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ASSESSMENT OF THE PERCEPTIONS IN LOCAL COMMUNITIES AND AN ANALYSIS OF THE GOVERNANCE OF RANGELAND MANAGEMENT IN QACHA'S NEK DISTRICT, LESOTHO

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ABSTRACT

This study was aimed at contributing towards sustainable rangeland management in Qacha's Nek, Lesotho, by assessing the perceptions of local communities of rangeland management and analysing the governance of rangeland resources. Questionnaires were used to collect primary data to give an idea of the perception of the local community towards rangeland management. The study focused on local perceptions of the condition of the rangeland, indicators of rangeland condition and sustainability of rangeland resource management. The governance was analysed as to how roles were defined and the responsibilities of the institutions working with local communities, the implementation and enforcement of legislation regulating use of rangeland in the district by the local authorities, and public awareness of rangeland management systems or practices by different institutions. The study assessed the dependency of the communities involved on rangeland resources. The findings showed that the main source of income for a majority of the respondents was from livestock production (wool and mohair exports, livestock sales and herding). Also common drivers of rangeland degradation are considered to be rangeland fires, overgrazing and presence of invasive species to rangelands. The study also showed that the common indicators of rangeland degradation mentioned by the respondents were the presence of rills, gullies and invasive species. The respondents acknowledged that there had been a decline in rangeland resources and the sustainability of rangelands was questioned. The respondents revealed that governance of rangeland resources has problems. There are unresolved questions of legal powers held by the authorities and this has negatively affected the quality of the governance of rangelands. There

seems to be a lack of awareness of institutional roles and legislation governing rangelands. The recommendations of the study focus on participatory management, that the governance needs to be revived, that there is a need for more emphasis on awareness-raising in the communities on the importance of rangelands, and that new policy should take into consideration local perceptions and different gender preferences.

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1. INTRODUCTION

The Kingdom of Lesotho is located in Southern Africa and is completely landlocked and surrounded by South Africa. It covers an area of 30,355 km². Grasslands dominate the vegetative communities with rangelands constituting 60% of the entire country (MFLR [Ministry of Forestry and Land Reclamation] 2014). Water is abundant as a natural resource.

Lesotho has 10 districts of which one is Qacha's Nek, the study area in this research. Qacha's Nek is located in the south-eastern highlands of Lesotho and cover 2,349 km². A total of 3.7% of the nation's population live in Qacha's Nek, equalling 34 people per km². The dominant grasslands make the district suitable for grazing (FAO 2010). It has an average rainfall of 800 mm. and temperatures range from 18°C to 25°C in summer and from 0 to 15°C in winter, with frequent snow in July to early September. As a result, the majority of the people living in Qacha's Nek rely on livestock production for their livelihood, predominantly goats for mohair production and sheep for wool production (Freeman et al. 2008).

Livestock production in Lesotho is entirely based on rangelands for feeding. Due to high unemployment, more people are turning to livestock production for their livelihood. This has increased pressure on the rangelands. The high numbers of livestock have resulted in overgrazing. Additionally, invasive plant species further reduce the capacity of the rangelands and they keep degrading (UNDP- GEF 2011).

In Lesotho, the local authorities are entitled to govern the use of rangeland resources. In 2007, the control and administration of rangeland resources was shifted from chiefs to local councillors. However, the chiefs continue to bypass this administrative power of the councillors. This sometimes leads to conflicts in the communities. To solve the governance problem, the Ministry of Forest, Range and Soil Conservation is assigned the responsibility of facilitating the shifting of powers from the local authorities by establishing local governance structures known as grazing associations. The grazing associations control and administer resources on behalf of the local authorities. Localization of goods and services helps improve ownership of rangeland resources within the communities (MFLR 2014). In addition, population growth has led to encroachment of rangelands for both crop production and settlement. This is because of the ineffective and inefficient land tenure system in Lesotho (Daemane 2012).

In 2003, the government of Lesotho established the Ministry of Forestry and Land reclamation to overcome the problems of rangeland degradation. The Ministry was mandated to address the challenges of land degradation and sustain the livelihoods of farm households (NES [National Environmental Secretariat] 2004). The Ministry is in charge of the poverty alleviation programme which was introduced in 2006. The programme aims at improving and rehabilitating degraded rangelands. The communities uproot invasive species, and plant grass seed and reseed, where necessary. The rehabilitated land is for communities to manage. In most communities within the Qacha's Nek district, the rehabilitated areas keep degrading because of poor management.

Most of the population in Qacha's Nek rely on rangelands for their livelihood. Improvement of rangelands would lead to a better standard of living through increased productivity of the livestock. Therefore, sustaining rangelands in good condition is crucial and calls for action and inputs from all relevant stakeholders.

Most research is conducted on the causes of rangeland degradation and focus less on local perceptions, and this has resulted in a failure to define and address the problems of rangeland degradation (Morris 1996).

Community perception plays an important role in rangeland management because the communities know their environment better than do outsiders. Local communities are in close contact with the rangelands and can detect a change in their environment and have their own ways of addressing problems within their own rangeland. The combination of their skills and knowledge, together with modern scientific knowledge, can help halt rangeland degradation (Gebreyowhans 2014).

Additionally, the sustainability of rangeland management systems is a result of quality governance of rangeland resources. The proper governance of resources can be measured by assessing the local governance structures responsible for control and administration of the resources and implementation of mandatory roles and responsibilities of institutions within the local communities as well as the interaction between all local structures in rangeland management (Turner 2006).

In this study local perceptions refer to the awareness and concerns of the local communities in rangeland management. The perceptions of rangeland condition and indicators of rangeland degradation were assessed, as well as communities' suggestions on practices that could be used to improve the condition of rangelands for the betterment of their livelihoods. The knowledge that communities have forms the basis for sound rangeland management and there is therefore a need to incorporate local perceptions in planning and implementing rangeland management practices.

The study further aimed at analysing the governance of rangeland resources, in general and within the district of Qacha's Nek. The study also aimed at finding the challenges within the governance of rangeland resources by analysing the local governance structure on rangeland management. The awareness of local communities of the institutions responsible for rangeland management and their practices, and the legislation regulating use of resources and interaction between institutions and local structures, are important in this regard.

The objective of this study was to contribute to sustainability of rangelands by assessing the views of local communities towards rangeland management and to determine whether their views can lead to change or improvement in the governance of rangelands.

2. LITERATURE REVIEW

Rangelands are natural vegetation in which grasses are more abundant than shrubs and forbs to some extent and are managed as natural ecosystems, characterized by low rainfall, and have shallow soils with a high nutrient loss. Rangelands can be productive and can sustain communities through income generation and reduce dependence on central government through the practice of appropriate grazing strategies (Rinehart 2008). On the other hand, Ngaido (2010) in his study explains that internationally recognized rangelands are lands where livestock are extensively grazed on natural vegetation, with a low amount of rainfall, are used only erratically for crop farming or pasture production, and vary in terms of space and time.

Multiple studies have been published on the perceptions of local communities on rangeland-related issues and on governance of rangeland resources. Gebreyowhans (2014), in his study, showed that community perceptions are important in rangeland management because community members are always in touch with their own rangeland, that they know more about their own environment and animals, as well as resources that are vital to their own livelihood, and that their perception therefore forms the basis for rangeland planning. Herrera et al. (2014) showed that good governance can prevent or minimize rangeland degradation and ensure their sustainability, and it is therefore important to strengthen the governance of rangeland resources and principles that can ensure their sustainability.

2.1 Governance of rangelands

Herrera et al. (2014) stated that the rangeland governance structures do exist but have been dormant for decades and need to be brought to life because sustainability of rangeland resources depends on the quality of governance, with existence of legislation to regulate use of resources and compliance by the communities, as well as enforcement of the processes by which the resources are governed.

Roba (2013) studied drivers of poor governance of rangeland resources include insecure rangeland resource tenure, lack of appreciation of communal governance, politically driven and corrupt governance, and a vacuum of governance, as well as a low valuation of systems that govern resources.

A study made by Kaufman (1999) simplified governance of rangeland resources by identifying the indicators and principles of good governance. The indicators included participation, voice and empowerment, equity and gender, rule of law and policy coherence, accountability and transparency, and capacity. The indicators were further elaborated through other studies.

2.1.1 Participation

In participation, the citizens take part in the governance of rangeland resources to overcome the complexity, problems and changes in the nature of rangeland resources management. Additionally, the government of rangeland resources needs an integrated approach to bring about knowledge of various factors, and hence a need for involvement of all key stakeholders in decision making, as clearly stated in government policies (Reed 2008). For proper participation, there is information exchange among the citizens and therefore an increase in citizen expertise and understanding of the problems involved. Participation further reduces failure in policy implementation and can ensure consideration of public preferences, and continuous involvement of the communities tends to build trust between the state and the citizens (Ivriin & Stansburg 2004).

2.1.2 Voice and empowerment

Empowerment is the enabling of communities to play an active role in decisions related to management of rangeland resources. However, empowerment can be achieved through participation and decentralization in rangeland resource management and decentralization is believed to reshape the local management of resources (Johnson 2001).

2.1.3 Equality and gender

Good governance takes into consideration the needs of both genders and their rights over resources in order to improve their livelihoods. However, rangeland degradation affects both men and women because of the benefits they obtain from the rangeland, and the decisions which are made regarding resources should be made by both men and women because they have different responsibilities in the management of the resources (FAO 2012). Rota (2010) emphasised the importance of women in rangeland management because women are believed to possess indigenous knowledge and are likely to reveal it if they are included in the management of resources, and they can thereby equally share direct benefits from the resources. Involvement of women in management of resources is equally important, as respecting and making use of their roles and rights to resources, and this can help in the empowerment of women.

2.1.4 Rule of law and policy coherence

The process of decentralization should be guided by the policy which in turn informs the law and hence proper governance of resources, and it is the responsibility of the local communities to develop rules and procedures to manage their resources in a way that will clearly define access and distribution of resources. Policy and law should not hinder management of rangeland resources because of their complexity and should be presented and written in the local language (Roe et al. 2009).

2.1.5 Accountability and transparency

Accountability ensures proper use of resources according to standards agreed on by all key stakeholders and building accountability and transparency could catalyse the commitment of the communities. Accountability is also important where there is revenue collection to minimize the abuse of funds, because it can lead to mistrust amongst the members of the community (Madani 1996).

2.1.6 Capacity

Capacity building can serve as a foundation for building a sound rangeland resources management and it depends on the willingness and commitment from the local communities because it can aid in building up local skills and increasing understanding of resource governance. Moreover, skilled communities are able to manage their resources without reliance on external stakeholders or institutions. Capacity building empowers communities in decision making, increases their confidence in governance matters, and increases their ownership in a rangeland pool (Schuster & Skeenkam 2007).

2.2 Perception of rangelands

Khwarae (2006) studied perceptions of communities of rangeland degradation in Botswana, and the results showed that communities were aware of decline in rangeland resources due to degradation. The communities further showed concern by proposing workable solutions that could be used to control rangeland degradation and were willing to participate and support rangeland rehabilitation programmes for livelihood development. Communities perceived indigenous

rangeland practiced appropriate for facilitating rangeland rehabilitation and that the practices should be spread to all members of a community. There is also need for documentation of such practices (Salemani 2013).

Gebreyowhans (2014) assessed perceptions of local communities on rangeland degradation in Northern Ethiopia. The communities perceived rangeland degradation to be a result of expansion of cultivation, overgrazing due to high numbers of livestock in limited area, population pressure and resettlement. Additionally, deterioration was shown by change in vegetation cover and plant composition over time as well as decline in woody vegetation cover.

The communities in eastern Ethiopia acknowledged that livestock production plays an important role in their lives and that constraints in livestock production are the result of a shortage of forage, grazing lands, water scarcity and invasion of alien species which pose more threat to livestock production because the invasive species reduce rangeland carrying capacity and productivity. The community further suggested that a study should be conducted to identify local feeds and forage sources that could be used as supplements during winter (Beyen 2014). The results of Godan's (2016) study showed that communities perceived factors affecting productivity to include bush encroachment, current drought, rangeland degradation, overgrazing, erratic rainfall and reduction in crop cultivation, resulting in livelihoods being affected.

2.3 Rangeland sustainability

Flintan & Cullis (2009) state that rangeland sustainability can be attained through participatory rangeland management where relevant stakeholders are identified and included in negotiations, with the aim of strengthening stakeholders. Rangeland users become part of the grazing plans through their concerns and the policy- and decision-makers will be informed of the different views of rangeland users.

According to Salemani (2013), poor management of rangelands is marked by continuous degradation of rangeland resources and there is the need to rescue these resources. The management of resources by central and local governments is believed to negatively affect sustainability of rangeland resources due to poor monitoring. The poor management of rangeland resources has also reduced their sustainability (Schafer & Bell 2002). The gradual and continuous degradation of rangeland resources is associated with poor organization of institutions managing rangelands resources, as well as a shift in land tenure policies (Beyene 2009).

Umrani (1998), studied sustainable approaches to rangeland management and livestock production in arid and semi-arid regions and concluded that the main factors influencing sustainability are stocking rates, variation in rainfall from year to year, number of plants per unit area, and their longevity, palatability and resistance to grazing.

Mitchelle (2010) assessed the sustainability of rangeland management using the Sustainable Rangeland Round table (SRR) approach. SRR is a process where more than 100 participants, about 50 organizations, universities, land agencies, research agencies, tribes and scientific societies develop and validate criteria and indicators of sustainable rangeland management. The focus is on the ecological, economic and social criteria and indicators, and the capability of rangeland to

produce enough is considered, how that will benefit the communities, as well as the economies within the rangeland enterprise.

2.4 Sustainable Development Goals

Sustainable development goal #15 aims towards sustainable management of natural resources, especially wetlands and forests (UN 2015). The proper management, conservation as well as restoration can sustain use of natural resources through the combating of desertification, rehabilitating degraded land, eradicating alien invasive species, and legal protection of fauna and flora will help the country to achieve a better life for human society (ICSU & ISSC [International Council for Science & International Social Science Council] 2015).

The implementation of the targets of sustainable development goals depends on the concrete policies and actions in each country (UN 2015). Lesotho is a signatory to a number of such international treaties and conventions, and has ratified the following: Convention on Wetlands (RAMSAR); Convention on International Trade in Endangered Species (CITES), Convention to Fishing and Conservation of Living Resources of High Seas; United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention to Combat Desertification (UNCCD) (MFLR 2014).

The conventions draw from National Rangeland Management Policy, Land Use Policy, Agriculture Land Use Policy, Water Resources Policy, Energy Policy, National Environment Policy and Local Government Policy (NES 2004).

3. METHOD OF STUDY

3.1 Study area

The livelihoods of rural communities in Lesotho depend on livestock as a source of food and income. Rangeland degradation has proven to impact negatively the livelihoods of farm households. Depending on the community needs, the rangelands are sometimes converted for other land uses, mainly croplands or settlements. This may be a way to intensify land use and adapt to difficult times. The croplands are used in dual manner since they still provide crops and dry feed for livestock (Sibanda et al. 2011).

3.1.1 Rangeland degradation

In Lesotho, grazing is communal so that members of a community have common or equal access to the rangeland resources. A communal grazing system encourages members of the community to develop competing interests and this has increased pressure on the rangeland. However, the communities keep increasing livestock numbers and demand from rangeland resources keeps growing, with the aim of maximizing the individual benefits from the rangelands (Chapeyama 2004).

Rangelands in the study area are burned annually by humans. The resistance of rangelands to fires is challenged because they are heavily grazed after being burnt. The fire intensity reduces the grass

biomass but hardly controls the invasive species. This has resulted in invasive species outcompeting the native grass species (ORASECOM [Orange Senqu River Commission] 2014). Soil erosion is also severe because the lower the vegetation cover, the more runoff.

The local communities use timber for fire or as a source of energy which seems to diminish, and to overcome the problem of timber deficiency, the government is introducing exotic tree species within the rangeland areas. The exotic tree species are posing a threat to the ecosystem services and are also competitive for resources like water in comparison to other natural native species. In addition, the spread of exotic species in the rangeland areas has reduced the capacity of the rangeland to produce enough fodder for livestock, hence overgrazing (ORASECOM 2011).

Lesotho has a population of two million, with an annual growth rate of 1% from the year 2000 to 2005 (Silici 2010). With increased population, there is an increase in land demand and this has resulted in an increase of informal settlement within the rangeland areas. Informal settlement has reduced the capacity of the rangeland to produce more fodder for livestock due to more pressure from greater numbers of livestock. This has raised the issue whether an efficient and effective land tenure system can contribute to reduce rangeland degradation (Daemane 2012).

3.1.2 Governance of rangelands in Lesotho

The commons in Lesotho need quality governance for their sustainability and are governed by local government structures. The quality of governance is in decline because of unresolved legal powers divided between chiefs and community councillors, after the powers were shifted from chiefs to community councillors (Turner 2006). Additionally, the livestock owners graze where and when they like because they claim that introduction of community councillors leads to the breakdown of customary agreement on rangelands management (Turner 2006).

To overcome rangeland degradation, the government of Lesotho has introduced policies and legislation aiming at governing rangeland resources. The Rangeland and Grazing Control Regulations of 1980 are used to regulate rangeland resources, and powers of control and administration of rangeland resources are now vested with community councillors within their electoral boundaries. The National Rangeland Resources Policy was developed in 2014, with the specific objective of sustaining management of rangeland resources, and the implementation of policy and legislation can help protect the rangeland resources (MFLR 2014).

In Lesotho, before the commencement of every project, local expertise as well as experiences should be considered because this can help the project to proceed smoothly. Successes of the projects in Lesotho should be built upon empowering local communities so that they manage the project at all levels (Hassan 2002).

3.1.3 Equality and gender

In Lesotho, women hold high positions in some resource management committees. Women have always taken part in management of resources during the time that male relatives have worked in South African mines and because of the skills they acquired, they are regarded as resource managers. Memberships in community-based institutions managing rangeland resources are open to both men and woman (Shackleton & Campbell 2000).

3.2 Data collection

The data for this study were collected from a sample of 26 households living in Qacha's Nek. The sample was based on four community councils; Qanya, Ntsupe, Tsoelika and Urban councils. From each community council, one village was selected randomly for the study. The villages selected were White-Hill, Sehlabathebe, Rapase and Pheellong. From each village, a total of six households were selected and interviewed, together with the district administrator and the chairman of the district council. Each person was asked 21 questions (Appendix 1).

The data were collected using a prepared questionnaire and a voice recorder. The questionnaire was first translated from English into Sesotho before the commencement of the interviews. The questions were closed but for some questions there was an option of an open answer. Three experienced officers from the Ministry of Forestry, Range and Soil Conservation were responsible for the data collection. The questionnaires were pretested by interviewing six members of the staff within the Ministry and that helped them rehearse before they went out to the communities. The area chief in each village helped identify members of focus.

The questionnaire covered issues regarding perception of sustainability of rangelands and rangeland conditions, community awareness of the act regulating rangelands, the institutions responsible for management of rangelands, structures controlling and administering rangeland resources, and the respondent's satisfaction or concerns about rangeland management.

In addition, literature on governance of rangelands, perception of local communities of rangeland management, sustainable development goals and national rangeland management policy for Lesotho were reviewed.

3.2.1 Constraints in data collection

The quality of the study was affected by the fact that some livestock farmers and other members of the community within the district of Qacha's Nek were reluctant to be interviewed. This may have been due to issues with livestock theft in the area and the authorities' attempt to prevent these incidents. This has resulted in people being suspicious if approached by strangers and some refused to be interviewed. The officers who conducted the interviews observed that interviewing nervous people also affected the interviewing process. Data collection was therefore affected by this situation. Accordingly, the voice recordings reveal that some respondents held back their opinion and could not expand when responding.

3.3 Data analysis

The data collected were subjected to analysis using the Statistical Package for Social Science (SPSS, version 16.0). The variables included respondents' perception on sustainability of rangelands and rangeland conditions, indicators of rangeland degradation, community awareness of the laws or legislation regulating use of rangeland resources, and institutions responsible for rangeland management. Frequencies were calculated using descriptive analyses. Table 1 shows the sample used for the survey.

Table 1. Overview of sampling framework

Name of Community Council(CC)	Village(s)	Representative	Governance structures
Qanya	White Hill	2 women (heads of households)	Chairman of the district council
		1 farmer	
		1 herder	
		1 area chief	
		1 community councillor	
Ntsupe	Rapase	2 women (heads of households)	
		1 farmer	
		1 herder	
		1 area chief	
		1 community councillor	
Tsoelikana	Sehlabathebe	2 women (heads of households)	
		1 farmer	
		1 herder	
		1 area chief	
		1 community councillor	
Urban	Pheellong	2 women (heads of households)	District Administrator
		1 farmer	
		1 herder	
		1 area chief	
		1 community councillor	
Total		24	2 26

4. RESULTS

4.1 Background information

Some basic background information was collected in the interview with the aim of making comparisons between different groups.

4.1.1 Type of respondents

A cross-section of the people of Qacha's Nek were interviewed in this study. The group in the study was comprised of livestock farmers (12%), herders (19%), community members (31%), area chiefs (15%), community councillors (15%), District Administrator (4%), and 4% of the remaining respondents were District Council Chairmen, as indicated in Table 2.

Table 2. Type of respondents interviewed.

Type of respondents	Frequency	Percent
Livestock farmer	3	12
Herder	5	19
Member of community	8	31
Area chief	4	15
Community councillor	4	15
District administrator	1	4
Chairman of district council	1	4
Total	26	100

4.1.2 Gender of respondents

The respondents were 61% male and 39% female, as shown in Fig. 1.

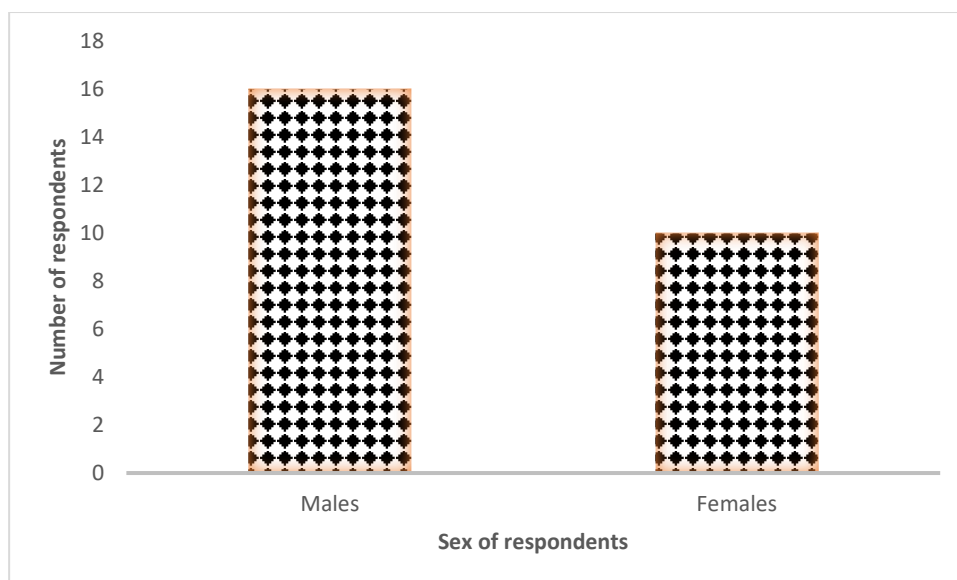


Figure 1. Gender of respondents.

4.1.3 What is your (main) source of income?

More than fifty percent of the respondents specify livestock raising as their main source of income, as outlined in Table 3. Government jobs accounted for 12% of the respondents. Crop production and domestic jobs were the other main sources of income. Livestock raising included sales from livestock, wool and mohair exports.

Table 3. Sources of income

Sources of income	Frequency	Percent
Government sector	3	12
Plant production	2	8
Livestock raising	14	54
Domestic jobs	5	18
Other jobs	2	8
Total	26	100

4.2 Which benefits do you get from the rangeland (one or more)?

Asked about the benefits they obtain from the rangelands, 39% of the respondents identified livestock grazing, 25% fuel wood, 17% medicinal plants and 15% identified grass for thatching. Respondents were given the option to mention other benefits. One mentioned water from wetlands and one mentioned less erosion, as indicated in Table 4.

Table 4. Benefits the respondents obtain from the rangelands

Benefits from rangelands	Frequency	Percent
Livestock grazing	20	39
Fuel wood	13	25
Medicinal plants	9	17
Grass for thatching	8	15
Water from wetlands	1	2
Other benefits	1	2
Total	52	100

Fig. 2 shows that respondents that benefited from livestock grazing were 62% men and 15% women. Thirty-eight percent (women) of the respondents also benefited from fuel wood, together with 12% of the men. Medicinal plants were beneficial to 23% of the females and to 12% of the men. Grass for thatching was also beneficial to 23% of the women and 8% of the men. The remaining four percent benefited from water and others were beneficial to men.

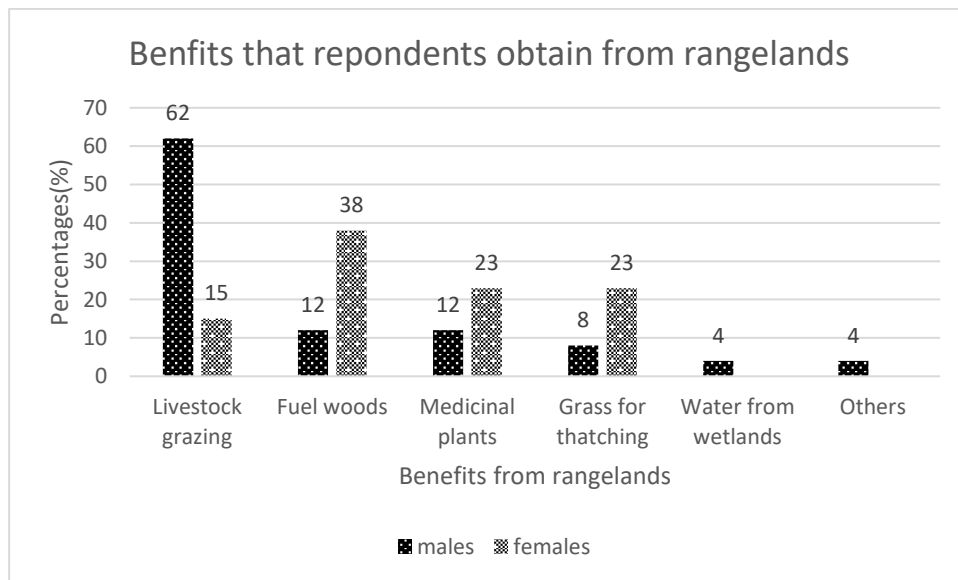


Figure 2. Comparisons of the benefits that females and males obtain from the rangelands

4.3 Community perceptions on rangelands

4.3.1 Do you consider that the rangeland resources are managed in a sustainable manner (able to provide for current and future generations)?

Table 5 shows that 81% of the men perceived rangelands to be managed in a sustainable way, whereas 19% perceived that rangeland management was not sustainable. Eighty percent of the

women felt that rangelands were managed in sustainable way while 20% perceived rangeland management as not sustainable.

Table 5. Comparison of the perception of men and women on sustainability of rangeland management

Do you consider management of rangeland sustainable?	Frequency	Men	Percent	Women	Percent
Yes	21	13	81	8	80
No	5	3	19	2	20
Total	26	16	100	10	100

4.3.2 What is your perception of the rangeland condition in your village (district)?

Table 6 shows that 39% of the respondents perceived the condition of the rangeland to be good while 35% thought the rangelands were in fair condition and 12% viewed the rangelands to be in an intermediate condition. The remaining 8% perceived rangelands to be in bad condition and 4% thought the condition of the rangeland to be not so good.

Table 6. Community perceptions on the condition of rangelands

Perceptions on conditions	Frequency	Percent
Good condition	10	39
Fair condition	9	35
Intermediate condition	3	12
Not so good condition	1	4
Very bad condition	2	8
Don't know	1	4
Total	26	100

4.3.3 Have you noticed or experienced a decline or degradation in resources important to your livelihood?

In Table 7, the results indicate that amongst 26 respondents, 19 perceived a decline in rangeland resources while seven respondents claimed that there was no visible decline in resources. Two respondents perceived a decline in fuel wood at Rapase village and Sehlabathebe, respectively (Table 7). Decline in grass for thatching was indicated by two respondents, each from White-hill and Pheellong. Two respondents from White-hill and Pheellong perceived a decline in water from rangelands. The remaining 10 respondents indicated that there was a decline in forage for livestock feeding in White-hill (2), Rapase (3), Sehlabathebe (3) and Pheellong (2).

Table 7. Resources from the rangeland perceived to be in decline

Resources in decline	Responses per each village				Total
	White-hill	Rapase	Sehlabathebe	Pheellong	
Fuel wood	-	1	1	-	2
Grass for thatching	1	-	-	1	2
Medicinal Plants	1	1	1	-	3
Water from rangelands	1	-	-	1	2
Forage for animals	2	3	3	2	10

4.3.4 What do you consider are indicators for rangeland condition?

Table 8 shows that 19% of the respondents acknowledged that there were gullies within the rangelands as an indicator of rangeland degradation. Another 19% viewed change in plant species composition as an indicator of rangeland degradation, followed by 18% that viewed bare ground as an indicator. Seventeen percent viewed rills as an indicator of rangeland degradation while 13% viewed indicators as a change in animal condition and low animal productivity. The remaining 12% viewed the presence of invasive species as an indicator of degraded rangeland and 2% listed other (e.g. loss of top soil).

Table 8. Perceptions of indicators of rangeland degradation

Indicators	Frequency	Percent
Rills	24	17
Gullies	26	19
Presence of invasive species	16	12
Animal condition and productivity	17	13
Plant species composition	26	19
Bare ground	24	18
Other (loss of soil)	3	2
Total	136	100

4.4 Community institutional awareness

4.4.1 How well do you know the institutions managing rangelands in the district?

The respondents who knew the institutions managing the rangeland resources very well constitute 50% of the sample, followed by 15% who knew the institutions fairly well and 8% who knew them passably well. Twenty-seven percent of the respondents were not aware of the institutions managing rangelands, as shown in Table 9.

Table 9. Awareness on the institutions managing rangeland resources

Institutional awareness	Frequency	Percent
Very well	13	50
Fairly well	4	15
Passably well	2	8
Not so well	4	15
Don't know them all	3	12
Total	26	100

4.4.2 How satisfied are you with the practices used in the rangeland management in the district?

The respondents who were very satisfied with the institutional practices constituted 31% of the respondents, followed by 23% that were fairly satisfied and 15% that were intermediately satisfied. The remaining 31% were not satisfied, as indicated in Table 10.

Table 10. Respondents satisfaction with institutional practices

Institutional practices	Frequency	Percent
Very satisfied	8	31
Fairly satisfied	6	23
Intermediate	4	15
Not so satisfied	8	31
Total	26	100

4.4.3 *If you are not satisfied with the rangeland management, which of the following do you think could lead to improvements?*

In Table 11, seven respondents indicated that restoration of rangeland should be given priority in rangeland management improvement, followed by four respondents who perceived reduction in livestock numbers to be a solution. Two respondent indicated that it is through review of the rangeland act that rangelands can be improved, and the remaining single respondent indicated that localising of rangeland management should be given priority.

Table 11. Suggestion for proper management of rangelands

	Priority		
	1	2	3
Reduced number of livestock	4	2	4
Restoration activities	7	3	3
Localizing rangeland management	1	3	4
Reviewing the rangeland act	2	9	3

4.4.4 *Are you familiar with the law regulating rangeland management in your district?*

The respondents who are familiar with the legislation managing rangelands constituted 81% of all citizens, while those who did not know the legislation at all constituted 19% (Table 12).

Table 12. Awareness of the legislation regulating resources use

Awareness on legislation	Frequency	Percent
Yes	21	81
No	5	19
Total	26	100

4.4.5 *Who is in control of and administers rangeland resources in the district?*

Table 13 shows that 42% of the respondents answered that the power of control of resources was in the hands of the chiefs, community councillors and grazing associations, while 19% of the respondents thought that both community councillors and chiefs were in control of the resources. Twelve percent of the respondents felt that control was carried out by the chiefs and only one respondent (4%) thought it was in the hands of grazing associations. The remaining 12% indicated that only community councillors were responsible for the control of resources.

Table 13. Authorities responsible for control and administration of rangeland resources

Responsibilities	Frequency	Percent
Chiefs	3	12
Community councillor	3	12
Chiefs and community councillor	5	19
Chiefs, community councillor and Grazing Associations	11	42
Community councillor and Grazing Association	3	12
Grazing Association	1	4
Total	26	100

4.4.6 *If you are not satisfied with the administration/governance of the rangelands, which of the following do you think would be most effective for improvements?*

In Table 14, three of the respondents indicated there should be gender equality in order to attain quality governance, while two respondents indicated that review of the act should be given priority, but another two indicated that the communities should be empowered in order to improve on governance. The remaining respondent indicated that it is through improved stakeholder interaction that governance of rangeland resources will improve.

Table 14. Perception on practices that can be used to improve governance of resources

Practices	Priority		
	1	2	3
Empowerment of local communities	2	3	2
Improve interaction among key stakeholders	1	2	3
Review laws governing use of resources	2	2	3
Ensure gender equality in governance of resources	3	1	1

5. DISCUSSION

5.1 Sources of income

Over half of the respondents, 54%, said their livelihood was based on livestock enterprise (wool and mohair sales, livestock sales, herding) only, while 8% revealed that they depended on temporary jobs. The study indicated that livestock production was important for the economy of people living in these district and therefore important for their livelihoods.

The results stress the need to maintain rangelands in good condition, considering that in Lesotho livestock depend entirely on rangeland as a source of feed because it is a cheap way of maintaining the livestock. Other beneficial resources produced by the rangeland were also seen as important for the community members lives, cultural beliefs and indigenous practices. These included medicinal plants, grass for thatching and other building materials. These findings confirm those of ORASECOM (2014), which had similar results.

5.2 Gender equality and benefits from rangelands

All the respondents revealed that they benefit from rangelands. Respondents who benefited from livestock grazing constituted 62% of the men and 15% of the women. Thirty-eight percent of the women also benefited from fuel wood together with 12% of the men. Medicinal plants were beneficial to 23% of the women and 12% of the men. Grass for thatching was also beneficial to 23% of the female respondents and 8% of the men. The remaining 4% that benefited from water and the 4% that benefited from other factors, including reduced soil erosion, were all men.

Women and men benefited from the rangeland resources but women benefited more from the resources that need to be collected for use such as fuel wood and grass for thatching, while men benefited more from the resources that are commercial and cultural.

The fact that both men and women benefited from the rangelands stresses the importance, as Flintan (2007) points out, of including both men and women in the use, management and conservation of rangeland resources.

5.3 Sustainable management of rangelands

Eighty percent of the respondents consider the rangelands to be sustainable whilst the remaining 20% thought otherwise. The sustainability of communal rangelands of Lesotho is a concern to the government because of overexploitation and mismanagement of natural resources that result in land degradation in the country MFLR (2015). There is a need to maintain rangelands so that they keep providing goods and services.

The respondents who believed that resources were not being managed in a sustainable way were also asked if the resources had diminished in quantity. The aim was to find out if some of the resources were becoming exhausted or in danger of extinction. Twenty-three percent of the respondents indicated a decline in available resources, especially fuel wood, and these were mostly women. This may have been due to the fact that women experience the shortage more acutely because they are responsible for fuel collection. Thirty-one percent of respondents also indicated a decline in forage for livestock. These were also mostly livestock owners, who are in close touch with the rangelands and can detect that change (Gebreyowhans 2014).

5.4 Perceptions on rangeland condition

Thirty-nine percent of the respondents perceived the condition of the rangeland to be good while 35% thought the rangelands were in fair condition and 12% viewed the rangelands to be in intermediate condition. The remaining 8% perceived rangelands to be in bad condition and 4% thought the condition of the rangeland to be not so good.

Community perceptions are important in rangeland management. According to Gebreyowhans (2014) communities can detect changes within the rangeland because they are in close contact with it. The changes may be measured through the use of indicators.

Being asked about the possible causes of the bad condition of the rangeland, the respondents thought they could be the result of the overgrazing, rangeland fires and the presence of invasive species.

5.5 Indicators of rangeland conditions

All respondents indicated rills, gullies, invasive species and bare ground as common indicators for rangeland degradation. In addition, 31% of the respondents also considered rangeland condition to affect fauna and other flora species within the rangeland ecosystems and these were mostly livestock farmers and herders. They are likely to see if the condition of livestock is deteriorating and if some plant species are starting to become scarcer because they are close to the rangelands. Finding the perception of the respondents on indicators of rangeland condition would help because communities have their own ways of assessing rangeland condition over time, using different indicators.

The indicators that the respondents presented are more or less similar to the indicators that Gebreyowhans (2014) presented in his study in Ethiopia. The indicators were poor vegetation cover, reduction in livestock productivity and soil erosion.

The report made by the UNDP Lesotho Country Office and MFLR (2014) shows that loss in basal cover of the rangelands could lead to soil erosion, followed by rills and gullies.

5.6 Awareness of rangeland management institutions

A majority of the respondents claimed to know the institution managing rangeland resources very well, 50%, followed by 15% who knew them fairly well. If communities know about the institutions, they are likely to know about the services provided by such institutions. The institutions managing the rangelands are important to the communities because they are mandated to manage rangelands with the aim of improving the livelihoods of local communities.

One of the key objectives of the Department of Rangeland Management in the National Range Resources Management Policy is to make the public aware of rangeland resources management through public gatherings and workshops, and to promote communities and other stakeholders' active participation in rangeland resources management (MFLR 2014). The result illustrates that the institution is doing well because a majority of respondents know about it.

According to Shackleton and Campell (2000), the common rangeland resources can be properly managed if they have proper institutional, technical and financial backing from the government. Thirty-one percent of the respondents showed that they were satisfied with the practices of the institutions managing rangelands, followed by 23% who were fairly satisfied and 15% intermediately satisfied. The respondents who were not satisfied with the practices of the institution constituted 31% of the sample.

The lack of satisfaction could have been due to the approaches the institutions used in rangeland management. The institutions may lack the initiative to seek local peoples' views toward new practices which may change the traditional practices used in rangeland management. Therefore, communities may know very well about the institutions but not be satisfied with their practices.

The respondents who were not satisfied (31%) suggested a review of the rangeland act, rehabilitation of degraded rangelands and localizing rangeland management. MFLR (2014) acknowledges that legislation regulating the use of rangeland is outdated.

These preferences from the local communities can guide the policy for sustainability of rangeland resources.

5.7 Authority responsible for control and administration of rangeland resources

The respondents that felt that the control of the resources was in the hands of the chiefs, community councillors and grazing associations constituted 43% while 19% of respondents thought it was both community councillors and chiefs who were in control of the resources. Twelve percent of the respondents considered that control was in the hands of the chiefs and 4% of respondents indicated that it was in the hands of grazing associations. The remaining 12% indicated only community councillors were responsible for control of the resources. The majority of respondents were not clear whether it was the chief, community councillor or the grazing association. This indicates considerable confusion regarding the governance of rangeland resources.

Until 2007 the chief was responsible for administration of the rangeland resources but currently it is the community councillors. The community councillors can shift power to grazing associations but remain the signatory of all rangeland activities. The shift in power affects the relationship between local authorities and the community as well.

All respondents further emphasized the importance of good relationships between local authorities and the community.

5.8 Legislation regulating rangelands

Eighty-one percent of the respondents are aware of the legislation regulating the use of rangeland resources while 19% are not. The rangeland use is currently regulated by the Rangeland Management and Grazing Control Regulations of 1980 and subsequent amendments. The implementation of the act is vested within the community councillors. Though the legislation is weak, if well implemented, it can protect and sustain the use of rangeland resources. However, the implementation of available policies as well as the legislative framework can reduce high losses in rangeland resources and sustain their use (MFLR 2014).

The lack of awareness of nineteen percent of the respondents may be due to weak implementation. The community councillors are responsible for implementing the law but the communities feel that introduction of community councillors within the communities went against customary rangeland management agreements. Unresolved cases can make communities disobedient and stop respecting the law. According to Turner (2006), the law regulating the rangelands is weak and ineffective in Lesotho. The communities may see no reason to obey such law, hence this further weakens the governance of rangeland resources.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The perception of the communities within the study area is that the condition of rangelands has been negatively affected by rangeland fires, overstocking within rangeland areas and encroachment of invasive species. The overexploitation of resources has resulted in decline in the rangeland resource base and a large shortage of important resources to the community. The communities further revealed that rills and gullies were visible within the rangelands and that this was an indicator that rangelands have started deteriorating.

This overexploitation and decline in rangeland resources can lead to rangeland degradation. Rangeland degradation does affect the standards and quality of households' livelihoods because it results in loss of resources beneficial to communities. The ecosystem services offered by rangelands are also affected by the pressure from the overuse of resources (Lewis et al. 2011).

The results suggest that the problem of rangeland management within the study area can be solved by review of legislation that controls use of rangeland resources, localization of rangeland management, restoration or rehabilitation activities, and a reduced number of livestock. Governance, on the other hand, can be improved by considering gender equality, empowerment of local communities, review of laws governing the use of resources, and improvement in interaction among stakeholders.

The governance of the rangelands within the study area can be considered not to be effective. Some institutional roles are not clear. There is confusion as to which authority is responsible for resource control and administration. The communities are not clear if the chief or the community councillor is in control. There are unresolved legal powers within the local governance structures. Power was shifted from chiefs to community councillors, thus threatening the chiefs because communities then lost trust in them. The unresolved legal powers affect the communities, which results in endangering the protection of rangeland resources.

The study revealed that there is lack of awareness of the institutions and the legislation regulating use of rangeland resources. In a good governance system, the mandatory responsibilities of each institution should be well known to local communities. The communities should be aware of the services provided by different institutions within their areas. There should be active creation of awareness by all institutions on rangeland management through public gatherings and training workshops in order to make communities feel part of rangeland management. There is also a need to develop rehabilitation programmes in order to restore rangeland. The communities should be part of the solution. This approach would further enhance the knowledge the communities hold, which is important in rangeland management, and the local perceptions should be included in rangeland management systems, the reason being that the local communities perceive things differently and that they are the users of rangeland resources.

The study further indicated that men and women have different needs and benefits from the rangelands. There is a need to include both in planning of rangelands to respond to their preferences. The difference in needs will further guide decision makers and policy on the preferences of both males and females.

6.2 Recommendations

- Participatory management, which allows use of local perceptions, experience and knowledge of rangeland management and governance of rangelands should be implemented.
- The governance of rangeland resources needs to be revived because the governance structures are in place but dormant.
- There is a need to continuously conduct awareness programmes for the communities on the importance of rangelands, goods and services that can be obtained from the rangelands to increase love, ownership and custodianship of the rangelands.
- Formulation of new policy should take into consideration the local perceptions on rangeland and governance of rangelands and that men and women have different preferences.

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APPENDIX 1: QUESTIONNAIRE FOR COMMUNITIES

Livestock farmer – LF, Herder- H, Member of the community – MC, Area Chief – AC, Community Councillor– CC, District Administrator- DA, Chairman of District Council-CD

A. General Information (see abbreviations above)

Country: Lesotho, District - Qacha's Nek. Community council-

Village-

Q1. LF H MC AC CC DA CD

Q2. Sex: a). Male b). Female

Q3. What is your (main) source of income?

Specify!.....

Q4. Is the use of rangeland important to you as a basis for your livelihood?

a) YES

b) NO

c) Don't know

Q5. If yes, what benefits do you get from the rangeland (one or more)?

a) Livestock Grazing

b) Fuel Wood

c) Medicinal plants

d) None

e) Others(specify).....

Q6. Do you consider that the rangeland resources are managed in a sustainable manner (able to provide for current and future generation)?

a) YES

b) NO

c) Don't know

Q7. Have you noticed or experienced a decline or degradation in resources important in your livelihoods?

a) YES

b) NO

c) Don't know

Q8. If yes, which resources?

Q9. How well do you know the institutions managing rangelands in the district?

a) Very well

b) Fairly well

c) Intermediate

d) Not so well

e) Don't know them at all

Q10. How satisfied are you with the practices used in the rangeland management in the district?

a) Very satisfied

b) Fairly satisfied

c) Intermediate

d) Not so satisfied

e) Very unsatisfied

Q11. If you are not satisfied with the rangeland management, which of the following do you think could lead to improvements? Prioritize (1-3)

- a) Reduced number of livestock
- b) Restoration activities
- c) Localizing rangeland management
- d) Reviewing the rangeland act
- e) Others?

Specify.....

.....

Q12. Who is in control and administration of rangelands resources in the district?

- a) Community councillors
- b) Chief
- c) Grazing Associations
- d) Others? Specify.....

Q13. Are you satisfied with the way resources are controlled and administered?

- a) YES
- b) NO
- c) Don't know

Q14. If you are not satisfied with the administration/governance of the rangelands, which of the following do you think would be most effective for improvements? Prioritize (1-3)

- a) Empowerment of local communities.....
- b) Improve interaction among key stakeholders.....
- c) Review laws managing use of resources.....
- d) Ensure gender equality in governance of resources.....
- e) Other (specify).....

Q15. Do you think the relationship between the local authorities and the communities contributes to better rangeland management?

- a) YES
- b) NO
- c) Don't know

Q16. What is your perception of the rangeland condition in your village (district)?

- a) Good condition
- b) Fair condition
- c) Intermediate condition
- d) Not so good condition
- e) Very bad condition
- f) Don't know

Q17. If the condition is bad, which of the following do you think is the main cause?

- a) Fire
- b) Overgrazing
- c) Presence/encroachment of invasive species
- d) Others.....

Q18. What do you consider are indicators for rangeland condition?

- a) Rills
- b) Danga/Gully
- c) Cover of invasive species
- d) Plant species composition
- e) Animals
- f) Bare grounds
- g) Other (specify) ...

Q19. Are you familiar with the law regulating rangeland management in your district?

- a) YES
- b) NO
- c) Don't know

Q20. Do you think the law properly manage the use of rangelands in your area?

- d) YES
- e) NO
- f) Don't know

Q21. If not, do you have any idea why is it so? Specify.....