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A scoping review of communal rangelands management in southern Africa: towards sustainable management of rangelands

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This paper investigates the impacts of policy and governance institutions on rangeland management practices in southern Africa. A scoping review was conducted, using literature from Web of Science, JSTOR, Scopus and Africa-wide bibliographic databases in the past three decades. The results revealed that several initiatives have been implemented in southern Africa to improve the condition of rangelands, including livestock destocking policies, grazing schemes, improved forage grasses, veld legume reinforcement, high-market beef value chains and agroforestry technology. However, the success of these initiatives has been limited due to a lack of meaningful participation in rangeland management. Moreover, the absence of responsive policies to support communal rangeland management in southern Africa has led to their transformation into unsustainable systems. Additionally, commercial interests often drive national-level policies and tend to disempower traditional institutions, causing conflicts and discord in rangeland management. Therefore, unrolling participatory bottom-up approaches will be essential for inclusive and sustainable rangeland management.

KEYWORDS

community participation, rangelands management, institutions, rangelands policies, governance

Introduction

Rangelands are land on which the possible native vegetation includes grasses, sedges and shrubs suited for grazing, covering around 54% of the earth's surface (Yahdjian et al., 2015). Rangelands support about 30% of the world's human population (Yahdjian et al., 2015), and about 21% of the African population directly depends on rangeland resources

(D'Adamo et al., 2021). Given the importance of rangelands to human livelihoods and wellbeing, it is crucial to examine the governance and policy frameworks that impact rangeland management (Münch et al., 2017; Matsa et al., 2020; D'Adamo et al., 2021; Leweri et al., 2021). Within the broader context of global changes, rangeland condition is strongly influenced by the legal and policy frameworks that inform institutional operations to enhance resource management (Mulale et al., 2014; Falayi et al., 2021; Igshaan Samuels et al., 2021). These institutions can either interact together to help deliver effective rangeland management or can undermine sustainable rangeland management (Falayi et al., 2022).

In southern Africa, rangelands comprise Grassland, Savanna, Thicket, Nama-karoo, Succulent karoo, Desert, Forests, and Fynbos biomes. Although southern Africa's rangelands are multipurpose, livestock production is the main activity (Naidoo et al., 2013). Communal rangelands within the region have undergone management transformation over the years, and it is strongly believed that these changes are critical in understanding the current state of rangelands. It is well established that in many developing countries, dynamics in rangeland management are strongly linked to the colonial past (Menestrey Schwieger and Mbidzo, 2020; Igshaan Samuels et al., 2021). For example, in most cases, the appropriation of productive land by colonial powers led to indigenous people being left with marginal land and resettlement in overcrowded landscapes (Falayi et al., 2022).

The nature of the property regime influences the effectiveness of the management system in any landscape. A dual system of livestock ranching characterised by communal and commercial livestock or wildlife ranching has persisted due to land tenure arrangements established during colonial rule in southern Africa. For example, freehold tenure (commercial ranching) allows for tighter control and regimented grazing systems, resulting in more effective rangeland management (Mani et al., 2021). On the other hand, in the communal sector, it is difficult to implement requisite rangeland management interventions such as controlled grazing. This has partly led to degradation and inequality in the communal sector (Gusha et al., 2017). In this study, rangeland degradation refers to the decline in the condition of rangelands, primarily due to human activities such as overgrazing, deforestation, and unsustainable agricultural practices (Angerer et al., 2016). However, some studies did not find evidence of rangeland deterioration or overgrazing in communal rangelands (Palmer and Ainslie, 2009; Gwate et al., 2021). Nevertheless, given the historical context of colonialism, some communal rangelands in southern Africa, may have been degraded due to a very weak management regime (Bennett, 2013). Therefore, innovative rangeland management interventions that create an enabling environment will be crucial in dealing with rangeland management challenges such as improving production and reducing rangeland deterioration in the communal sector.

Despite the positive impact of political independence in many southern African countries, rangelands in communal lands continue to be perceived as degraded and of low productivity, partly due to overgrazing (Palmer and Bennett, 2013; Gusha et al., 2017; Falayi et al., 2022). Although biophysical changes drive rangeland degradation (Fauchereau et al., 2003; Engelbrecht et al., 2009), we argue that ineffective human management interventions have contributed to the degradation of communal rangelands. We hypothesise that current policies (post-colonial), institutions, and rangeland management approaches have yet to be effective in curbing the degradation of communal rangelands. In this paper we evaluated the impact of policy and governance institutions on rangeland management practices. Such an evaluation is vital since it will help us to understand how these practices have influenced the state of communal rangelands and it will also inform possible pathways for enhancing the sustainable utilisation of communal rangelands.

Methods

We carried out a scoping review based on the methodological framework that Arksey and O'Malley (2005) outlined to identify studies that assessed communal rangeland management practices in southern Africa. We adopted a scoping review because it enabled us to comprehensively gather, synthesise, document knowledge and gaps and identify policy implications on the impacts of rangeland management in communal areas. The review process included the following key steps: 1) defining the research aim, 2) gathering the literature, and 3) conducting data analysis and reporting the results.

The first step of the review process was to define the research aim, which was to examine the impact of communal policy and governance institutions on rangeland management practices in southern Africa. We achieved this by reviewing past scoping review papers on rangeland management in the region to distinguish ourselves from prior reviews. This process led to the identification of our research aim and objectives.

The second step was literature gathering using Web of Science, Scopus, and EBSCOhost databases. The first two were selected because they are considered two of the largest online databases (Biesbroek et al., 2018), while EBSCOhost provided comprehensive coverage of African shared pool studies.

The third step involved literature gathering (Figure 1). To gather literature, we used a search query of keywords such as (Commons) OR Communal rangelands) AND southern Africa, Commons OR Communal rangelands AND policy OR governance OR management AND southern Africa with southern Africa replaced by each of the 16 countries within the Southern Africa Development Community (SADC) region. A total of 587 peer-reviewed academic articles were retrieved from the three bibliographic databases. Google Scholar was further used to identify any other relevant literature that might have been missed in the above-mentioned databases.

The fourth step involved title screening and removing duplicates; 413 articles were excluded in this way, while a

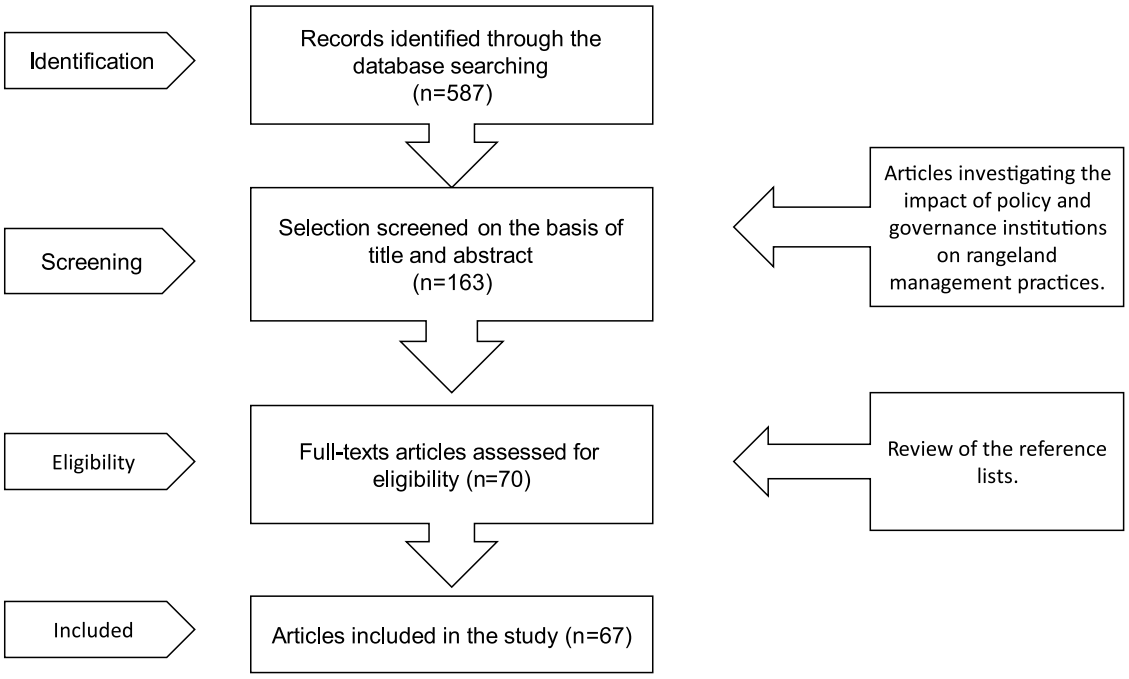

FIGURE 1
Methodological approach to literature review.

further 94 articles were removed by abstract screening. In total, 507 articles were removed because they did not explicitly focus on communal rangelands management. Most of the articles excluded focused on commercial rangeland management. Only 80 articles met the eligibility criteria: they focused on communal rangeland management in southern Africa and were in English.

Full-text screening resulted in the exclusion of a further 20 articles, and a double screening by an independent reviewer excluded two more articles. Using the reference lists from the articles included for the full-text screening, nine articles were added to the sample. A total of 67 articles were considered for the in-depth review, where information on rangeland management practices was analysed (Figure 1).

Data analysis

In this study, we conducted a comprehensive thematic analysis to examine rangeland management practices reported in the literature. Our approach was methodical and systematic, ensuring the accurate identification and categorisation of key themes related to policies, governance, and management outcomes. Firstly, data were extracted from each selected article using detailed analytical notes. This initial step involved reviewing the text to capture relevant information regarding rangeland management practices. We then applied manual coding to these extracted data, which allowed us to identify and categorise key phrases and sentences into broader themes. The coding process was guided by our focus on specific aspects such as "Governance," "Policies," and "Management."

The coded data were systematically organised in a Microsoft Excel spreadsheet, providing a structured framework for further analysis. This organisation enabled us to compare the literature, highlighting recurring patterns and themes. Through this process, we identified key themes such as policy frameworks, institutional roles, and specific management practices, each linked to distinct outcomes.

These themes were then analysed to determine the nature of the outcomes—whether positive, negative, or mixed.

This thematic analysis provides a nuanced understanding of the complexities involved in rangeland management and aligns with established methodologies for scoping reviews, as discussed by Braun and Clarke (2006) and Levac et al. (2010). By synthesising these findings, we contributed valuable insights to the ongoing discourse on communal resource management in southern Africa.

Results

Characteristics of selected articles

Table 1 provides the descriptive characteristics of the literature reviewed, including journal titles, scale of analysis

TABLE 1 Descriptive characteristics of the manuscripts reviewed (n = 67).

Journal titles (with at least 5 articles)	Percentage
African Journal of Range and Forage Science (N = 17)	25%
Journal of Arid Environments (N = 7)	10%
Others (N = 39)	64%
Scale of analysis	
Local (N = 54)	81%
National (N = 5)	8%
Regional (N = 8)	12%
Countries with at least 10 publications	
South Africa (n = 31)	46%
Tanzania (N = 11)	16%
Others (N = 25)	37%

and geographical focus. Of the 67 articles in the review, 25% (n = 17) were published in the *African Journal of Range and Forage Science*. In our database, the *Journal of Arid Environments* was the second leading (n = 7), with many articles focusing on quantitative methods of analysing communal rangelands (Figures 2, 3).

Most publications, 81% (N = 54) used local scale analyses, with regional and national scale analyses less common. Regarding geographical distribution, South Africa and Tanzania had the largest number of publications, with South Africa accounting for 46% (N = 31) of all publications and Tanzania accounting for 16% (N = 11). The remaining 37% (N = 25) of publications came from other countries in the SADC region (Figure 2).

Dominant themes identified for the review

Six themes emerged from the data, with policies, management techniques, and governance emerging as the most reported subjects. The health and cultural areas received noticeably less attention; they were cursorily mentioned in the discussion sections (see Palmer and Bennett, 2013; Gusha et al., 2017; Falayi et al., 2022). Ostrom's common pool framework was explicitly mentioned in just 5% of the studies (see Allsopp et al., 2007). The articles also revealed gender, poverty, and livelihoods as important concerns. Moreover, measuring and evaluating the complexities of the cultural and health domains remain challenging in southern Africa. The three major themes related to policy, governance and management themes were further explored to improve our understanding of rangelands sustainability challenges.

Overview of impacts of communal rangeland policy, governance, and management on rangeland performance

Literature revealed that recent policy, governance, and management practise adversely affected rangeland performance as outcomes were predominantly negative (Figure 4). In the management-related articles, positive outcomes were reported in only three papers (3%), while negative outcomes were dominant at 94%. Similarly, in policies-related articles, positive outcomes were slightly more frequent at 4%, but they were outweighed by negative outcomes, which accounted for 81% of the articles. Governance-related articles reflected a similar pattern, with positive outcomes at 3% and negative outcomes at 96%.

Management outcomes

Lack of participatory approaches

Several initiatives were implemented in southern Africa to improve rangeland conditions. These include livestock destocking policy, introduction of grazing schemes, improved forage grasses, veld legume reinforcement and agroforestry technology. However, such initiatives have largely failed due to a lack of meaningful participation in unrolling new technologies for rangeland management (Moyo et al., 2008; Tavirimirwa et al., 2019; Finca et al., 2023). Genuine participation implies engaging local people, allowing them to take charge of development initiatives from an informed position, including embracing their indigenous knowledge. Modern interventions often relegate indigenous knowledge to the background and rely mainly on scientific knowledge. However, it is well established that indigenous technical knowledge on rangeland management was fine-grained and complex but, at the same time, socially constructed and embedded in ideology (Bollig and Schulte, 1999; Reed et al., 2007; Seleman, 2020). Evidence shows that local people are rich in knowledge of biodiversity conservation. Hence, there is a need to promote studies that document indigenous knowledge (Seleman, 2020) to enable its integration into modern ways of rangeland management. For example, in Tanzania, indigenous methods of land classification provided a valuable basis for assessing rangeland biodiversity, which ecologists could incorporate into future ecological surveys of the rangelands (Mapinduzi et al., 2003). The ingenuity of indigenous people in rangeland management has also been demonstrated by farmers in Namaqualand in South Africa, who knew various plant species, classified grazing land and determined carrying capacity to ensure sustainability in their pastoral farming enterprise (Allsopp et al., 2007). In Botswana, participatory rangeland monitoring revealed that farmers had invaluable knowledge of vegetation conditions and could diagnose

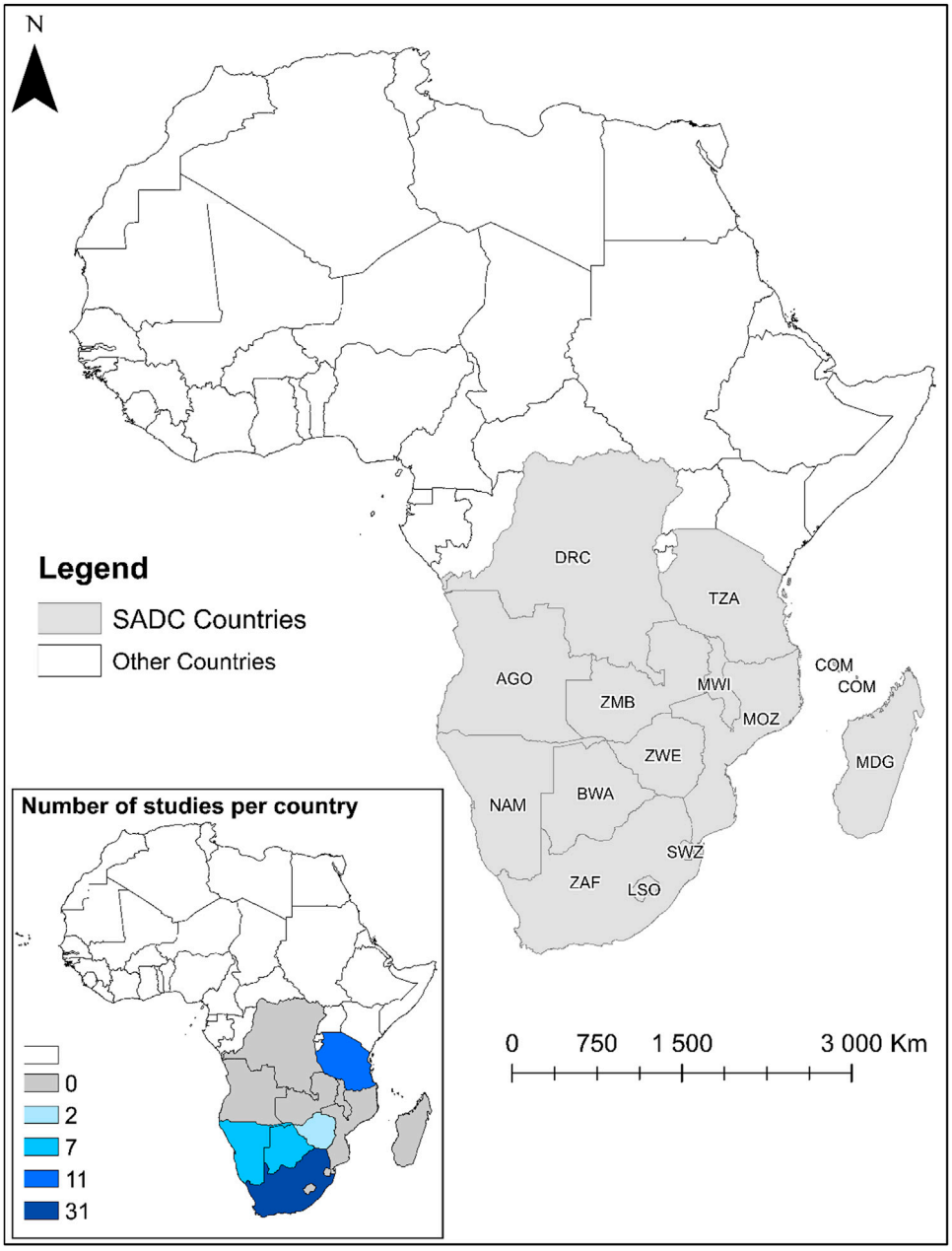

FIGURE 2
Geographic distribution of communal rangelands management papers in the SADC region.

impending rangeland problems using early warning signs (Reed and Dougill, 2002). Therefore, indigenous knowledge could remain in improving rangeland management.

Fencing as a grazing management scheme

Rangeland fencing has altered pastoral systems in Africa regarding resource access and mobility. For example, in Botswana, smallholder farmers lamented resource access and livestock mobility patterns because of codon fences. While fences restrict resource access, on the one hand, herding demands are reduced, and livestock security improves on the other. However, some marginalised groups recognise that fencing restricts risk management strategies and increases competition for key resources, raising concern over more widespread social differentiation and increased vulnerability at the regional level (McGahey, 2011). Fencing was also critical in shaping rangeland

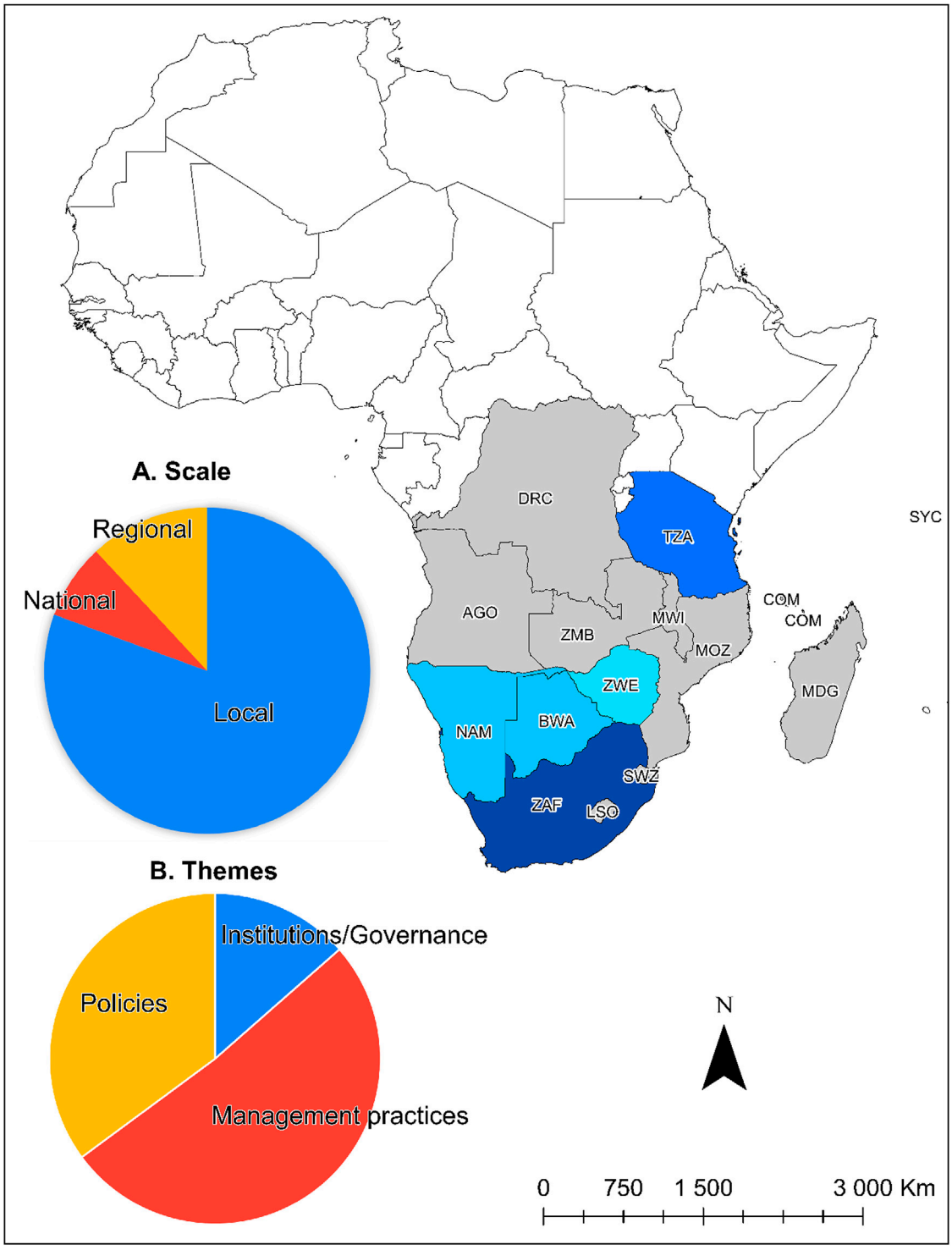

FIGURE 3
The scale of analysis and thematic areas of reviewed papers. The pie charts illustrate the distribution of selected papers according to scale and themes.

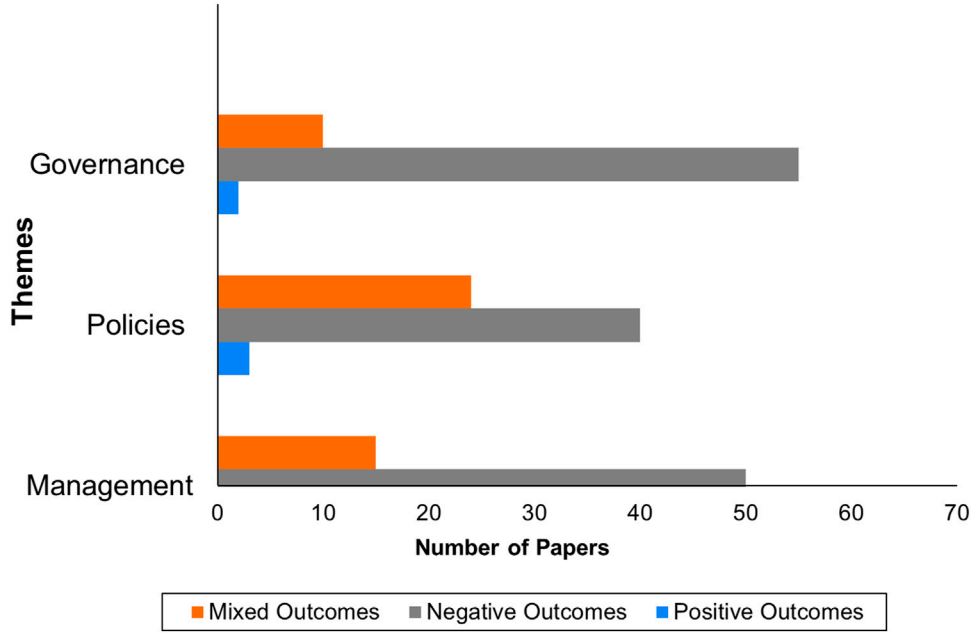

FIGURE 4
Summary of communal rangeland practices outcomes. Positive outcomes denote improvements in governance, environmental conditions, policy implementation, and management effectiveness. Negative outcomes signify declines in governance, environmental quality, policy adherence, and management efficacy. Mixed outcomes suggest uncertainty or variability in governance, environmental impact, policy effectiveness, and management outcomes.

conditions. For example, in Namaqualand (South Africa), a comparison of a heavily grazed unfenced communal rangeland and a fenced commercial one revealed that heavy grazing on the communal rangeland resulted in reduced size of palatable shrub species, reduced flower production and seedling recruitment of palatable species, increased density and recruitment of the unpalatable shrubs (Todd and Hoffman, 1999). In addition, Nenzhelele et al. (2018) used a fence-line contrast approach to demonstrate that long-term continuous grazing decreases resilience to rainfall fluctuations and increases livestock variability, thereby promoting non-equilibrium-type dynamics in the system. Furthermore, Moyo et al. (2013), suggested that fences in the commercial sector provided an opportunity for rotational grazing which led to better rangeland integrity than in the communal sector where open and uncontrolled grazing can be common. Therefore, a fence-line contrast between communal and commercial grazing systems, may not suggest that there is no degradation in the latter. This is because, it is possible to find isolated degraded areas within the commercial sector and to find rangelands of high integrity in the communal sector. Controlled grazing through paddocking may lead to better rangeland integrity compared to open uncontrolled grazing as the latter may easily be overstocked and overgrazed due to lack of robust management We note that high stocking rates over a long time are often associated with continuous open grazing in the communal sector while this may not be the case in rotational grazing associated with the commercial sector. That is to say, the number of livestock per unit land may be higher in the commercial than communal sector, albeit on a short term basis. This may not be as destructive as in a typical communal sector scenario where stocking rates may be high per unit of land over a long period.

High intensity-short duration grazing systems

Grazing practices were also crucial in rangeland restoration. High-Density Short Duration (HDSD) is one grazing method that has recently come under the spotlight as emerging evidence shows contrasting fortunes in improving rangeland conditions. It is a form of rangeland management, simulating how grazers in natural situations utilise grasslands. It aims to regenerate grasslands by improving soil and vegetation productivity and diversity (Franke and Kotzé, 2022). It has been demonstrated that HDSD grazing improved soil organic carbon, making a solid case for HDSD as a cost-effective land rehabilitation method (Chaplot et al., 2016). In addition, HDSD grazing led to improved rangeland conditions in terms of composition, cover, standing crop, and soil health compared to adjacent areas that did not fully implement it in Zimbabwe (Peel and Stalmans, 2018). However, Hawkins (2017) reported no difference in plant basal cover, plant biomass and animal gain responses between HDSD and

continuous grazing systems, suggesting that if the animal impact occurred during HPG, it did not affect production. In addition, only rangelands that received relatively higher precipitation had the potential to sustain HDSD grazing. Therefore, to improve understanding of the influence of stocking rates and rotational grazing on the rangelands, it is vital to report on stock numbers per land area and the grazing duration.

Rotational grazing or resting

Grazing availability is highly variable temporally and spatially. In semi-arid regions, successful grazing management strategies must be able to track the highly temporal and spatially heterogeneous forage production to ensure optimal utilisation. Using rangelands in this manner results in higher productivity and quality of a pasture than homogeneous permanent grazing (Müller et al., 2007). Therefore, grazing land resting was a critical management intervention to optimise forage resource use. In addition, feed supplements indirectly contributed to improved production in semi-arid rangelands, which may not effectively support the animal population (Ndebele et al., 2007). This necessitates training farmers in supplementary livestock feeding in such environments for improved production (Charambira et al., 2021).

Post-independence institutional and policies outcome

Post-independence, South Africa moved from the Tribal Authorities established by the apartheid government and instituted Communal Property Associations (CPAs) and Transitional Rural Councils to manage transitions. Democratically elected Municipalities and ward councillors also emerged in communal rangelands. However, traditional authorities still existed post-independence and wielded significant authority as custodians of communal rangelands (Bennett, 2013). In Tanzania, a similar trend unfolded where traditional authorities (chiefs and council of elders) governed communal rangelands before independence, and more actors emerged soon after (Eilola et al., 2021). The rise in the number of institutions post-independence was probably driven by factors that include: 1) incoming leaders felt that colonial governments neglected communal lands where their support base lived and thus sought to right that wrong 2) traditional institutions were not sufficiently managing the spaces which were evolving in terms of population expansion (Eilola et al., 2021) and 3) new leaders sought to consolidate their political power.

Notably, countries displayed consistency in the rise of polycentric institutions after independence (Falayi et al., 2022). Regardless of whether Tanzania and South Africa attained democracy three decades apart or Botswana attained independence a few years after Tanzania, there was this consistency. This could be due to strong ties between liberation movements - hence shared ideologies - or to new leaders inheriting the same governance structures left by colonial admins and adapting them to cater for previously marginalised communal lands. Nevertheless, a dichotomy exists between countries in the upper and lower parts of southern Africa regarding when new leaders began setting up policies and related institutions to drive them. For example, South Africa and Botswana implemented new policies and institutions 2 years after democracy, while Tanzania only began making changes a decade after independence (Mulale and Hambira, 2007; Bennett, 2013; Eilola et al., 2021). The disparity may be due to differing land tenure systems - in Tanzania; the administration had a socialist vision of a "village" (McCabe et al., 2020; Eilola et al., 2021), thus villagizing the country away from the Maasai nomadic pastoralist system that was a tradition in the north of the country (Bôrjeson et al., 2008). Such an undertaking would have a significant social impact and require much more planning time. Comparatively, South Africa and Botswana introduced policies and institutions that effectively managed communal rangelands by introducing formal structures (Mulale and Hambira, 2007; Moyo et al., 2008; Bennett, 2013; Mulale et al., 2014).

Governance uncertainty: formal vs. traditional institutions

Bennett (2013) reports that governance uncertainty exists as parallel institutions jostle for power in eastern South Africa. A disparity exists where some areas are administered by formal structures and some by traditional structures, depending on which regime gains more influence. In some instances, "compromise" institutions are composed of representatives from traditional and formal institutions. For example, a community in the Eastern Cape Province formed a Land Use and Development Committee (LUDC) composed of traditional and formal leaders. However, the traditional faction controls decision-making in the institution. Tanzania followed a slightly different approach to South Africa by introducing formal structures and constituting villagers into village and sub-village committees (Eilola et al., 2021). Traditional leaders have been incorporated into these new village structures (McCabe et al., 2020). Formal structures such as district councils and extension officers were included to support the local structures. The Tanzanian case exhibits a more organised and integrated institutional framework for communal rangeland management. However, a plethora of institutions and actors reported in Tanzanian villages present bureaucratic and resourcing challenges (Eilola et al., 2021). In addition, unlike the South African and Tanzanian situation, Botswana stripped traditional institutions (chiefs) of power over land in communal areas. All land management in

Botswana was centralised under the Land Board and many other formal institutions (Mulale et al., 2014).

Consequently, communal rangeland institutions across the region face challenges in governing rangelands. While some challenges relating to governance uncertainty are reported by Bennett (2013), other authors, e.g., Mulale et al. (2014), have offered a more damning assessment of institutions. Mulale et al. (2014) maintain that formal institutions in Botswana may be driving unsustainable rangeland management by pushing 'one size fits all' policies that perpetuate land degradation. Examples such policies or institutions included the Tribal Land Act (1968), amended in 1993 that led to the tragedy of the commons overgrazing on communal due to open access regime. In addition, the Support for Livestock Owners in Communal Areas (SLOCA) (1979) and Livestock Water Development Programme (LWDP) led to the extension of rangeland degradation into remote areas in wildlife management areas and previous grazing reserves (Mulale et al., 2014). Communal rangeland pastoralists have been excluded by institutions managing rangeland, have lost access to grazing lands, and have become more vulnerable to climate shocks (Basupi et al., 2017). Meanwhile, in Tanzania, at the village level, it is reportedly complex to manage institutions in the context of resource distribution. Institutional actors with higher responsibilities receive fewer financial resources, e.g., village-level actors with higher responsibilities have less than district-level counterparts (Eilola et al., 2021). Additional challenges include corruption, political divisions, embezzlement, lack of trust (McCabe et al., 2020) and poor gender balance in traditional and formal institutions. Bennett (2013) suggests that the lack of communal rangeland tenure policy in South Africa has encouraged the development of various governance institutions, which could be conflicting. Furthermore, conflicting authority around administration dissuades communal rangeland communities from obeying rules set and administered by different actors in the same space (Moyo et al., 2008). Moreover, challenges like those reported in Tanzania [e.g., political divisions (Bennett et al., 2010)] also exist in South Africa, leading to institutions spearheading unsustainable rangeland management, as reported in Botswana. Besides a robust policy framework, as Bennett (2013) advocated, strong, functional, and well-integrated institutions are vital for achieving sustainable rangeland management in communal areas of southern Africa.

Synthesis

In southern Africa, efforts to promote sustainable rangeland management have been implemented, but explicit policies are only present in a few countries. While literature reports various rangeland management practices and governance institutions in Namibia and Tanzania, overarching policies on rangeland management still need to be found, suggesting that scholars need to be fully engaged in rangeland policy discussions in relevant countries. Despite undergoing significant land and agrarian reforms, it is concerning that some countries like Zimbabwe still lack policies addressing rangeland management issues despite the pivotal role of the pastoral economy in sustaining rural livelihoods (Gwate, 2014). For example, due to a lack of policies or restrictions on livestock movements, large-scale seasonal cattle movements between communal and resettlement areas are widespread in Zimbabwe. Similarly, Moyo et al. (2013) have suggested that the destruction of fences around relief grazing farms designated after independence in 1980 in Zimbabwe have transferred degradation problems in communal areas to relief grazing farms around communal areas. This may lead to overstocking in newly resettled regions, transferring communal land degradation issues to new resettlement regions and exacerbating degradation concerns. Considering the rapid environmental changes associated with the Anthropocene era, the absence of published papers on policies suggests that there is a need for more policy engagement on rangelands to enable the development of more clearly defined policies in some countries.

It is essential to acknowledge that lack of policy support for southern African communal rangeland systems is leading to transformations in structure, productivity, rainfall variability, and species composition changes. The current top-down government interventions should consider a bottom-up approach where community priority needs are at the forefront since they are the primary implementers and land users. National-level policies and institutions often lead to conflicts and discord in communal rangeland management practice, disenfranchising traditional institutions that administer communal rangelands. Farmers that depend on communal rangelands are likely to remain at the lowest policy level and under-represented in policy agendas where decisions about the common resource property are being made. Therefore, policies and frameworks on communal rangelands should focus on inclusivity through participatory bottom-up approaches for sustainable rangeland management as the policies are implemented at local levels.

Most southern African countries share similar climate systems, suggesting that rangeland problems could be similar, particularly in countries sharing borders. Most studies were isolated and did not describe regional links and similarities in rangeland problems, yet environmental issues have no boundaries. Isolated islands of success in the form of localised projects may not engender regional sustainability in rangelands. We, therefore, submit that the development of regional initiatives for rangeland management could be critical for sustainable rangeland management in the sub-region. This would require close collaboration between governments and researchers from different countries. Such an arrangement could lead to the development of a regional rangelands management guide,

which will be relevant to the entire sub-region and reduce degradation. There is an urgent need for such a guide and an attendant monitoring and evaluation system to document best practices and lessons learnt to improve rangeland management.

Outlook: the future of communal rangelands

Since southern Africa is a primary livestock grazing region, interventions that seek to improve livestock production through improving livestock market value chains have been implemented by non-government organisations (NGOs) such as Free-Range Premium Beef and Heading for Health in South Africa. This intervention promotes communal rangeland institutions, linking communities with market value chains while improving rangeland conditions. This has a multiplier effect of incentivising farmers to judiciously manage rangelands as links between a well-managed rangeland and monetary value derived from sale of livestock or livestock products become apparent. On the other hand, no government policies support these NGOs efforts to formalise these institutions to develop profitable businesses in these communities. Consequently, impediments to improving livestock value chains, such as increasing market participation of emerging farmers through encouraging group marketing, upgrading of roads to enable smooth accessibility of farmers to output markets and the establishment of local point sales in rural areas (Khapayi and Celliers, 2016) have remained deeply entrenched in communal grazing lands of southern Africa. Such initiatives to strengthen value chains in livestock farming should also be linked to rangeland management and award farmers for improved rangeland management to enhance livestock value chains.

Effective communication systems should underwrite these, as this is a critical factor in targeting knowledge dissemination, which can help build potential drivers for behavioural change. Elsewhere, the positive effect of carefully planned communication targeted at different farmer types has been demonstrated in helping to encourage a positive change in farm management practices. In this regard, revamped communication strategies could be critical in disseminating information linking improved livestock value chains and sustainable rangeland management to ignite requisite changes within the commons worldwide.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontierspartnerships.org/articles/10.3389/past.2024.13373/full#supplementary-material

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