs and margins for milk trade between Isiolo and Nairobi.

Table 10.6: Estimated costs and margins per kg milk bought in Isiolo and sold in Nairobi

Item	Estimated Value KSh per Kg	% of Selling Price
Purchase price per Kg delivered at Isiolo	70.00	70
Handling costs	1.00	1.0
Energy: lighting, cooling	1.70	1.7
Cleaning /disinfecting equipment	3.30	3.3
Transportation to Nairobi	5.00	5.0
Purchase plus operational costs	81.00	81.0
Sale at Nairobi	100.00	-
Gross Margin	19.00	19.0

Source: Data obtained from both Anolei and Tawakal Women Groups

10.3 Summary: some impacts of the community conservancy model on livestock and product marketing systems

1. The methods of aggregating market livestock from the households to the markets remains relatively unchanged in the last thirty years. Studies done for the Range Management Handbook for Kenya (GIZ/GoK 1988-1882) in the Samburu, Isiolo and Marsabit counties and by IIRR and CTA (2013) described similar patterns, only the distances to the markets have shortened as more local markets have been established, some within the conservancies themselves or in close proximity. The other notable change is decreased, almost elimination, of barter trade where livestock are exchanged for food or other items of merchandise. **Conservancies have the opportunity to initiate local markets, within conservancies, that would serve as aggregation points for each conservancy.** This would enhance direct access to market by most of the producers in the conservancy. This would also enhance participation of women in the markets as they would operate nearer to the homesteads.
2. For **NRT-T organized livestock purchases**, the conservancy management organs are in the forefront of mobilizing member households to present livestock at designated buying sites. Though not a favourite method with pastoral households in the study area, buying livestock on the weight still presents a very transparent and objective method of price discovery. This method has a chance to gain momentum as groups of persons in the conservancies take up fattening of livestock for high-end markets where liveweight or carcass weights are the basis for transactions.

The conservancy incomes generated from contributions from NRT-T and the buyers are a significant income stream and effectively utilized in meeting some operational costs of the conservancies. Even with this income, the conservancies are a long way from becoming independent of donor support.

3. Conservancy structures are effectively being used as **agents to mobilize households** to present livestock for vaccinations against notifiable diseases. This contributes to protecting livelihoods, ensuring safety of products for the consumers and significantly reduces incidences of disease outbreaks/quarantines in the conservancies. Quarantines are some of the producers' and traders' worst nightmares as markets and transit routes may be closed for months at a time.
4. **Planning successes, and good practices** by the conservancies are being reflected in county policies. This was clearly stated by senior directors of the County Government. For instance, buying livestock on the weight is one aspect the County Government would like to institutionalize for increased market transparency. Some counties like Marsabit and Samburu are supporting the creation of conservancies and contributing start-up funds from County budgets e.g. for Shurr, Jaldesa and Songa conservancies and the proposed Dabel and Mt Kulal conservancies.
5. Conservancies are being considered as **strategic stakeholders in the new export level abattoir** at Isiolo. This is because conservancies have an organizational set capable of mobilizing trading/producer members to sell on firm contracts to the abattoir once operationalized. With a planned slaughter capacity of 200 head of cattle, 1,000 small stock and 100 camels per day, the facility will clearly require an assured supply. The abattoir has a feedlot with a capacity to hold and fatten batches of 3,000 head of cattle. The groups fattening livestock in the conservancies, (Sera) and the Sericho Women Group (non-conservancy), are already on a strategy to raise good quality cattle for the high-end meat market. The existence of strong community institutions presents the **opportunity to broker livestock and product market agreements** between buyers and community pastoral producers.

Realistically, this abattoir, once operational, will require to factor in **crisis drought offtakes** into its operations. Such drought induced offtakes are a regular occurrence in both the northern and southern pastoralist systems. The conservancy management committees would clearly be the ideal platform to coordinate such drought induced offtakes from the respective units, to this abattoir and with other agencies responding to the crises.

6. Increasing capacities and trading skills for community members through **Business Development Services** trainings offered via NRT-T. The youth and women trading on SACCO loans and other financial NRT-instruments have benefited greatly from BDS training, significantly enhancing their chances of success in trading as a sustainable business. With increased capacities, the youth, women groups and any other qualified member of the conservancy can ideally diversify access to finance from other funding sources like the Youth Fund, Women Fund, donor grants and gradually graduate to commercial loans.

All transactions at the markets were reported to be in cash. The sellers, especially producers, expressed little support for mobile funds transfer, like MPESA Platform, perhaps out of bad experiences. It was established that key markets like Merille, Oldonyiro and Isiolo have strong coverage of a 3G-speed coverage for Safaricom mobile and could therefore have supported mobile money transactions at these markets. It would offer significant benefits if alternative modes of payment, like MPESA could be part of the BDS skills training.

7. **SACCO loans to members** are successfully diversifying livelihoods and strengthening resilience. Being a Sharia-compliant institution, the loans are advanced on the basis of sharing profits rather than earning interests. Administrative costs are calculated at 10% of the value of the loan and paid up-front (i.e. at time of receiving the loan). As mentioned above, the main beneficiaries are women and youth who, in addition, must receive BDS as a necessary condition to qualify for loans.
8. **Maintaining security within the conservancies and patrolling the highways** in the conservancy landscape. Being members of the Kenya Police Reserve (KPR), the units are able to conduct intelligence-led operations to deal with insecurities. This reduces insecurity incidences that greatly enhances marketing environment. Lots of positive comments were made by our respondents regarding these services in supporting trading activities.

9. **Livestock identification technologies** like RFI can be effectively applied to cut down stock thefts in the conservancy landscape. There is no doubt that this would trigger resistance from the bad elements in the communities who still harbour rustling tendencies.

II Case comparison and crosscutting findings

II.1 The different approaches and models

In this chapter, we present cross-cutting findings, including information gathered from “general” key informant interviews that did not pertain solely to any single one of our cases, as well as results from remote sensing analysis of changes in rangeland condition. This chapter also compares the cases. In this section we compare some of the key features of the community rangeland governance models and the alternative approaches used by supporting organizations. Table II.1, below, provides a comparative summary of some of the features of the approaches and models for the five cases, and a more detailed comparative table is provided in the supplementary material to this report. How multi-level governance manifests in each case is discussed in Section II.2. Outcomes, implications, challenges, and pros and cons of the different models and approaches are discussed beginning with Section II.3.

First, it is important to point out where we did *not* find fundamental differences between community conservancies and other non-conservancy rangeland governance models. While there is diversity in some governance characteristics between different conservancies, and even among NRT conservancies, the basic governance structure for all of our cases—conservancy or otherwise—is similar, including an elected body to represent the community—a group ranch committee, a conservancy board, etc.—and general community meetings which elect these management committees and that are meant to give the entire community the opportunity to express opinions on key issues and contribute to planning and the direction of the community institution. In terms of the basic governance structure, the *community conservancy*, as a CBNRM governance model, is not inherently and fundamentally different from the other models which are not conservancies. Few of the important differences in governance arrangements that we found appear to be inherent to the community institution being a conservancy or not. Some of the key differences among the cases relate instead to issues of management rather than governance and to the particular approach adopted by the NGOs or government agencies supporting the communities.

Specifically among the conservancies, an important difference relates to whether the conservancy encompasses the community’s whole territory or is just a specific part of it. Where there are community conservancies in the southern rangelands, the approach has typically been for the group ranch community to identify a piece of its land to become a conservancy, and the conservancy is then managed rather independently from the group ranch activities. In the case of Shompole, for instance, the community and its group ranch committee have stayed more involved in conservancy affairs than is common for many of the southern conservancies; nevertheless, the conservancy is run by a conservation committee appointed by the group ranch committee rather than by the group ranch committee itself, and is separate from decisions on grazing which are group ranch decisions. On the other hand, NRT’s usual model is for the community’s entire territory to be governed as the conservancy, even if strict wildlife protection is limited to specific areas. This applies whether the conservancy is made up of one group ranch, a cluster of neighbouring group ranches or locations, or a mix of group ranches and former Trust Land — the whole area becomes the conservancy, and the conservancy board is directly elected by the community members rather than being appointed by another body. This has the advantage of making it easier to incorporate wildlife conservation into the overall rangeland management planning of the community, and even where communities have distinct core conservation areas, as many NRT conservancies do, that core area is essentially just one among the various zones into which the community divides up its land for purposes of management. It could be expected that the alternative model of setting aside a piece of land to be governed separately is more amenable to a “fortress conservation” rather than a genuinely community-based approach. In the case of Shompole, this seems to have been avoided in large part because of the strength of the community institutions and their conscious choice to stay involved in the running of the conservancy.

Formalization of the community rangeland institution and its legal recognition by government is another important distinction amongst our cases. Shompole, as a group ranch, has had a solid legal foundation of communal land

ownership and presumably should be able to transition to a registered community under the Community Land with little difficulty. Nakuprat Gotu and Sera as community conservancies have the Wildlife Conservation and Management Act as a legal foundation for their existence and authority. On the other hand, recognition by government of Sericho Dheeda and, while it was operational, Merti RUA, including recognition of their authority to make and enforce rules and grazing plans, has remained more informal. Without formal recognition and legal backing, it is relatively easy for livestock owners—whether from the community itself or those from other places migrating into the area—to ignore local rules, or for government officials such as chiefs to assume the role of granting access to grazing lands upon themselves. Having a legal status also enables a community organization to engage in contracts and makes it easier to attract investment. This advantage may start to spread more widely as communities begin to register under the Community Land Act. However, the Community Land Act is not specific to pastoral rangelands and may have certain shortcomings and gaps when it comes to governance of pastoral rangelands. For this reason, most of the northern Kenyan counties are developing county legislation either focused on rangelands or on livestock more generally with specific sections in their legislation that address rangelands. Ideally, such county legislation needs to be harmonized with the Community Land Act and to complement it. This issue is discussed further below.

Legal recognition by government in turn requires a certain minimum level of formalization of structure, and this is another differentiating feature amongst our case studies. The NRT model is based on a relatively formal model of organization and governance. This is reflected, for example, in NRT's governance assessment tool, which uses as some of its measures indicators such as regular presentation of audited finances, presentation of management reports at annual general meetings, and regular submission of monthly reports. Such a degree of complexity and formalization in governance arrangements is to be expected where employment of several staff and business arrangements with tourism operators is such a big part of the approach. Many of the other models being implemented in Kenya's pastoral rangelands—through Environmental Management Committees, CBNRM Committees, the Merti RUA, or even the sub-catchment management committees established under the authority of the Water Act do not embody, or even apparently aspire to, that level of organizational complexity and formality. The need for at least some minimal level of formalization is widely recognized through the growth of hybrid forms that attempt to add some level of “modern” organization to traditional systems, but none to the extent of NRT conservancies.

The conservancy system is a bit different from all them, and that difference is an advantage and also a disadvantage. The first advantage is that in all the other three [environmental management committees, water resource users' associations, and dheeda systems], enforcement is really poor. Respect for the rules and enforcement of the rules and bylaws that they set—enforcement is poor. But in the conservancy system, what they agree on is enforced by people with guns. Even if they are indigenous, they have guns..

- Senior staff member of an NGO working in northern Kenya

One of the most important features that distinguish conservancy models is the approach to enforcement of rules. The employment of armed rangers, legally sanctioned by the WCMA, is central to the conservancies' approach. Having staff dedicated to enforcement of the rules, as well as vehicles and other logistics to enable them to patrol, has been key to the operation of conservancies and the protection of core conservation areas and wildlife, as well as secondarily to enforcement of grazing plans. While the non-conservancy models also have rules that they try to enforce, such as through fines imposed by elders, these models place more emphasis on social pressure and “soft” enforcement. Even some critics of NRT identify the conservancy approach to enforcement as one of the main strengths of conservancies, although this is sometimes seen as a double-edged sword (see Text Box). However, this distinction should not be overstated: the emphasis on “hard” enforcement by NRT conservancies does not mean that community dialogue, seeking consensus on grazing rules, and social pressure are ignored there. This approach to enforcement is an example of the way in which the most important differences among our cases relate to management more than to governance. For instance, the NRT approach is more professionalized involving a relatively large number of staff for each conservancy, and the operational costs are certainly greater for the conservancies than for the other models. Here, the role played by international conservation financing and revenue generation from ecotourism is key to making this possible. The implications of the different emphases in enforcement is discussed in more detail below.

Despite these similarities among NRT conservancies it is somewhat inaccurate to speak of a generic NRT conservancy governance model. The structure of conservancy boards varies according to local circumstances. For instance, in the case of conservancies with two or more ethnic groups, each group is allocated a set number of seats on the board. Furthermore, in recent years, NRT has made adaptations to the governance design in some conservancies to incorporate more traditional elements. For instance, in purely Borana conservancies links to customary dheeda councils have been strengthened, and in some cases board members are appointed by customary institutions rather than being directly elected. One senior NRT staff whom we interviewed described it like this:

I would say the difference [between NRT's approach and other approaches] is less about the governance and more about the integration of livestock and wildlife.... I think evolving the model to be more compatible is what now is happening.... this is very much around the governance structures. I think the management structure of a conservancy stays pretty much the same where you have a manager and you have the rangers, and that kind of system and maybe a grazing coordinator or depending whether there is additional needs within the staff. But when we're looking at the board—the decision-making boards and committees—that governance structure adapts.

A related critical difference among our cases—also connected to the agency's **approach** rather than to community **governance**—is the consistency and duration of the supporting organization's financial and in-kind assistance to its target communities. This is perhaps the most significant distinguishing feature of NRT's approach. Through long-term support, NRT helps to gradually build the capacity of the community institutions to weather difficulties and ultimately stand on their own. Most other initiatives supporting community rangeland management are project-based, with fixed timelines of a few years that sometimes come to an end before a strong foundation has been built. The non-conservancy parts of Isiolo County for example have been subjected to shifting approaches and have benefited much less in the way of a long-term, consistent support.

The Shompole case, in its own way, testifies to the importance of solid institutional community capacity. Shompole Group Ranch predates the involvement of the two main organizations that have supported its conservation and rangeland management and governance activities—ACC and SORALO. While the community governance at Shompole was weak when ACC began working with it and helping to strengthen the group ranch governance was a key aspect of ACC's early interventions, they were not starting from "square one". Shompole and its immediate neighbour

Table 11.1: The five cases—comparison of model and approach

Characteristic	Shompole	Nakuprat Gotu	Sera	Merti	Sericho
Type of governance arrangements	Group ranch. Part of the group ranch's territory is a conservancy.	Community conservancy on former Trust Land.	Community conservancy made up of a group ranch and a community on former Trust Land.	Rangeland Users' Association linked to customary dheeda institutions. Former Trust Land.	Adapted dheeda system working in parallel with Ward Development Planning Committee. Former Trust Land.
Establishment	1979	2011	2001	2000	2017
The conservancy in relation to the community territory	Conservancy is part of the community territory	Conservancy is the whole community territory	Conservancy is the whole community territory	N/A	N/A
Legal recognition	Strong. Community is a group ranch, therefore has full legal recognition of the institution and land tenure. Also, recognition of conservancy based on WCMA.	As a conservancy, moderate (based on WCMA): legal recognition of institution, but not of collective tenure rights.	As a conservancy, moderate (based on WCMA): legal recognition of institution. Legal recognition of collective tenure rights only for Losesia group ranch, but not for the conservancy as a whole.	Weak. Recognition by government only as a community-based organization, but authority for natural resource management only informally recognized.	Weak. Recognition by government not formalized.
Formalization of governance	High	High	High	Intermediate	Intermediate
Approach to enforcement	Professionalized, Soft, enforcement more effective when council of elders and customary punishments are involved.	Professionalized, armed enforcement	Professionalized, armed enforcement	"Soft" enforcement accompanied by occasional fines	"Soft" enforcement accompanied by occasional fines
Staff	A small number of staff members	Relatively large number of secretariat and field staff	Very large number of secretariat and field staff	Small number of staff for the boreholes	No paid staff. Scouts receive allowances.
Ongoing costs	Low	High	High	Low	Low
Consistency and duration of support	Consistency mostly due to the group ranch's own longevity and strength of governance. Long-term support from SORALO and ACC has also been helpful.	Consistent, long-term support from NRT	Consistent, long-term support from NRT	A moderate level of support lasted for a long time but was fragile	Too early to say. However, community has been subjected to many changes in approach prior to the current (2017) system.
Multi-level governance (lower levels)	Elections based on sub-locations within group ranch	Meetings occur and elections held based on zones within conservancy	Meetings occur and elections held based on zones within conservancy	Strong system for engagement at lower levels.	Strong system for engagement at lower levels.
Multi-level governance (higher levels)	Close collaboration with immediate neighbour, Olkiramatian; moderate (but growing) collaboration with neighbours in the wider landscape	Regular inter-conservancy dialogue	Regular inter-conservancy dialogue	Hampered by lack of legal recognition, and lack of organization of neighbouring groups	Hampered by lack of legal recognition, and lack of organization of neighbouring groups

Olkiramatian, having strengthened their governance capacity, have since been standing on their own two feet with sufficient confidence that it has been possible for them to engage with various organizations and fixed-term projects on their own terms. The kind of support provided by ACC and SORALO, moreover, has emphasized capacity building more than direct financial support.

11.2 Multi-level governance

One crucial aspect of community rangeland governance is how decision-making, resource sharing and conflict are organized across levels. Because individual community rangeland units—conservancies, group ranches, customary Dheeda territories, etc.—are often, of necessity, very large, it is important to also have some degree of planning and participatory decision-making at lower levels. This can help to maintain broad community connection to decision-making and sense of ownership of the institutions, which can be very tenuous when all decision-making is concentrated at the whole-territory level (Flintan et al. 2019). A multilevel structure was most clearly catered for in Merti RUA and Sericho Dheeda, both of them being based on the customary Borana system, which is explicitly multilevel. In both of those cases, there are smaller units—the *ardhas*—embedded within the main rangeland unit, and community members at that lower level would come together to discuss issues, plan, and elect representatives for the RUA or Dheeda council as the case may be. Many of the NRT conservancies, including our two cases and especially those conservancies with two or more ethnicities, have adopted similar structures, with the meetings and elections for conservancy boards, being based on zones or neighbourhoods within the conservancy. Shompole similarly is made up of five sub-locations with representatives to the group ranch committee being elected from each of these, but generally without any rangeland planning taking place at those lower levels.

The greater challenge, however, is governance at levels higher than the community rangeland unit. Pastoralist communities in Kenya have a long history of long-distance movement in times of need. While any particular community or clan many have its normal home range, movement beyond that range when forage and/or water are in short supply at home, is commonplace. Drought fallback areas, livestock migration corridors to reach these areas as well as markets, and wildlife migration patterns, all cut across group ranch, conservancy, ward, county and other borders. This reality is accompanied by a cultural ethic, still strong in most pastoralist groups, which emphasizes rights of access and the primacy of keeping livestock alive over rights of ownership and management of land and resources. Our respondents who addressed this issue are overwhelmingly of the view that herd mobility across conservancy or other community boundaries will continue. For northern Kenya particularly, it is absolutely imperative to have dialogue, negotiation and planning at larger scales to complement conservancy/community level planning.

Merti RUA and Sericho Dheeda both struggled with this, in part because of their lack of a legal foundation: when the RUA or the Dheeda council have wanted to negotiate with neighbours, they are easily challenged as not having the legal authority to regulate access to community land. There were also complaints from our respondents from these two communities that government appointed chiefs would undermine the community organization, including in its attempts to negotiate with neighbouring communities. Another aspect of this challenge is the degree of organization of herders from neighbouring communities. For Sericho Dheeda and Merti RUA, their neighbours in Garissa and Wajir have tended not to have comparable community organizations and negotiating with neighbours is quite difficult if the neighbours have no institutions with which to negotiate. In the case of Shompole, there is little in the way of formal intercommunity, large landscape planning and negotiation. This is in part because the need is not as great, with Shompole being more insulated or separated from neighbouring pastoralist communities by an escarpment, the Magadi salt flats and an international border. Nevertheless, through SORALO, Shompole interacts with communities across the larger landscape, and there is interest in SORALO taking on more of a facilitating role for inter-community grazing planning. NRT conservancies, in contrast to the Merti and Sericho cases, have an advantage by virtue of being part of the NRT network. The long history and wide reach of NRT help it to facilitate inter-community planning and negotiation.

11.3 Fair and effective governance

In terms of measures of good governance—accountability, legitimacy, inclusivity, etc.—there were few stark differences among the cases, with the exception of the challenges faced by Merti RUA toward the end of its existence. Findings from across cases include the following:

- All the cases had more or less regular elections, albeit often with assistance needed from an outside supporting agency to conduct them.
- The more formal models together with proactive support from one or more NGOs tend to result in more gains for the participation of women.
- Participation of ethnic minorities can be facilitated if catered for at the outset. This appears to be more difficult in systems based on customary institutions. However, even in a non-traditional system, inter-ethnic disagreements can easily flare up and be an ongoing source of dissatisfaction, as is seen at Nakuprat Gotu.
- Community-wide inclusivity and participation seems to be an ongoing struggle. On the whole, NGOs supporting community rangeland management are aware of the importance of community participation in launching the process and forming the main CBRNM institution. Awareness among community members of the operation of that community institution, of grazing plans, and other facets of the management system seems to be generally fair but certainly less than desirable. The challenge of *maintaining* community-wide participation after the initial establishment phase is a general one. Addressing this challenge requires long-term capacity building not just for elected representatives but for the community as a whole.
- Accountability tends to be somewhat weak but is slightly stronger in the formally structured systems. In more traditional and hybrid systems, development organizations seem to emphasize strengthening the main decision-making body (such as a Dheeda council), but neglect ways in which the customary systems have traditionally facilitated accountability of such bodies to the community as a whole. Our findings suggest that creating patterns of accountability requires long term effort on the part of supporting organizations.
- Similarly, clearly defined structures and procedures tend to do a better job at transparent decision-making and inhibiting domination by elites.
- All the cases have community-wide governance processes such as AGMs, but on the whole, these are not particularly empowered in relation to the elected board, council or committee.
- All of the cases enjoyed a reasonable degree of legitimacy among community members, but this can be fragile. Weak or self-serving leadership, ethnic tensions, or—as seen with the demise of Merti RUA in 2015—a combination of external interference and internal weakness in governance can quickly undermine legitimacy. Another example is Nakuprat Gotu conservancy, where the ethnic aspect of dissatisfaction with governance is showing early signs of undermining the legitimacy of the conservancy among some community members.

One challenge that was identified by various respondents is how management is made difficult by wealthy elites. Wealthy livestock owners are easily able to ignore grazing rules or in some instances even to skew decision-making to ensure that strong rules which might limit access to pastures in some way are never put in place. While some respondents referred to this problem particularly in relation to elite domination in conservancies, others suggested that this is something which applies across the pastoralist areas regardless of the type of governance model in place. Generally, it should not be surprising that in a community governance structure, elites may often have a prominent role. Whether or not these leaders will successfully lead their community forward primarily depends on their competence and goodwill in combination with effective systems for accountability. As one NRT staff member explained, “It is the community that decides who will be their leaders. So we have a mix of leaders – we have the elites as well as the elders who are less privileged in terms of this formal education.... But then we really don’t have control over that.” We found no credible evidence that elite domination is any worse in conservancies as opposed to communities using a different governance model. A recurring observation among our respondents was that elites are resisting the emergence of strong representative community governance in whatever form.

The conservancy – it is true it opens windows for elites. But NRT have not complete control over this. It is the community that decides who are their leaders. So we have a mix of leaders – we have the elites as well as the elders who are less privileged in terms of this formal education. Of course, having formal elites makes things simpler but it is also having its flip side. But then we really don't have control over that. In some conservancies even as we speak it's completely old wazees from the manyatta. So it's what the community gives us and who we we're given to work with them.

- Senior staff member of NRT

A related challenge that emerges from an examination of the cases relates to the apparent fragility of some of these systems. All of our cases seem to enjoy general community support as long as no major internal or external governance problems are faced. It could be said that even Merti RUA, which collapsed, was generally well supported by community members until, rather suddenly, it wasn't. Here it can be seen how lack of legitimacy among community members is both a symptom and a cause of institutional sustainability. The ability of the community governance systems to weather inevitable storms requires formal recognition of the authority of community institutions in a way that is robust and not easily subject to being overridden from above. It also requires a community that has the capacity to hold its leaders to account, with that capacity depending on knowledge among community members, accountability and feedback procedures that are institutionalized in the community, and commitment to good governance on behalf of community members that is stronger than the various cliques and factions that are often prominent. Strengthening governance capacities goes beyond training for elected leaders and is a long-term endeavour. Weakness in accountability and inclusion of the general populace in decision-making was part of what undermined Merti RUA. Similar though more modest challenges of accountability and inclusivity in Nakuprat Gotu and Shompole are now undermining the effectiveness of those community systems. Accountability and inclusivity feed into legitimacy on the part of community members which in turn is an ingredient in the institutional sustainability of the system, as discussed in the next section.

1.4 Institutional and financial sustainability

Along with the need to get all of these cogs in a community governance machine in place—a representative board, council, or committee; procedures such as annual general meetings for community-wide participation; systems of accountability; and methods to ensure meaningful representation and participation of all segments of the community—there is a need for the system to be able to sustain and maintain itself over time. This entails ensuring that the community is able to regularly hold all necessary general meetings and board/council/committee meetings, to maintain its relevant procedures, and to sustain finances. Establishing a reasonable level of institutional self-sufficiency and sustainability clearly takes time and can benefit by some level of sustained nurturing. Such nurturing by outside support organizations—NGOs and/or government—must be implemented with an eye to building capacity rather than creating dependency. Support over a long time period is generally needed; however, development organizations must ensure that they are helping their target communities to take ever greater responsibility for these basic governance functions. One tactic to contribute to this kind of bottom-up responsibility is by ensuring from the outset that expectations and costs for meetings are kept low and avoiding any exacerbation of the so-called “per diem culture”. This is certainly achievable, as seen for Sericho Dheeda which financed a recent AGM with contributions from its members.

So obviously, financial sustainability is a big challenge. And that's an area that we spend a lot of time thinking about. What we're seeing already is that government is recognizing the role that conservancies are playing. For instance, Samburu County Government coming to the table with funding to support the conservancies—so to support the operating costs of those conservancies... Tourism is not going to be relevant across all conservancies—we're well aware of that... [D]iversifying revenue is another preoccupation of ours. So I think of course it does cost, but we are fairly confident that the model itself and the work conservancies are doing is of enough value to Kenya to have government now coming in and providing some level of support... There will always be an element of donor funding required, but we're trying to do is reduce that and provide alternatives.

- Senior staff member of NRT

One of the areas where differences among our cases is most stark is in terms of financial sustainability. Yet despite the differences across our cases, financial sustainability without outside support has not been achieved for any of them, and this is a widespread concern among leaders and community members at large. The approach pursued by NRT and the more elaborate management model that is put in place in NRT conservancies are more expensive than the other approaches and models. NRT exerts a great deal of effort toward attempting to move its conservancies toward financial independence. Their strategy involves long-term support and capacity building for communities, with attention to generating income from conservation and tourism activity where possible. NRT is also encouraging county governments to support conservancies financially. Through many years of operation, progress toward conservancies “graduating” to self-sufficiency can be seen but has been slow. Tourism revenue is fickle and in many pastoral areas it will never be relevant, and the task of convincing governments to take on some recurring costs, while starting to happen, is an uphill battle.

The higher expense and larger challenge for achieving financial sustainability for NRT conservancies should be understood as having two distinct dimensions. One dimension relates to the kind of long-term support across multiple sectors that NRT tries to provide for its conservancies. This embodies a strategy of sustained capacity building for the creation of a strong community institution. The benefits of this kind of strategy are discussed in more detail in Sections 11.7 and 12.1, below. The other dimension relates to the level of ongoing costs for running a conservancy, including particularly salaries and logistics for rangers and other staff. For this dimension of financial sustainability, in comparison to other models the picture is less clear. Although the NRT approach is more complex, more expensive and requires a relatively long time for the community to achieve financial sustainability, our study found no clear evidence suggesting the NRT approach is ultimately more financially sustainable, or less financially sustainable, than any alternative strategy. Although it is more expensive, it also targets a greater level of income generation and a deeper degree of capacity development than the other approaches. Ultimately, financial sustainability for any of the models may depend on significant and consistent budgetary support from government.

11.5 Ecosystem outcomes

11.5.1 Introduction

Assessment of ecosystem outcomes in the five rangeland units were assessed primarily using trends in the percentage of the unit covered by bare soil. Bare soil is a key indicator of rangeland condition, and by extension degradation and rehabilitation of rangelands. First, creation of bare soil necessarily implies a loss of forage and browse for all species, and on slopes indicates increasing soil erosion, the most severe form of rangeland degradation. Secondly, increase in bare soil is typical of aridification processes in which loss of perennial grasses (due to heavy grazing and drought, usually in conjunction) allows invasion of shrubby bushes and trees, over decadal timelines eventually causing a transition to a persistent, degraded, shrubby state with rapidly eroding inter-shrub spaces, as perhaps most rigorously documented in the Chihuahuan Desert of New Mexico in the United States where it remains a challenge to range management today (e.g., Bestelmeyer et al. 2019). Third, bare soil can be reliably estimated from remote sensing data using an algorithm developed for separating cover of photosynthetic and non-photosynthetic vegetation from bare soil (Guerschmann et al. 2015), which a recent validation in Kajiado and Wajir demonstrated a root mean squared error (RMSE) of ~12% (Sircely, *unpublished data*) over relatively small scales in action research trials. As error declines and accuracy increases with spatial scale, bare soil by this method should be an accurate and reliable indicator of rangeland condition at the large scales and long time horizons of the present analysis on entire rangeland units. The accuracy of bare soil has strong advantages over approaches based on normalized difference vegetation index (NDVI), which is known to have high uncertainty in predicting forage and browse available to livestock, even when corrected for rainfall to yield rainfall use efficiency (RUE). Finally, bare soil changes more slowly than NDVI or RUE, reflecting long-term changes more than seasonal fluctuations, making bare soil a more suitable indicator for tracking changes in rangeland condition over the many years required for assessing changes in rangeland management systems, including time-lags and cumulative effects.

The primary approach of comparing changes in bare soil from remote sensing between the five focal rangeland units and nearby reference sites (see also methods) was complemented by and compared with participatory scoring of changes in rangeland condition for the rangeland units and the same set of reference sites. A summary of the rangeland units analysed and key variables relating to the rangeland units and the reference sites they were compared to is provided in Table 11.2.

Table 11.2: Summary of cases and analysis framework for assessing environmental improvement from rangeland management systems using remote sensing and participatory scoring.

Rangeland unit	Model	Years in place	Main elevation range (m a.s.l.)	Climate	Reference sites	Reference types ¹	Years reference system in place	Time periods for remote sensing	
								Earlier	Later
Shompole	Conservancy (non-NRT)	153	600-850	Semi-arid	Oi Donyo Nyuki / Torosei	Rn / Rn	14 / 14	2003-2005	2017-2019
Nakuprat Gotu	Conservancy (NRT)	9	650-900	Semi-arid	Nasuulu / Magado (Meru) / Kom (south)	R+ / Rn / R+	9 / NA / 12	2011-2013	2017-2019
Sera	Conservancy (NRT)	15	650-900	Semi-arid	Lodosoit / Kom (central)	Rn / Rn	28 / 12	2003-2005	2017-2019
Sericho	Non-conservancy (Customary)	5	200-350	Arid	Garbatulla / Loll Kuta (Wajir)	R+ / R-	5 / NA	2011-2013	2017-2019
Merti RUA	Non-conservancy (CBNRM)	152	200-350	Arid	Shurr (Marsabit) / Sericho	R- / R-2	NA / NA2	2003-2005 ²	2011-2013 ³

¹ To assist benchmarking of improvement in remotely sensed rangeland condition, the analysis used 3 reference types: 'R+' or 'Positive' references, which have an advantage over the rangeland unit in terms of relatively higher elevation, better organized or more successful management (according to focus group discussion participants' views), or both; 'Rn' or 'Neutral' references with comparable elevation and management, or an advantage/disadvantage split among elevation and management; and 'R-' or 'Negative' references with a disadvantage over the rangeland unit in either elevation or management.

² For Merti RUA, analyses refer to 2000-2015, the period in which Merti RUA was operating.

³ This refers to the approximate time when the community, through assistance from ACC and SORALO, began adapting and reinvigorating its rangeland management approach.

11.5.2 Environmental progress from rangeland management using remote sensing

Overall, all of the rangeland units analysed demonstrated impressive success, at minimum, in controlling the expansion of bare soil, a key indicator of severe rangeland degradation. With increasingly frequent persistent drought coupled with increasing livestock populations, maintaining existing vegetation cover is an achievement. Beyond this, precise identification of environmental progress through rangeland management may benefit from consideration of three complementary approaches for tracking bare soil through remote sensing over these large rangeland units, and over many years: (1) actual or absolute change in bare soil observed in the rangeland unit; (2) change in the difference of the rangeland unit from reference sites; and (3) change in difference from reference sites corrected for reference types (R+, Rn, R-). Approaches (2) and (3) enable benchmarking of comparisons with references, respectively in terms of landscape-level trends, and relative advantages and disadvantages in terms of elevation and management among the focal rangeland units and the reference sites they are compared with (see also Table 11.2).

In Shompole bare soil effectively did not change (Table 11.3), with 15 years producing a modest additional 0.6 km² per 1,000 km² of bare soil (Table 11.4). Comparison to reference trends shows that Shompole may have avoided degradation or in other words effectively reduced bare soil by 4.4 km² per 1,000 km² (Table 11.4). Before improvement of rangeland management organisation in Shompole around 2005, it had worse condition than the two references (both Rn or 'neutral' references), which it then surpassed for a period before falling more or less even with the references. However, comparative declines in rangeland condition (increasing bare soil) in the reference sites demonstrate that Shompole was more successful than some neighbouring areas.

The two NRT conservancies, Nakuprat Gotu and Sera, are close neighbours. Both rangeland units showed increases in bare soil regardless of calculation method, on average gaining each year, respectively, 2.4 and 0.4 km² per 1,000 km² of bare soil (Table 11.4). Nakuprat Gotu fared better in comparison to references, increasing by a more moderate 1.2 km² per 1,000 km² annually (Table 11.4), while Sera performed worse relative to references in effectively gaining 1.6 km² per 1,000 km² per year (uncorrected increases relative to references were 2.4 and 1.6 km² per 1,000 km² per year). Nakuprat Gotu may be making more progress than might be expected relative to two R+ or 'positive' references in portions of Nasuulu and Biliqo Bulesa Conservancies and one Rn or 'neutral' reference (Magado in Meru, which has no rangeland management institutions but is higher in elevation). Sera, in contrast, could perhaps be achieving more than it is in comparison to its Rn or 'neutral' references in portions of Namunyak and Biliqo Bulesa Conservancies.

In Sericho Ward, Sericho Dheeda is a customary or traditional rangeland management body that is an adaptation of a system that has presumably existed for many decades. Analyses focused on the period of the current Dheeda system, which started in 2016. Prior to this period Sericho rangelands were in somewhat better condition than both references in portions of Garbatulla Ward (R+ or 'positive'), also managed by a customary Dheeda, and worse than in the Loll Kuta area nearby in Wajir, where there is no recent history of well-organized rangeland management (R- or 'negative'). Between that time and the present, Sericho Dheeda achieved an absolute reduction in bare soil of 4.5% (Table 11.3), or 44.5 km² per 1,000 km² relative to references (uncorrected, 74.1 km² per 1,000 km²), at an annual rate of 4.95 km² per 1,000 km² per year (uncorrected, 8.23 km² per 1,000 km² per year) (Table 11.4). In so doing Sericho further reduced bare soil below that of Garbatulla and dramatically below that of Loll Kuta, which experienced a major decline in rangeland condition. This impressive apparent success, the highest among the sites analysed, could make Sericho a dramatic success story. Still, the short timeline of 4 years during which Sericho Dheeda has been operating in its current incarnation may imply that these gains could be fragile.

Merti RUA is a special case. Improved organisation of rangeland management starting around 2000 produced substantive environmental gains that were later obviated by the collapse of the RUA in response to pressure from external sources around 2015. Both the positive trend during the Merti RUA period from 2000-2015 and the negative trend from 2016-2019 appear to be clearly reflected in bare soil trends from remote sensing. Analyses focused on the period in which Merti RUA was operating. The final outcome assessment period for Merti RUA was 2011-2013 versus 2017-2019 for the other cases, which could mean that factors such as decadal climatic fluctuations might have influenced the analysis, though not in any directly observable manner. Merti RUA started around 2000, yet by the 2003-2005 analysis period rangeland condition was worse than in the two R- or 'negative' reference sites (Shurr in Marsabit, which has since become an NRT conservancy, and Sericho Dheeda and Ward) (Table 11.3). By the 2011-2013 analysis period, Merti RUA achieved an absolute reduction in bare soil cover of 2.07% (Table 11.3), the equivalent of healing 20.7 km² of bare soil per 1,000 km², or 1.88 km² per 1,000 km² annually, during the Merti RUA period (Table 11.4). This improvement is significant in contrast to the decline in rangeland condition in both reference sites, in comparison to which Merti RUA avoided an increase in bare soil on the order of 4.95 km² per 1,000 km² per year, or a corrected 2.48 km² per 1,000 km² per year (Table 11.4) given that both references were less organized at the time (R- references).

Following the collapse of Merti RUA, these gains in absolute bare soil reduction and avoided bare soil increase disappeared, and rangeland condition declined below its status in 2003-2005. Bare soil cover increased to 47.04%, an absolute loss of 3.2%, reflecting expansion of bare soil on the order of 38.9 km² per 1,000 km² relative to Shurr, and 53.6 km² per 1,000 km² relative to Sericho. Of course, these differences from the two references indicate not only the decline of rangelands in Merti, but also recent improvements in rangeland management in Shurr following its registration as an NRT Conservancy, and progress since 2016 in Sericho Dheeda to improve upon customary organisation of rangeland management.

Table 11.3: Core remote sensing results for changes in rangeland condition in the rangeland units, and relative to reference sites.

Rangeland unit	Model	Rangeland unit bare soil (%)		Mean bare soil (%) difference from references (uncorrected)		Change in bare soil cover (%)			Time periods for analysis	
		Earlier Period	Later period	Earlier period	Later period	Absolute	Relative to references	Corrected, relative to references	Earlier period	Later period
Shompole	Conservancy (non-NRT)	32.81	32.87	0.447	0.007	0.06	-0.44	-0.44	2003-2005	2017-2019
Nakuprat Gotu	Conservancy (NRT)	32.98	35.18	-1.140	1.050	2.20	2.19	1.09	2011-2013	2017-2019
Sera	Conservancy (NRT)	36.20	36.87	-1.568	1.138	0.67	2.71	2.71	2003-2005	2017-2019
Sericho	Non-conservancy (Customary)	44.92	40.42	0.923	-6.486	-4.50	-7.41	-4.45	2011-2013	2017-2019
Merti RUA	Non-conservancy (CBNRM)	45.91	43.84	0.575	-4.875	-2.07	-5.45	-2.73	2003-2005	2011-2013

Table 11.4: Environmental impacts of rangeland management in terms of change in % bare soil, and total and annual change in bare soil in units of km² per 1,000 km².

Rangeland unit	Model	Change in bare soil cover (%)			Change in bare soil cover (km ² per 1,000 km ²)			Annual change in bare soil cover (km ² per 1,000 km ² per year)		
		Absolute	Relative to references	Corrected, relative to references	Absolute	Relative to references	Corrected, relative to references	Absolute	Relative to references	Corrected, relative to references
Shompole	Conservancy (non-NRT)	0.06	-0.44	-0.44	0.6	-4.4	-4.4	0.04	-0.26	-0.26
Nakuprat Gotu	Conservancy (NRT)	2.20	2.19	1.09	22.0	21.9	10.9	2.44	2.43	1.21
Sera	Conservancy (NRT)	0.67	2.71	2.71	6.7	27.1	27.1	0.39	1.59	1.59
Sericho	Non-conservancy (Customary)	-4.50	-7.41	-4.45	-45.0	-74.1	-44.5	-5.00	-8.23	-4.95
Merti RUA	Non-conservancy (CBNRM)	-2.07	-5.45	-2.73	-20.7	-54.5	-27.3	-1.88	-4.95	-2.48

11.5.3 Participatory scoring of rangeland condition and comparison with remote sensing trends

Participatory scoring of changes in rangeland condition demonstrated a perception of focus group discussion participants that, in most of the rangeland units analysed, the condition of rangelands improved in absolute terms or relative to references. This finding complements and underscores the environmental progress documented through remote sensing of bare soil, providing an independent line of evidence based on the local knowledge of herders who have resided in and used these rangelands on a daily basis for many years. Participatory scoring was conducted for the same reference sites used in remote sensing analyses.

In terms of absolute or actual change (Table 11.5A) in rangeland condition, Nakuprat Gotu, Sericho, and Merti RUA indicated improvement or stable condition (stable indicating some management success in light of climate change and increasing stocking rates) in terms of (i) bare soil from participatory scoring (scored from 1-5), and (ii) overall condition of rangelands from participatory scoring (aggregating all rangeland indicators collected, including bare soil, availability of quality forage species, hydrology, invasive plant species, and animal condition, with a total maximum score of 20). Shompole and Sera showed negative trends in participatory estimates of changes in bare soil and overall rangeland condition (Table 11.5A) in absolute terms, that is without comparison to reference sites. In most cases these trends confirmed the sign or direction of remotely sensed trends in % bare soil (Table 11.5A).

By benchmarking rangeland unit trends with reference sites nearby, it was observed that trends in Shompole were in fact positive relative to references, as the performance of references was poorer in terms of participatory scores as well as remote sensing (Table 11.5B). Contrasting with their absence of any absolute trends, in comparison to references Nakuprat Gotu reduced bare soil from participatory scoring, while Sericho showed a relative increase in participatory assessment of bare soil compared to references. However, both of these cases conflicted with remote sensing showing a decline bare soil and improved rangeland condition in Sericho, and an increase in bare soil and declining rangeland condition in Nakuprat Gotu (Table 11.5B). Correcting the benchmarked trends based on reference types (R+, Rn, R-) did not affect these observations qualitatively, but increased the magnitude of avoided degradation in Nakuprat Gotu, and decreased the magnitude of apparent improvement in rangeland condition in Sericho and Merti RUA (Table 11.5C).

Participatory scoring is undoubtedly useful in assessing trends in rangeland condition, and here aligned with the direction of remote sensing trends, a positive initial evaluation. The sign or direction of trends in % bare soil from remote sensing agreed more often with changes in overall rangeland condition from participatory scoring (4 of 5 sites) than with changes in bare soil from participatory scoring (3 of 5 sites), regardless of calculation method. This observation leads to two conclusions: (i) the subjectivity of participatory scoring should motivate replication of focus group discussions with improved protocols to improve accuracy and objectivity; and (ii) focus group discussion respondents may rank some indicators more accurately or more sensitively than others, in which case a mixed approach such as overall rangeland condition may be more indicative of realistic changes in rangelands than a more reductionist approach.

Table 11.5: Comparison of change (Δ) in % bare soil from remote sensing with change in participatory scores for (i) bare soil and (ii) overall rangeland condition.

For consistency with remote sensing, participatory scores are expressed in the negative. In contrast, the sign of change directly indicates the direction of trends in rangeland condition for all 3 metrics ('+' = Improvement; '-' = Decline; 'NC' = No change). Sections A., B., and C. provide the 3 scoring methods: Section A., absolute change; Section B., change relative to references; Section C., corrected change relative to references.

A.							
Rangeland unit	Model	Absolute change			Sign of change		
		Δ % bare soil, remote sensing	Δ bare soil, participatory	Δ overall condition, participatory	Bare soil, remote sensing	Bare soil, participatory	Overall condition, participatory
Shompole	Conservancy (non-NRT)	0.06	1.50	5.00	-	-	-
Nakuprat Gotu	Conservancy (NRT)	2.20	0.00	-2.50	-	NC	+
Sera	Conservancy (NRT)	0.67	1.50	4.50	-	-	-
Sericho	Non-conservancy (Customary)	-4.50	0.00	-5.50	+	NC	+
Merti RUA	Non-conservancy (CBNRM)	-2.07	-2.50	-10.00	+	+	+

B.		Change relative to references			Sign of change		
Rangeland unit	Model	Δ % bare soil, remote sensing	Δ bare soil, participatory	Δ overall condition, participatory	Bare soil, remote sensing	Bare soil, participatory	Overall condition, participatory
Shompole	Conservancy (non-NRT)	-0.44	-0.50	-2.50	+	+	+
Nakuprat Gotu	Conservancy (NRT)	2.19	-0.33	-3.17	-	+	+
Sera	Conservancy (NRT)	2.71	1.00	3.25	-	-	-
Sericho	Non-conservancy (Customary)	-7.41	0.50	-2.00	+	-	+
Merti RUA	Non-conservancy (CBNRM)	-5.45	-1.50	-5.00	+	+	+

C.		Corrected change relative to references			Sign of change		
Rangeland unit	Model	Δ % bare soil, remote sensing	Δ bare soil, participatory	Δ overall condition, participatory	Bare soil, remote sensing	Bare soil, participatory	Overall condition, participatory
Shompole	Conservancy (non-NRT)	-0.44	-0.50	-2.50	+	+	+
Nakuprat Gotu	Conservancy (NRT)	1.09	-0.67	-4.83	-	+	+
Sera	Conservancy (NRT)	2.71	1.00	3.25	-	-	-
Sericho	Non-conservancy (Customary)	-4.45	0.63	-1.75	+	-	+
Merti RUA	Non-conservancy (CBNRM)	-2.73	-0.75	-2.50	+	+	+

11.5.4 Synthesis of ecosystem outcomes

Both remote sensing of bare soil trends and participatory scoring of rangeland condition demonstrated that all five rangeland units appear to have successfully improved how they organize rangeland management, leading to significant-to-dramatic success in improving the condition of rangelands and the ecosystem services they provide to society, or avoiding otherwise likely degradation of rangelands and of ecosystem service delivery. The broad-based success across sites indicates strong roles of local and customary or traditional knowledge in managing these complex landscapes.

Among the five cases, the rangeland unit showing the greatest and most consistent improvement in rangeland condition was Sericho, where the Dheeda council provides leadership on rangeland management based primarily on customary or traditional institutions and rules. Sericho was followed most closely by Merti RUA during the period of its operation (which ceased in 2015 due primarily to external pressures, after which the area experienced a decline in rangeland condition similar in magnitude to its previous restoration success). Shompole showed a modest improvement in rangeland condition observable in comparison to reference sites, indicative of degradation likely avoided by improvements made to rangeland management based on re-invigorating and modifying customary or traditional grazing rules. The NRT conservancy Nakuprat Gotu, despite the greatest absolute increase in bare soil among the cases, appears to have been more successful than some neighbouring areas in maintaining rangeland condition. The NRT conservancy Sera had only a slight absolute increase in bare soil, yet appears to have been less successful than some neighbouring areas in maintaining rangeland condition, a trend observed across all indicators.

While the NRT conservancies ranked lower in terms of rangeland condition improvement, all cases can be considered successes, and moreover, most reference sites for assessing Nakuprat Gotu and Sera were *other* NRT conservancies. While some variation among reference sites' relative advantages and disadvantages were explicitly incorporated through correcting change in rangeland condition based on weighted trends observed in reference sites in order to benchmark rangeland units within the context of landscape-level trends, there is no way to guarantee direct comparability among management or institutions in complex adaptive systems such as semi-arid and arid pastoral rangelands. A more authoritative accounting of the roles of institutional models in improving rangeland management and rangeland condition would assess a broader suite of NRT conservancies as well as other institutional models such as those in Shompole, Sericho, and Merti RUA elsewhere in the northern and southern rangelands of Kenya. Nonetheless, it is clear that being an NRT conservancy is neither necessary nor sufficient for the successful improvement of rangeland condition through enhanced management.

Aridity and elevation may have played significant roles in determining the direction and magnitude of rangeland condition outcomes. First, the two arid sites, Sericho and Merti RUA, showed the strongest gains among sites, especially in terms of bare soil cover from remote sensing. Several factors may be involved, including the stronger ability of arid rangelands to resist degradation (von Wehrden et al. 2012), and their ability to respond quickly to changes in management, as desert plant species grow rapidly under high temperatures when moisture is available. However, much of the gains in the arid sites may have come from annual grass species that mature quickly and have lower forage quality, while restoration of preferred grasses (palatable, perennial, productive) is more difficult to achieve. Semi-arid rangelands such as those in Shompole, Nakuprat Gotu and Sera are more prone to degradation (von Wehrden et al. 2012), especially degradation from shrub encroachment and soil erosion, although they have the decided restoration advantage of having higher rainfall that enables preferred grasses to establish and survive more easily. Further, aridity could have many indirect influences on improvements in rangeland condition—for example, in arid rangelands drought stress may be a strong motivation to improve management, while in some semi-arid rangelands herders may be pre-occupied with drought-time invasions. The complex interplay among these and other ecological and social factors is far from clear.

The analysis has some uncertainty related to several factors, the most likely being the specific areas compared, and major confounding factors such as ecosystem types and other ecological gradients, both within and among the rangeland units and the reference sites. One possible confounding factor is that the most dramatic improvement or deterioration in rangeland condition will likely be observed in the most heavily grazed areas that serve as key resource areas for pastoralists. If the relative proportion of key resource areas varies greatly among rangeland units, direct comparisons may be weakened. The likelihood and frequency of forcible invasions may have effects that are difficult to assess quantitatively—changes in rangeland condition relate not only to climate and local management, but are also influenced by landscape position, security, and subsequent invasion by outsiders for either grazing or to claim land for farming. Finally, changes in bare soil may include minor effects of shrub encroachment, including invasive species such as *Prosopis juliflora*, although the analysis removed all forests and shrub-encroached or invaded areas with > 40% woody cover (Kahiu and Hanan 2018) to prevent any major influence of woody encroachment on the analysis.

In land management, success, failure and sustainability can only be defined relative to management alternatives that could be applied on the same land. Benchmarking progress helps to resolve what these alternatives might have produced on the same land with different management. In community-managed rangelands, management outcomes are the emergent result of decisions of leadership, the willingness of community members to adhere to these decisions, and at finer scales the decisions of individual herders on where and when to graze their animals. This tremendous contingency creates uncertainty that makes benchmarking particularly important for tracking outcomes from land management systems. The results show the importance of comparing rangeland units to reference sites, since absolute, actual changes (Table 11.5A) are often misleading in an era where climate change and increasing stocking rates together generate strong degradation pressure. Change relative to references (Table 11.5B) and corrected change relative to references (Table 11.5C) appear to be more meaningful for assessment than absolute, actual changes in either remotely sensed or participatory rangeland trends. The usefulness of comparing with references was observed in all sites, and corrections based on elevation and management expectations had a significant influence except in the cases of Shompole and Sera, for which Rn or 'neutral' references enabled reasonable direct comparison.

While methods for tracking community success in management of rangelands can be developed much further than this coarse initial implementation, the general framework appears to hold promise for large-scale impact assessments in pastoral rangelands.

11.6 Livestock production and livelihoods

Generally, across all the cases, community respondents indicated that improvements in rangeland condition contributed to improvements in people's livelihoods. Direct improvements to livestock related income were quite modest, with the benefits from improved rangeland management being offset somewhat by the increasing frequency of drought and the growing human population. With the growth in human population, as long as livelihoods remain predominantly pastoral, if every family is to have a herd large enough to provide some minimum level of livelihood, then this implies a relentless growth in the total livestock herd. The more significant outcome of the improved rangeland condition seems to be people's resilience to drought. Communities that have had rangeland management systems in place for more than a couple of years have often improved rangeland condition enough that when drought hits, the need to move long distance in search of forage is reduced, livestock use less energy, and health and body weight are maintained. Most respondents across the cases also reported that milk yields have improved slightly, but this is counteracted in places where there has been a widespread switch away from cattle to small stock and camels. Households changing their herd structure to have fewer cattle and more camels and small stock contributes to improved capacity to cope with drought but at the cost of foregone milk production.

Looking beyond livestock, diversification of income has increased over recent years, most notably in the NRT conservancies. Some of this relates to some people having tourism and conservancy related jobs, but also as a result of other kinds of livelihood programs and the NRT SACCO. The latter are not an effect specifically of the conservancy governance model but rather are the fruit of there being strong local institutions in combination with NRT being a multi-sector NGO that carries out programs in a variety of areas, including related to livelihoods. Generally, livelihood diversification has especially benefited women.

11.7 Other emerging issues

Among our respondents who were able to speak about community governance and rangeland management issues in Kenya's pastoral areas, several recognize that the NRT conservancies for the most part have greater capacity as compared to communities governed by some other models. In large part, this is a result of NRT's approach of long-term engagement with its communities and its strategy, as one senior NRT staff explained, the establishment of a strong community institution:

I think the distinct thing is the institution. It's the community setting up of a credible community institution that can ensure continuity, the memory, and the planning ... on the long term, as opposed to these other models that are grants-dependent. They are there for the life of the grant and then they cease and then another grant comes up through another partner; it's revived. Some of these other models are revived during the life of a grant and then after that then it goes quiet. And then another partner again comes, and the same same model is restarted, and so there's not that continuity in terms of history, in terms of knowledge, in terms of practice, in terms of management plans. And so there is a bit of breakdown all the time because they are not really grounded and they are also dependent on funding.

And so I think the good thing with the approach is about institutions.

Note here, that this has little to do with the community organization being a conservancy or being some other model. Instead, it is more generally the benefit of there being a strong community organization that provides a platform for actions in various sectors. Nurturing a strong community institution takes time, but prolonged engagement can be expensive and runs the risk of creating dependency rather than independence and sustainability, thus creating a dilemma for supporting organizations. Sustained engagement is necessary, but the type and terms of engagement

need to be negotiated and need to prevent cultivating community complacency and avoid massive subsidization leading to dependency. The question that such organizations must ask themselves is how to maintain continuity and take a long-term, capacity building approach without creating dependency. The saliency of the question is even greater with respect to NRT conservancies as the NRT model is more elaborate and expensive than the other common approaches. This is an issue which respondents who are critical of NRT raise as one of its weaknesses and which NRT staff themselves are aware of and constantly wrestling with.

One of the criticisms of community conservancies in Kenya, much as with community-based conservation approaches globally, is that some people see them as imposing the conservation objectives of international organizations on local communities. There is an impression among many people that the conservancies, in particular their core conservation areas, are managed very strictly with militarized enforcement, and that in times of need, only local herders are permitted to take their livestock into these areas. One of our respondents gave the specific example of core conservation areas that are created on what used to be considered drought fallback areas for herders from near and far. His view, which we have heard repeated elsewhere, is that the creation of conservancies generally results in herders from other communities losing all access to the areas. A related issue that we touched on above is the enforcement model of the conservancies and the reliance on armed rangers, which is also a concern for some stakeholders. While this approach can be effective at a local level, some of our respondents expressed a fear that arms that are meant for protection and enforcement within conservancies do not stay in those conservancies and are also used in banditry and forceful access to pastures in other communities, and are generally contributing to tension and conflict in northern Kenya.

So, one of the major challenges: governance largely in these grazing areas ... it is better you look at it from a landscape level rather than looking from those small levels like we are thinking.

- Senior staff member of an NGO working in northern Kenya

I think if there is any way we can have some sort of platforms. It can be along the lines of strong institutions. Because grasslands and rangelands will always be around dialogue. And so, to have institutions that can sustain that dialogue across a landscape, regionally, and at community level will pay off, because these rangeland practices will never be cut in stone.

- Senior staff member of NRT

Another challenge that was repeatedly emphasized by our respondents is that of managing mobility at the large scale, across conservancy/community/Dheeda borders, and even across county and national borders. Respondents also identified that the 2010 Constitution and the creation of strong counties has contributed to conflict over resources, with many people thinking that resources within a county belong only to people within that county. Inter-community relations, sharing of resources, and planning at the landscape scale are discussed in more detail in Section 12.3, below. Some respondents referred to the importance of clarifying and documenting land ownership through implementation of the Community Land Act as a key part of bringing order to livestock mobility, resource sharing, and inter-community conflict.

12 Discussion

12.1 Capacity and institutional sustainability

One critical set of factors affecting the capacity and effectiveness of these governance models relates to the timeline of external support, its consistency, and the extent to which capacity is developed. A crucial challenge here relates to the short timelines of project-based interventions. An often-seen pattern seems to be that a community institution is created with the help of an external organization, usually an NGO, but then the only stakeholder to engage with it is that same NGO. When the project funding ends and the NGO withdraws, the fledgling community organizations seem to seldom last very long. Timeline, cost, and the approach to community engagement should be planned intentionally from the outset—otherwise, poor success or poor sustainability may be realistically expected. ‘Light-touch’ approaches may take longer but are also cheaper and less likely to create dependency. Heavier approaches may produce gains faster, but these gains may be more fragile, costs are higher, and dependency may become a threat to sustainability.

Formal institutionalization is increasingly recognized as a strategy for addressing the challenge of sustainability. Whereas community conservancies are anchored in the Wildlife Conservation and Management Act, most of the other forms of community natural resource governance in operation have been, at best, only indirectly built on any legal foundation. The metaphor of a *foundation* is instructive—without a legal foundation undergirding it, a community organization is more easily swept away when troubles arise. As identified by many of our respondents, the lack of a legislative foundation is also an excuse for livestock owners and herders—whether from other locations or from the community itself—to disregard the authority of the community organization, its grazing plans and any rules for managing resources. This seems to be a perpetual problem that the traditional and the hybrid governance models face, as identified by past research (e.g., Robinson et al. 2017), and in this study having been reported by respondents for both the Merti and Sericho cases and also general key informants. As mentioned above, this may soon change with formal recognition being achieved through implementation of the Community Land Act and in several counties through new county legislation on rangelands. Nonetheless, successful management improvement in Sericho and Merti, among other places, indicates that some level of success is possible without formal recognition. Nor is formal recognition a sufficient condition for success, as demonstrated by the collapse and subdivision of group ranches in the southern rangelands in spite of formal land ownership.

Formal recognition is only one element in the institutional sustainability of the different governance models; it is also based on endogenous community capacity, and for this reason capacity building activities figure prominently in the programs of NGOs supporting CBNRM. This raises the questions around what sorts of capacity building is needed, how much and for how long. Here lies one of the most important strengths of the NRT approach: NRT engages with conservancies over the long term. Many of the NRT conservancies, have been strong enough, *for long enough*, that now many other organizations choose to engage with them as local partners. Development programs and other investments become easier when there is a strong, representative community organization in place to mobilize community members and act as an entry point, platform, or nursery for these other initiatives. For this reason, where NRT conservancies exist, they have often become the local partner of choice for interventions related to nutrition and health, livelihoods, and other areas. As mentioned above, this has little to do with the fact that they are structured as conservancies as opposed to some other kind of institution; rather it is a result of their being representative community organizations with a reasonable degree of capacity.

This implies, of course, that the role of external support organizations, whether government or NGOs, should decline over time or at least shift to new areas as the community organization takes on more and more responsibility for managing its own affairs. Achieving this requires adhering to a set of principles that are well known but too often neglected:

- using a genuinely participatory approach (in which time is given for all segments of a community to understand have input into collective decision making and in which the community owns the process);
- building the structures and processes for good governance (not simply establishing a committee, council or board of directors, but ensuring that procedures for accountability and community-wide participation are strong, which may require convincing leaders that representativeness is in their interest as leaders, rather than a threat);
- never taking on tasks that the community should be doing for itself (even if this means moving more slowly than would otherwise be desired);
- not creating perverse incentives that create dependency or stifle self-sufficiency; and
- not loading a community organization with new responsibilities and new dimensions of complexity before it is ready.

This does not mean that every aspect of the community governance system becoming independent and self-sustaining necessarily takes a long time. In Sericho, for example, because of the strong sense of community ownership, community members mobilized themselves to hold their AGM, including making contributions to cover the costs, even though the adjustment to the traditional Dheeda system to have it operate at ward level was very recent. A greater investment into community participation in the creation and periodic review of grazing plans and natural resource management rules in these systems would also help to strengthen the sense of ownership and capacity for enforcement of rules through peer pressure, community cohesion and “social fences”—the soft side of enforcement of plans and rules.

12.2 Financial sustainability

These aspects of institutional sustainability are intertwined with financial sustainability. The importance of effective, long-term capacity development of community institutions for managing natural resources emerged clearly from our study. Although the NRT approach is the costliest of the approaches we examined, its strategy of working with communities over a long time frame, building their capacity gradually, is sound. Creation of a strong community institution is an investment for a community’s development that cuts across sectors. This emerged as one of the more important advantages of the NRT approach. Here, it must be remembered that this kind of capacity is much broader than simply holding governance training workshops for elected community leaders who sit on a conservancy board (or a Dheeda council or some other type of CBNRM institution).

The long-term investment into capacity building should be teased apart from the kind of management model that is typical of the NRT conservancies. Capacity development is needed whether the CBNRM institutional structure is intended to be complex, involving many paid rangers and other staff, or is to be quite simple with few or no staff. The conservancy model, with ongoing costs for staff, adds an additional layer of challenge for achieving financial sustainability, albeit with the benefit of greater capacity for enforcement of rules and grazing plans.

It may be that complete financial self-sufficiency is unrealistic and that ultimately some level of government support for recurring costs may be needed for any of the models. Signs of movement in this direction, such as with Samburu County’s budgetary support to conservancies, can now be seen. In order to further stimulate progress in this direction, some investment from development funding might target policy dialogue processes aimed at envisioning what government support to community rangeland management might look like and how it could come about. The institutional structures of CBNRM in rangelands can be understood as a type of institutional infrastructure that provides various public goods, and hence could be seen as legitimate objects for some level of government budgetary support. However, regardless of what model or models an NGO or government agency pursues for community rangeland management—whether elaborate or simple, involving many, few or no staff—expenditures into recurring operational costs for things like meetings must be considered very carefully and efforts made to remain frugal, to avoid taking on expenses which the community’s themselves should be responsible for, and avoid creating dependence.

12.3 Livestock mobility, the hardening of boundaries, and a landscape approach

What emerges from this study as the one of the greatest challenges facing community-based rangeland management is not internal governance, although this does need attention, but rather the matter of how to manage herd mobility, sharing of resources, and conflict across community, conservancy, and other borders. As mentioned in the first two chapters of this report, research on dryland pastoral systems around the world has shown how mobility—sometimes according to regular seasonal patterns, sometimes more opportunistic and adaptive, often across long distances—is a sensible adaptation to the great variability in rainfall and forage resources. Our respondents who were asked about this were essentially unanimous in recognizing that some degree of herd mobility beyond community boundaries is necessary and inevitable. Effective community rangeland management at home, helps livestock owners cope with drought and reduces the need for herds to move long distances. Nevertheless, no matter how well a local community manages its pastures, the variability of rainfall across both time and space means that in some years its pastures will be insufficient to cater for its herds. Maintaining mobility so that pastures are sometimes grazed intensively, sometimes grazed only lightly, and sometimes rested for long periods is also critical for healthy rangeland ecosystems. This raises the question of how long-distance herd mobility and sharing of pastures at the *large landscape scale* is to be integrated with *local management* by conservancies, RUAs, or other kinds of local community committees.

The reality is that all these community conservancies are not fenced. It's all free ranging. It's just as open as they were since our grandparents, so movement is still happening. The reality is that slowly now everybody is coming to understand their areas of operation....

What now we are trying to do is that we have really tried to raise awareness, that it is no longer about forceful grazing. It is about dialogue. It is about you reaching out to the community where you are going.

- Senior staff member of NRT

Our respondents in various categories—community leaders from conservancies, community leaders from other kinds of systems, senior staff of NRT, senior staff of other NGOs—repeated the idea that conservancies or other community territories should not be understood as completely closed to herds from other locations. Instead, what is desired is clarity about when and how herds from different communities can access each other's territories, that when they come they will obey the local grazing plan, and that accessing pastures through force of arms comes to an end. To the extent that these problems and deficiencies result from lack of communication, i.e., transaction costs, they are eminently solvable. Nevertheless, there is an ongoing hardening of borders and fragmentation of the rangeland landscape, and on the whole current CBNRM approaches contribute to this. A common complaint which we also heard during the course of this research—typically expressed across ethnic lines—is that the reality is quite different and that communities on “the other side” in fact are not open to sharing pastures and receiving herds from elsewhere in times of need. While such complaints are most commonly directed toward NRT conservancies, accusations that NRT is “greengrabbng” and that it now controls vast areas of Kenya are overstated. The creation of conservancies, whether on group ranch land or former Trust Land, has not changed the underlying land tenure status.

This is not to say that there are no differences. Since stronger control over grazing practices will automatically restrict the freedom of movement for outside as well as local herds, it seems that any of the models for CNBRM in Kenya's pastoral rangelands may sometimes attract criticism that they are unfairly attempting to enclose resources that were formerly shared. Nevertheless, conservancies contribute somewhat more to the hardening of borders than other models insofar as they are more formalized than the other governance models, they are more capable of enforcing grazing plans and rules, and they provide benefits to their members through conservancy and tourism operations that are linked to a clearly defined territory.

The impacts of the conservancies and the other kinds of rangeland governance models on this problem is somewhat paradoxical. On the one hand, they can facilitate inter-group negotiation and communication, and planned sharing of resources and mobility across areas due to strengthened institutions. They also provide a platform for peace dialogue between communities. Yet as has been noted elsewhere (e.g., Pas Schrijver 2019), these institutions—conservancies in particular—are also reshaping cultural rules of inclusion and exclusion, and are increasingly interpreted by pastoralists as a means through which groups can secure exclusive access to land, thereby restricting access by herders from other locations.

Layered over top of this dynamic is the devolution of government functions in which empowered county governments, Members of Parliament, national administration, and ward-level officials (and the corresponding county, constituency and ward boundaries) can also contribute to the hardening of boundaries. County boundaries are seen by many people as determining land ownership and who does and does not belong. It is important to remember here that neither county boundaries nor recognition as a conservancy under the Wildlife Conservation and Management Act has any direct, formal bearing on land ownership, which is under the purview of the Community Land Act. Progress in implementation of that Act is a welcome development and should continue to be supported. If implemented well, it should provide clarity on actual land ownership. However, there are still many questions to be answered about how the Act will be implemented in the pastoralist areas where mobility and flexibility are essential to the livestock production system and to ecologically sustainable herding practices. If implemented unwisely, the Community Land Act could contribute further to the hardening of borders, ultimately exacerbating conflict.

In any case, formal recognition, even to the extent of recognition of communal land tenure through the Community Land Act, is not the same as actual enforcement of exclusion. For example, tenure rights for group ranches are clear, yet they too experience herds entering their pastures without permission. With the need for mobility unchanged, and local communities more willing but still only imperfectly able to negotiate the terms of access by outside herds, the potential for conflict increases. This should not be interpreted as an argument against establishing conservancies or other models of community governance, or against implementation of the Community Land Act. However, it does highlight the urgency of strengthening systems of dialogue, negotiation, resource sharing, planning and enforcement at the intercommunity and large landscape scale.

13 Conclusions and recommendations

On the whole, the structure of governance is fundamentally similar across our cases. All of the cases involve an elected body which is meant to represent all community members in an area and some kind of general community meetings—typically annual general meetings—at which all community members have a chance deliberate on rules, plans and other matters. In this respect, community conservancies are not inherently different than other CBNRM governance models. Some of the most important aspects among our cases relate to:

- How the management and spatial extent of the wildlife conservancy relates to the community's entire rangeland territory and its management,
- The approach to management of natural resources and enforcement of grazing plans and other rules,
- The legal recognition of the rangeland management organisation and its ability to enforce its decisions,
- The ethnic composition of the community and how this is reflected in decision-making,
- The support community organisations receive, mainly financial and capacity development, including the contribution of tourism to the organisations' income, and
- The time horizon of outside support.

Although our study was not designed to carry out a comprehensive assessment of the strength of democratic processes within particular conservancies, to the extent that we investigated issues of accountability, inclusivity and legitimacy, we identified no clear evidence that representative decision-making within NRT conservancies is significantly more or less messy or imperfect than in any other of the kinds of CBNRM institutions that we investigated. Some differences in the governance model relate whether and how customary institutions are involved, the level of complexity of the community organizational structure, and the ways in which women and ethnic minority groups are involved in decision-making, but even here the differences seem to be tendencies rather than inherent features of any of the models. The variation in the governance structures among NRT conservancies further illustrates how the community conservancy should not be thought of as a governance model that is inherently different from other kinds of CBNRM governance models.

Although there were differences among the cases in terms of their ability to enforce rules and grazing plans, all of the cases demonstrated successful improvement in how they organize rangeland management, leading to improved condition of rangelands and the ecosystem services they provide to society, or at minimum avoiding degradation of rangelands and ecosystem service delivery. The most consistent benefit for livestock production and livelihoods seems to not to be direct improvements in meat and milk production but rather capacity of herds to cope with drought.

In the last two decades, increasing number of market sites have evolved within or in close proximity to the conservancies, all with varying infrastructure, and some with capacities to handle several thousand head of cattle and small stock on listed market days. Community conservancies continue to act as sources of the market livestock and also provide transit routes for livestock to secondary in the landscape and to terminal markets. One major direct contribution of the conservancy model in the market systems appear to be the creation of the NRT SACCO as a peer-guaranteed source of credit for livestock trade and other household investments in the livestock value chain. BDS training for all borrowers further strengthens investment decisions. That development has the potential to diversify the livelihoods of the member households and thereby enhancing resilience of the impacted pastoral households.

Home slaughter and offtake through markets are still individual household decisions for the members of the conservancies. However, the increasing national and international demand for meat and meat products and the rising demand for young bulls for the feedlots in southern Ethiopia especially has created significant and consistent pull to sustain significant offtakes through the markets in the region. Women have participated significantly in the trade with small stock. Further, the trade in milk, production of and trade in crafts and jewellery has almost been a preserve for women's groups in the region. Use of mobile funds transfer and market information collected and centralized at the Agricultural Market Information System (AMIS) appear to have limited use in the conservancies and at the local and secondary markets. Mobile phone communication between the market actors appears faster, real-time and more reliable.

One of the most striking differences among our cases relates not to the way community governance is structured but to aspects of management and the supporting organizations' approach to building capacity and self-sufficiency in the community organization. The benefit of a long-term, sustained approach to building the capacity of the community organization was evident in this study. Of course, when support is extended over a long time period, as with NRT's approach, care must be taken to actually build capacity rather than dependency. This is challenging and is something that NRT's staff are aware of and frequently discuss. On the other hand, the alternative approach of working according to short, project-based timelines has serious drawbacks. The challenges of establishing and operating a CBNRM system in northern Kenya are complex, and a steady, long-term approach to building capacity for it is essential.

Financial sustainability is a related challenge which has yet to be solved by any of the models and approaches that we have discussed. We found little evidence that either a more elaborate and expensive conservancy model involving many rangers and other kinds of paid staff, or a simpler, more informal model is more sustainable in the long run. All of the models have at least some recurring costs, and while conservancies tend to have higher ongoing costs, the approach is also more able to generate income. A way forward here may involve articulating the public good that is provided by these CBNRM institutions and securing support for some recurring costs from national and/or county governments for them. One selling point here may be the way in which a strong community institution provides a platform for supporting development activities in education, health, livelihoods, nutrition and other sectors. If strong CBNRM institutions can be positioned as a kind of social infrastructure, then it may be easier for governments to get behind providing some funding, as has started to happen in Samburu and Marsabit Counties.

None of the alternative models and approaches for community rangeland governance and management stands out as a silver bullet. Many of the challenges that CBNRM institutions face in Kenya's pastoral areas— climate change; the concentration of wealth and emergence of wealthy livestock owners with very large herds (and their ability to influence local decision-making and ignore community grazing rules); banditry and armed conflict, often with an ethnic dimension; and intensifying competition and demand for land—transcend the local, community level and will not be effectively managed by local level institutions without accompanying efforts on other fronts. Furthermore, the complexity and variation in both social and biophysical characteristics across the pastoral rangelands is such that different models and approaches are needed in different places.

What does emerge from this study is a set of weaknesses which to a lesser or greater extent cuts across our cases. These weaknesses point to a set of principles that are crucial for ensuring effective and fair governance by communities of their rangelands, and which can also be understood as recommendations of areas of investment and policy or project interventions by government and development agencies:

- ***Timeline, cost, and engagement models are the key support decisions.*** Interventions should aim for long-term support to **building the capacity of self-sufficient local institutions, rather than unsustainable subsidization that leads to dependency and complacency.**
- ***Formal, legal recognition of the community institution and its right to manage resources and enforce its plan and rules through fines or other means, with support from the government for enforcement.*** Lack of such recognition creates ongoing challenges for the more informal approaches. If implementation of the Community Land Act continues, ultimately it will be the foundation of this kind of legal recognition, but county governments can take action in the meantime to provide recognition of existing community rangeland management institutions, as measures are also put into place to harmonize them with the Community Land Act.

- *Having a plan for enforcement of grazing plans and rules, with any enforcement plan having elements of both “hard” and “soft” elements.* Such a plan needs to include both formal, rules-based enforcement, such as by rangers, as well as strong community buy-in and sense of ownership over the plans and rules, along with social measures for persuading reluctant herders to comply.
- *Inter-community/large landscape dialogue, planning and negotiation.* Without this, any community or conservancy level plan is incomplete and is prone to being upended by long distance herd mobility and inter-community conflict. Until now efforts in this area have generally been sporadic and ad hoc.
- *Ongoing efforts to establish community-wide awareness and ownership of the community institution and its plans, and to institutionalize accountability of the main decision-making body (conservancy board of directors, Dheeda council, or other community committee) to the community as a whole.* If the community-wide sense of ownership is weak, legitimacy can erode rather quickly when problems arise. The main community decision-making body should see the facilitation of community participation and building of community ownership and buy-in as one of its core ongoing responsibilities, and this is something that supporting organizations too often short-change as they focus on the process of electing and training the main committee.

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