Odessa centre | Pastoralism
Research, Policy and Practice

TYPE Original Research
PUBLISHED 03 November 2025
DOI 10.3389/past.2025.15266

OPEN ACCESS

EDITED BY
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RECEIVED 14 July 2025
ACCEPTED 08 September 2025
PUBLISHED 03 November 2025

CITATION
Raycraft J, Kirigia K, Rogei DS, Gabbert EC and Galaty JG (2025) Land grabbing in pastoral areas: insights from Eastern Africa.
Pastoralism 15:15266.
doi: 10.3389/past.2025.15266

Land grabbing in pastoral areas: insights from Eastern Africa

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This paper explores the drivers of land grabbing in pastoral areas. We present a series of cases from across Eastern Africa to illustrate the dynamics through which long-ignored drylands are reimagined by governments and investors as sites of great value, setting the stage for alienation of rangelands at the expense of the pastoral populations who depend on them. Contextualized against the backdrop of colonial and post-colonial development policies, and the ideologies that underpin them, we discuss four resource complexes driving large-scale acquisitions of pastoral lands in East Africa in recent decades: 1) land grabbed via land markets through privatization and subdivision, 2) land acquired for resource extraction, carbon offsetting, and renewable energy production, 3) large-scale alienation of land for commercial agriculture, and 4) land set aside for wildlife conservation (i.e., "green grabbing"). We explore overlapping themes between these four processes that have resulted in the appropriation of pastoral lands, undermined local tenure security, and fragmented landscapes. We highlight in particular bureaucratic dimensions of privatization and land subdivision, reductionist cost-benefit assessments of resource exploitation projects shaped by capitalist logics, the pervasive influence of classical development theory and the associated prioritization of intensified production systems in rural land use policies, and a dualistic Euro-American ideology of nature and society underlying attempts to grab and reclassify pastoral areas for other purposes. Based on these insights, we offer recommendations for ways to mitigate the risks of future land grabs including strengthening pastoral land rights, creating more equitable community-led conservation initiatives, prioritizing participation in development negotiations, and establishing regional policies that support pastoralist livelihoods and maintain rangeland connectivity.

KEYWORDS

pastoralism, land use change, rangeland development, resource extraction, wildlife conservation, carbon offsetting, renewable energy production, agriculture

10.3389/past.2025.15266

Introduction

Why have dry and seemingly inhospitable lands that are home to the world's pastoral populations been vulnerable to being "grabbed" by local elites, national entrepreneurs, international investors and companies, and the state? By land grabbing we refer to the exercise of power or influence to appropriate land to which occupancy or use rights are held by local, Indigenous communities who are accordingly displaced and whose customary land use practices are in this way undermined or disrupted. Pastoralism is a way of life predicated on raising and tending livestock, which provide a community both its nutrition and financial returns through livestock exchange or sale. Pastoralism generally utilizes natural pastures to sustain domestic animals, using grasslands ecologically adapted to arid and semi-arid conditions. Pastoralism has for more than ten thousand years allowed human communities to survive and thrive on dryland plains and mountainous regions too dry for easy cultivation (Galaty, 2021a). Accordingly, in addition to reaping returns from rich grazing resources, pastoral communities experience severe environmental constraints; herd sizes are limited by available grazing (and thus rainfall), and pastoral populations have been limited by the magnitude of the herds on which they depend, even as their *per capita* holdings are relatively high.

Global maps show low population densities in dry regions inhabited by pastoralists (Galaty and Johnson, 1990). The world's desert and savannah regions, which do enjoy seasonal rainfall and pasture growth that sustains pastoralism, stretch from across the Sahara and the Sahel from West to East Africa, throughout the Horn of Africa, down Eastern Africa through the Arabian Peninsula and Southwest Asia to Western India, and across Central Asia from eastern Hungary to Mongolia and Tibet. Cattle, camels, sheep, goats, yaks, horses and donkeys sustain human communities by providing food, transport and carriage. However, colonial depictions of vast rangelands emphasized their emptiness; they have been classified technically as "wastelands," seen as "land without people," lands of "low productivity," as "unused" but also unworthy of development investment, and as areas of "wilderness" (Galaty, 2014). Such views were apparently vindicated by the coincidental occurrence of sequential droughts, epidemics, and famines when European explorers, missionaries, traders, administrators, civil servants, and settlers arrived in Africa, encountering lands temporarily voided. The view that some lands were empty tended to be self-fulfilling since newcomers were describing lands that at the best of times were used seasonally, not continuously (Johnson and Anderson, 1988), but where they themselves would finally settle as ranchers and farmers (Hughes, 2006). There is a paradox, then: the self-serving depictions of lands that, from sedentarist perspectives appear sparsely populated and thus as relatively empty or unused, are the same lands that are considered highly attractive due to their potential productivity, if not for pastoralism, then for commercial ranching.

The first wave of colonial land-grabbing in Kenya and Tanzania, in the 1880s-90s, followed, firstly, from this view that pastoral lands were unused (Waller, 1988), and secondly from the understanding from the early 1900s that they were in fact quite useable, which led to the evictions of the Maasai out of the central Rift Valley and Laikipia, to be replaced by European settlers in both regions, the former area in 1904-5, the latter from 1915 onward (Mungeam, 1966; Hughes, 2006). The treaty-based cession of pastoral lands to Kenyan settlers was due to a particular set of circumstances: the building of the railway in 1902 from the coast to Uganda that serviced and rendered more valuable the lands along the railway's path, which justified European settlement as a strategy to pay for the railway, and the relative proximity of the pasturelands of the central Rift Valley to the highlands and the capital of Nairobi, which then and now renders this body of grasslands more valuable than, say, the rangelands of northern and eastern Kenya (Tignor, 1976).

Nonetheless, throughout the colonial and into the post-colonial periods, most sparsely-settled rangelands inhabited by pastoral communities—in northern Kenya, across the Sahel, in much of the Horn of Africa, or in Central Asia—were neither accessible (such as by rail or road) nor proximal to the markets of more settled regions. Consequently, they remained of little interest, to the state which might have provided investment in roads or market development, to private investors seeking to access resources that were dispersed and of relatively low value, or to settlers whose need for security, communications and markets made remote grazing areas of little interest (Schetter et al., 2022). Thus, to assess the attractiveness of dryland regions and resources to potential agents of appropriation, or the intrinsic potential of pastoralists to resist, we must consider the geopolitical and political-ecological contexts. These include the proximity of rangelands to markets, communications, transport networks, and security systems often found in more densely populated areas in highlands (like those in Kenya, Ethiopia, or northern Tanzania) or near lakes (as in Uganda) or great rivers (as in South Sudan, Sudan, Somalia, Mali or Niger).

Yet over the last century, more complex rural economies have evolved in the drylands, while pastoral production systems have intensified, leading to significant population growth in dryland regions, due to their increased endogenous capacities to sustain higher numbers, and greater in-migration by non-local populations responding to enhanced road and trade networks and growth of small towns (McPeak et al., 2011). Small towns have proliferated across arid and semi-arid regions, creating centripetal forces drawing otherwise mobile settlements within their orbits, positioned at least within walking distance allowing households to access shops, markets, clinics, and schools (Galaty, 2023). These towns serve as social sponges that absorb local population increases as people jump out of the pastoral economy,

rather than being shed from it as earlier theorists of pastoralism described (c.f. Barth, 1973), while remaining within proximal zones of cultural comfort. Greater numbers in small towns create a locally rising demand for livestock products, while providing markets within a chain of increasing scales linking remote regions to larger towns and cities. Markets, small-scale trade and manufacturing draw migrants from other regions, and those seeking land for cultivation, who in turn supply expertise and social linkages to other regions, as towns grow (Elliott, 2020). With growth comes government and security forces available to enforce safety and frameworks of law (Lunstrum, 2018). These overtures in turn create a context in which transfers of land rights or leaseholds may be recognized and even protected, which makes acquisition of resources by outsiders not only possible but also thinkable and increasingly attractive.

In this way, in progressive steps from the colonial to the post-colonial periods and up to the present, broad regions of rangeland, even without obvious resources of value adequate to attract outsiders, nor infrastructural development sufficient to suggest that dryland regions could provide a political context of communications and security, have become zones of potential investment and acquisition (Galaty, 2021b; Schetter et al., 2022). An enterprise like Magadi Soda Company (now owned by Tata Corporation) in the south of Kenya, for instance, was able to draw on the seemingly endless resources of the soda ash provided by Lake Magadi (lit. soda ash lake) in the first decade of the 20th century without relying on local infrastructure; indeed it created its own infrastructure in the form of a company town, a series of roads, and a railway to transport its soda ash to ports and then throughout the manufacturing world (Hughes, 2008). What further resources do the arid and semi-arid rangelands offer that would transform these regions from being seen as largely unproductive and little used (thus ignoring the enormous contribution pastoralism makes to a region's towns and immense cities of burgeoning populations demanding meat and dairy products) to places of value (cf. Behnke and Muthami, 2011)? What has stimulated increase in interest and demand that would make the drylands throughout the world targets of investment and thus "land grabbing" by both national and international bodies in recent decades (Catley et al., 2013)? The story must be told in part in relation to the global supplies of critical resources (e.g., the rise and fall of oil prices), the objective and subjective assessment of the abundance or scarcity of other nations' farmland and food supplies (as stimulated by the financial crisis of 2008) (Cotula, 2013), or the development of new and more efficient forms of resource capture, as in wind farming or geothermal extraction, usually pursued through international investments in capital-poor rangelands (Lind et al., 2020). But transformations of pastoral lands into private property have been encouraged by numerous pressures, including the neoliberal devolution of investments and decentralization to localities (as in community-based conservation) (Orr, 2019), rural class formation through education and economic differentiation, including the emergence of a pastoral elite, the growth of small towns, and enhanced mobility, not so much of livestock (which has been curtailed by land fragmentation and fencing in many places) but of people, who live with one foot in the rangelands and the other foot in the cities (Galaty, 2013a; Galaty, 2021b).

This paper will examine four sectors of rangeland resources that have become targets of investment, raising significant questions regarding local consent, participation, disempowerment, and land alienation. The underlying question is when and how investments in the development of local resources are in the interests of local pastoral populations, who become subjects of engagement, participation, and consent, and when the balance of power and returns can only be described as exploitative. The very notion of "land grabbing" implies its illegitimate character, which from the pastoralist perspective is very much the case when land is appropriated without their general consent, whether by elites, outside interests or the state. When this occurs through the market via land sales or at the hands of the state, through expropriation, it may well be legal but still bear an odor of injustice. Similarly, when companies lease land to exploit oil, gas, hydro, geothermal or wind resources, or to accommodate tourists or conservation and carbon offsetting programs (all situations to be discussed), from a community's vantage point, it may be construed as illegitimate land grabbing even if authorized at some level of leadership or governance, since rarely are those who are the subjects of dispossession the ones who provide consent or reap any benefit. So, the major diacritical of land grabbing remains the transfer of ownership of territory that displaces local communities without their consent, whether through legal, illegal or extra-legal processes. This article deals with pastoralists, who beyond their residence in drylands that make them susceptible to land appropriation, represent Indigenous peoples for whom their territorial holdings are the foundation both of their subsistence and cultural lives.

We will explore four resource complexes that in recent decades have made the drylands, so long ignored, important objects of new and heightened interest for investment and thus susceptible to exercises of power we know as land grabbing. We focus our analysis on Eastern Africa, though these processes are apparent around the world (Kaag and Zoomers, 2014), and our regional insights are salient for drylands elsewhere. The literature on land grabbing across East Africa is expansive, and our paper does not purport to comprehensively review all of it. Rather, we present here a select series of cases demonstrating sociopolitical dynamics apparent in each of the four types of resource complexes, with a goal of highlighting drivers of land grabbing in pastoral areas.

Firstly, we explicate grabbing via land allocations and land markets—How have privatization and subdivision resulted in fragmentation and land loss both through corruption in land allocations that occur through subdivision of common holdings and by sales through markets in particular across the Mara and

South Rift areas of Kenya, but also elsewhere where rangeland titles have been formalized? Here we highlight the bureaucratic procedures involved in land allocation, as manifest in the provision of title contracts, the formation of land use committees, variations in legal literacy among stakeholders, and the potential for privatization to deepen social inequality.

Secondly, we analyze land taken for resource extraction, energy production, and carbon offsets—How has the implementation of development projects, including renewable and non-renewable sources, such as crude oil exploration and gold mining in Uganda, carbon offset initiatives in Kenya, as well as geothermal and wind projects in sites along Kenya's Rift Valley, led to the appropriation of pastoral lands via state and corporate interventions? Here we unravel the wider social and environmental implications of framing and measuring such initiatives in terms of economic returns to private companies and governments.

Thirdly, we assess the politics of grabbing land for large-scale agriculture—How have multi-national and corporate agricultural plantations made use of pastoral lands, usually at the invitation of state authorities, in particular in southern Ethiopia and the Awash Valley? Here we reflect on the enduring influence of classical development theory and the logic that intensified agricultural production generates surpluses that drive economic growth, despite historical evidence from pastoral areas highlighting the resonating value of extensive livestock grazing systems.

Fourthly, we key in on land grabbing for conservation—How have struggles over conservation opportunities undermined pastoral land rights and pastoralists' participation in wildlife management and tourism, most notably illustrated in the recent evictions of resident pastoralists from key conservation sites in Tanzania? Here we draw from literature on "green grabbing" (cf. Benjaminsen and Bryceson, 2012; Fairhead et al., 2012) to highlight the ideological construction of pristine nature, which enables top-down exclusion of people from landscapes under the umbrella of biodiversity conservation.

In the following sections, we will review lines of connectivity between these four types of land use dynamics that have resulted in the appropriation of pastoral lands, highlighting vulnerabilities built into mobile land use, commoditization of rangelands, growing markets for renewable and non-renewable sources of energy and other minerals, and altered relations between more assertive states and local communities. In our discussion section, we draw from the cases presented in distilling the drivers of land grabbing down to four key factors underpinning the resource complexes we analyzed: 1) Procedural and bureaucratic complexities of local land allocation and subdivision, 2) Narrow cost-benefit analyses of resource exploitation informed by neoliberal capitalist logics, 3) Policy reliance on classical development theory prioritizing intensified production in the primary sector, and 4) Dualistic Euro-American ideologies of nature/society.

Finally, in the latter parts of our discussion, we examine approaches that would prevent grabbing of pastoral lands, most notably by strengthening pastoral land rights, creating more equitable community-led conservation initiatives, and negotiating participation and royalty rights for resource extraction from pastoral lands. In the absence of such steps, lands long dedicated to supporting pastoral communities and supplying national markets across the world's drylands may be fragmented in ways that fail to incorporate pastoralists into the flow of benefits derived from the resources embedded in the rangelands beyond grazing.

Land grabbing in global context

Land grabbing in the past two and a half decades has largely been understood as the large-scale acquisition of land in the Global South mainly by foreign entities from the Global North, and as significantly driven by the global financial and food crises between 2007 and 2009 (Zoomers, 2010; Cotula, 2013; Cochrane and Andrews, 2021). Consequently, land in the Global South became an attractive commodity for investment in food and biofuel production, speculation, conservation, tourism, and other purposes, in essence fueling flows of global capital to the Global South through new avenues hitherto unseen within the core circuits of global capital. Hundreds of thousands to millions of hectares were the subject of these large-scale acquisitions in Eastern Africa, with African states often functioning as the mediating signatories at the expense of frequently excluded local communities (Fairhead et al., 2012; Lind et al., 2020; Cochrane and Andrews, 2021).

Land grabbing for resource extraction and commercial production is part of a broader, global pattern of exclusion and exploitation. Whether in Africa, Latin America, or Asia, Indigenous and marginalized communities have frequently found themselves subjects of land grabs, driven by the pursuit of economic growth, that ignore the economic use to which land is already dedicated. The modernist framework, which views land primarily as a resource for capital accumulation, continues to undermine existing knowledge of sustainable land use, rights and livelihoods held by resident communities and small-scale farmers and pastoralists, perpetuating cycles of dispossession, stigmatization, and exclusion (Laltaika and Kelly, 2021).

The land grabs of the 21st century are deeply rooted in colonial and postcolonial histories. While framed as efforts to bring about progress and development, they often reproduce the same forms of social and economic inequality that characterized previous waves of colonization and state-building (Asebe, 2021; Fana, 2021; Little, 2021; Maknun and Jean, 2021; Markakis, 2021; Turton, 2021; Wedekind, 2021). The repeated and devastating fallacies of short-sighted development policies were later addressed by the World Bank when introducing "Environmental and Social Safeguards," ironically to prevent

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the harmful impacts of their own projects (Dann and Riegner, 2019: 537). By then, global patterns of land grabbing across the Global South were already entrenched.

Tropes used to render pastoral territory alienable

Speculation with and on pastoral territories in Eastern Africa was realized through a triad of problematic tropes: Empty Lands, the Backward Pastoralist, and High Modernism (Gabbert et al., 2021). Tropes of "uninhabited territory," adhering to the colonial concept of "empty lands" or *terra nullius*, played a significant role in the commodification of territories traditionally inhabited by pastoralist communities. This paved the way for land to be opened to large-scale investment with minimal regard for the ecological, social, or cultural ties that pastoralists have to their lands, let alone the fine-tuned expertise that is needed to manage distinct ecosystems like grasslands. The *empty land trope* facilitated the erasure of the historical and ongoing presence of pastoralist communities from their own lands, largely propagated by global economic and development policies that justified the expropriation of Indigenous lands for the benefit of industrial agriculture and foreign investors. These land grabs were first framed as initiatives for modern development that would usher in economic growth and prosperity, benefiting both the state and the global economy. It would only be a question of time for such a trope that distorted realities on the ground to become a source of conflict.

Here, the trope of the *backward pastoralist* came into play, as it was crucial to dismiss pastoralism as an economically unproductive and "backward" form of livelihood pursuit. (Agro)pastoral systems were labelled as primitive, inefficient, and incompatible with modern economies, despite the fact that pastoralists everywhere raise the livestock that feed both the countryside and teeming cities (Behnke and Muthami, 2011). Pastoralism was represented as an archaic and inefficient sector that stood in the way of progress and prosperity. Hand-in-hand with the trope of empty lands, the stigmatization of pastoralists as obstacles to progress, economically irrelevant, underdeveloped, and uncivilized—the trope of their "backwardness"—made their expulsion from their lands and livelihoods seem both necessary and justifiable under the banner of modernization and development, even when *terra nullius* arguments crumbled immediately after investors set foot on the land to unexpectedly meet their inhabitants (Gabbert, 2014; Schlee, 2021).

Both tropes then prepared the way for the ultimate goal that tied the *modernity trope* to industrialization, technological advancement, and economic growth. According to high modernist ideologies, pastoralism was perceived as an obstacle to the realization of modern, capitalist economies (Scott, 1998). The pursuit of modernity necessitated the transformation of rural and pastoral spaces into sites for industrial agriculture, where land could be used for large-scale production of agricultural and industrial commodities such as sugar, cotton, and other export goods. The modernity trope was largely supported by international institutions like the World Bank, which viewed land in developing countries, particularly in Africa, as a resource to be exploited while framing low-income countries as trapped in poverty, and in need of large-scale investment projects to trigger economic growth (Gabbert, 2021).

Classifying certain African regions in terms of their perceived potential for economic growth reinforced the idea that specific lands and their inhabitants were available to realize modernist visions of development, without being aware of the existing rights and expertise of pastoralists in managing their lands. In this triad of tropes, the view of pastoralists as backward and their lands as empty became a justification for the involuntary transformation, dispossession and displacement of pastoral communities, which have had severe consequences for addressing the values and aims of the United Nations's Global Sustainable Development Goals.

Land loss through privatization and fragmentation of the commons

In the Kenyan rangelands that are largely the Indigenous territories of pastoralist communities such as the Maasai, land grabbing occurred not on the margins of global capital, as is often imagined of Indigenous frontiers, but was accelerated by the expansion of local capitalist relations. The broad transition from communal to individual landownership through subdivision of group ranches was expected to secure tenure for pastoralist communities as a corrective to the insecurities that arose from collective landownership, such as the illegitimate inclusion of non-members in the group ranches, accumulation of livestock by a wealthy minority at the expense of the less wealthy majority, externally imposed grazing committees and governance structures resulting in less inclusive decision-making processes and inequitable flows of benefits (Rutten, 1992; Galaty, 1999; Mwangi, 2007). On the contrary, however, subdivision became an opportunity for land grabbing by local and global forces. Locally, elites wielding a mix of political power and socio-cultural capital, and often tasked with the responsibility of overseeing the land subdivision and allocation processes in their respective group ranches, engaged in dispossessing their fellow community members of land (Galaty, 1999; Mwangi, 2010). The nature of land grabbing in the Maasai rangelands has thus been characterised by local and global forces that converge, overlap, and intersect to create a unique mode of land grabbing. Lesorogol (2022) refers to this dynamic as "institutional layering".

Land grabbing in the Maasai rangelands undergoing privatization mainly occurred during specific stages of subdivision. First, the members of a group ranch were

identified and their names were inserted on the land registry in order to be allocated land following subdivision (Galaty, 1997; Thompson and Homewood, 2002). Debates around who constituted the bona-fide members deliberated which households had settled in those areas long enough to be considered group ranch members; which household members counted as individual beneficiaries such as in cases of polygamous households; what age one ought to be to receive land allocation; and who had claimed group membership elsewhere and was perhaps seeking double or even triple allocation. The land adjudication committees were tasked with making these critical decisions thus attaining immense power over the subdivision process. Exploiting this newly acquired power, adjudication committees connived with elites to illegitimately allocate themselves larger portions of higher quality land by manipulating the land registry (Manji, 2020). Registry manipulation included insertion of additional entries of young or even unborn children from influential households, deceased members without a designated successor, and non-members including committee members from other adjudication sections who would 'return the favour' through corrupt reciprocity (Galaty, 1997; Thompson and Homewood, 2002; Mwangi, 2010; Archambault, 2016; Riamit and Kirigia, 2021). Further, some members' names were absent from the land registry, so they were not allocated land at all in areas where they legitimately belonged. A more veiled form of dispossession occurred by allocating the lowest quality parcels to marginalized households such that while on paper one had been allocated the agreed-upon acreage, the potential for eking out a livelihood was nearly non-existent, which was the case of a member of the former Maji Moto Group Ranch who lamented, "I was allocated a plot on a hill full of rocks; I can do nothing with it" (field interview).

The possession of title deeds following subdivision has coincided with the expansion of wildlife conservancies in Kenya's Maasailand. The new landowners enter the land market through wildlife conservancies by leasing land, which is the primary mode of income generation for landowners within conservancies (Bedelian and Ogutu, 2017). However, agreements to lease land for conservation have been riddled with both a lack of transparency and misinformation resulting in what economists refer to as asymmetric information problem. Promissory notes include pasture for livestock, employment opportunities, entrepreneurial opportunities from tourism, bursary for school fees, health clinics, bridges, schools, and zero-interest loans. The discourse on wildlife conservancies is thus shaped by the potential returns from conservation rather than a holistic discussion about the opportunities and challenges involved, particularly where the community's role is primarily that of leasing land to an investor (Igoe et al., 2010; Homewood et al., 2012a) The land lease agreements in effect bind landowners into a contractual agreement with the investor for many years, yet the contents of the lease are presented in abstruse legal language leaving few, if any, with a comprehensive grasp of the terms of agreement. Consequently, many community members including the land adjudication committee, who are centrally involved in these discussions, demonstrate variegated and often limited understandings of what a conservancy is in relation to the welfare of the community members, much of which has been attributed to low literacy levels. In some cases, landowners have ended up paying hefty fines for infractions of the lease agreement that sometimes exceed the lease payments. This unequal relationship between investors and landowners constitutes another veiled mode of land dispossession of Maasai communities within the neoliberal land market where documents in the form of contractual agreements sutured by the title deed are central in the commodification of land. As such, land dispossession following the acquisition of title deeds in the Maasai rangelands is facilitated and legitimated by market relations organized around agreements whose real contents are rarely understood by communities of landowners.

Further veiled accumulation through dispossession occurs during land allocation on paper. As obtained from surveyors and land adjudication committee members, some investors in conservation express interest in leasing land for conservancies before land allocation occurs, a practice that has continued since the 1990s (Galaty, 1999). The adjudication committee uses its allocative power to enjoin allocation of parcels delineated by a conservancy investor to conservation-friendly individuals, whom Goldman (2001) refers to as "eco-rational subjects." As Igoe and Brockington (2007) explain, the "eco" refers to both economic and ecological interests that are critically organized around property rights, which are imperative for their participation in the global capitalist economy. Given that this type of land is rich with wildlife, pasture, and water, it means that local community members deemed "non-eco-rational subjects" are automatically consigned to land of relatively lower quality from a pastoralist's perspective.

In addition, purchasing land before allocation has exposed poorer households to the forces of the land market as landowners at times are enticed to sell off their land before title deeds have been apportioned. In many cases, such landowners are targeted by buyers with more information about the land market and who provide ostensibly attractive deals to the future landowner, including inducements such as motorcycles, which are especially attractive to youth, who see them as investments in the now-popular transport business. It is only later that it becomes evident that many of the land sales were done at below-market prices, meaning that the sellers who would not be able to purchase land afterwards are thus rendered landless (Galaty, 2013b). As the chief of Olderkesi in Narok County asserted during a conversation in 2017 with one of the authors, a major concern with land privatization is the sale of land by youth in the community. These fears are not unfounded as it is the alienability of land following acquisition of property rights that significantly adds to its value on the market

(Timothy et al., 2020). Igoe and Brockington (2007):443 observe that the acquisition of property rights can result in the loss of resources among the poor as "they have little capital and little experience of how to effectively invest it (property/capital). The reregulation of resources, even when ostensibly for their benefit, often works to their detriment. They often find themselves divested of their property even when that property is putatively protected by law." In these ways the very process of land privatization and subdivision of the commons has exposed communities to land grabbing, both by their own elites and through manipulation of land markets.

Land grabbed for mineral extraction, energy production, and carbon offsets

While the last section focused on grabbing of land through the privatization process and ostensibly legitimate land markets, classical forms of top-down land grabbing by external actors interested in capitalizing on rangeland resources are still very much apparent in pastoral areas in East Africa, as they are around the world. Extractive industries, aimed at mining valuable earth minerals or extracting oil and natural gas for export are often mutually exclusive with other land use practices, including pastoralism, thus providing clear-cut examples of enclosures (Byakagaba et al., 2019). Notable examples include the displacement of Balaalo pastoralists from Uganda's oil-rich Lake Albert rift basin in Bulisa district in 2010. Government efforts to connect crude oil extraction in Bulisa with international markets via the coast has resulted in the construction of the 1,443 km Uganda-Tanzania Crude Oil Pipeline across pastoral territory in northern Tanzania to the Port of Tanga, though the pipeline is still being built and its socioenvironmental impacts may not be fully known until the pipeline has been completed. In another similar example, gold mining in Karamoja, Uganda resulted in large-scale acquisitions of land at the expense of Nilotic Karamojong pastoralists who claimed customary rights to the territory. Expansions of mining concessions since 2013 have resulted in ongoing patterns of eviction over the past decade (Hinton et al., 2011; Serwajja and Mukwaya, 2020).

Increasing global awareness of the social and environmental impacts of extractive industries has prompted a recent shift away from fossil fuels towards alternative sources of energy that produce less carbon emissions. Renewable energy has thus emerged as a popular "technofix" solution for the global climate change crisis. Africa is at the forefront of renewable energy investments aimed at combatting global warming and climate change. Major renewable projects ranging from wind farms and geothermal energy extraction to the recent green hydrogen developments dot the landscape, with Kenya ranking third in Africa after South Africa and Morocco in renewable energy production (Baye et al., 2021). Owing to the space-intensive nature of mega renewable projects, the rural marginal landscapes become preferable for such investments. These peripheral spaces are deemed more spacious or even "empty" or unused (Galaty, 2014) and therefore available for the large-scale development initiatives. Furthermore, these projects are perceived by governments and other development agencies as drivers of change with the potential to transform the erstwhile unproductive regions into landscapes of value. Such narratives give credence to governments' development agendas. Kenya's Vision 2030, for example, conceives of a *maendeleo* ("development") framing that places clean, affordable renewable energy at the forefront of its economic and infrastructural development. Additionally, the government is encouraging the exploration and development of geothermal resources to reduce the country's reliance on hydropower, which is vulnerable to climate variability and changes in rainfall. Moreover, by pursuing renewable energy development, the government is taking steps towards meeting its international commitments to reduce its carbon footprint.

Renewable energy development, however, is not as benign as it is often painted to be–at least not at the local scale. The renewable energy sector—together with the associated large-scale infrastructure projects of various kinds—has become increasingly invasive of the lands and other natural resources of Indigenous and marginalised communities. Lands once considered worthless have suddenly become valuable and of great interest to states, investors and other players because of the rich renewable energy resources they contain. Consequently, these territories have become sites of severe contestation over natural and cultural resource rights. In the Olkaria area of Kenya, geothermal exploration is being carried out mainly in contested pastoral landscapes around Naivasha that historically subsume "White Highlands" settler ranches, many of which are now occupied and claimed by the Maasai seeking to return to areas appropriated at the outset of the colonial period (Hughes and Rogei, 2020).

Contestations over ownership of said land and its complexity seem to provide favourable political conditions for the Kenya Electricity Generating Company (KenGen) and other companies to establish themselves. Court cases and favorable rulings notwithstanding, the Maasai ceded much ground both to the private companies pursuing geothermal development and to politically connected cooperatives that form a deep network of absentee but influential landlords (Rogei, 2021). A case in point is the 76,000-acre Kedong Ranch forming not only the epicentre of geothermal sites in the Central Rift Valley but also a last grazing frontier for the Maasai. Straddling Nakuru, Narok and Kajiado Counties, Kedong Ranch is an enduring battleground for conflicts between Maasai pastoralists, on one hand, and numerous interests linked to the state and beyond, on the other. Geothermal exploration has now been pursued along the breadth and length of the Great Rift Valley. Geothermal development in the Rift Valley spans over 50 years from the

discovery of a 75-square-kilometre geothermal field gazetted in 1971 to the current 892-MW exploitation across Olkaria and Menengai sites in Nakuru County. Determined to exploit the anticipated 10,000 MW potential in the Rift Valley, KenGen is proactively forging northwards into Baringo and Turkana Counties (Greiner, 2020). Meanwhile, Geothermal Development Company (GDC) is making forays into Mt. Suswa, a sacred ceremonial mountain in the southern rangelands. With active preliminary activities currently ongoing, the keystone dry season grazing mountain alongside its biodiversity wealth and unique geological features, face the real risk of GDC's occupation.

In addition to geothermal energy, wind power is also significantly contributing to land use change and dispossession. Marsabit County boasts of recent development of its renewable resources by Lake Turkana Wind Power, which was established in 2015 (Drew, 2022). With 365 turbines on a landscape spanning 150,000 acres, the project has injected over 310 MW of clean energy into the national grid (Osano, 2021). While wind power exploitation is lauded by government and development agencies as a long overdue *maendeleo* initiative, opening the historically marginalized northern region to the rest of Kenya and the world, it is shrouded in tensions and contestations over questions of processes of land acquisition and negotiations over the terms of benefit sharing (Lind and Rogei, 2025). Just like the southern rangelands where geothermal developments are situated, Loiyangalani, which lies on the eastern shore of Lake Turkana, is equally an important dry season grazing area shared by the Elmolo, Turkana, Rendille, and Samburu pastoral communities. These communities claim that the defunct county council (in power when Marsabit was a District) conceded only 40,000 acres, making the status of the additional 110,000 acres doubtful and sharply contested. Legal cases challenging the legality of the land acquisition among other claims have lingered in court for close to a decade now.

Large-scale renewable energy projects, therefore, are impacting the living conditions of pastoral communities hosting these projects by alienating common pastures in favor of private investments in energy production, sometimes for the national electricity grid (Sovacool et al., 2022; Dunlap, 2018; Fastech, 2023). These impacts are most prevalent where land values are lowest and land users/holders often have less power due to their insecure land rights, a situation that leads to some degree of resistance (Yenneti et al., 2016). By rebelling against the implementation of renewable energy projects, local actors seek to build on the political demands and concerns of the most marginalized communities, through justice or rights-based approaches (Ndi, 2024b; Hughes and Rogei, 2020). Ranging from concerns with common resources and environmental health to demands for land and political sovereignty based on Indigeneity, contestations have escalated to a higher scale (Temper et al., 2020). As already described, a key contention regarding large resource-based and infrastructural projects concerns land access, control and ownership, as well as the distribution of benefits, including job opportunities (Nzo and Mahabir, 2021; Lind and Rogei, 2025). Contestation is also framed around pollution, environmental health and impacts on biodiversity. Whereas feasibility studies, including social and environmental impact assessments, often anticipate and mitigate such impacts, the impartiality of such studies has sometimes been questioned.

In retrospect, not all large-scale renewable energy projects engender adverse social impacts in the forms of land dispossession, diminished livelihoods, or increasing conflicts among local stakeholders (Hall et al., 2015; Hall et al., 2020). There are also cases characterized by collaboration with local communities and Indigenous people in processes of land commodification (Greiner and Owino, 2023; Müller, 2024); and the outcomes of such collaborations have been deemed beneficial to the local communities. In a model that Arrighi et al. (2010) refer to as accumulation *without* dispossession, people receive fair compensation for their land; benefit from recognition of corporate social responsibilities; and are allowed access to land for grazing and other traditional livelihood activities, where possible and as necessary. Through a case study of Kipeto Wind Power in Kenya, Ndi (2024a) adduced local evidence to reinforce the claim that large-scale land acquisition (through leasing) for wind energy development does not always lead to dispossession or threaten local livelihoods.

This argument should not be seen to fully capture the underlying dynamics and complexities accompanying large-scale land acquisition across other parts of Africa, in contexts involving different forms of land ownership, especially where gender and generational inequalities are linked to land struggles and acquisition. It is, rather, a pointer that progressive policy frameworks can eventually create an "energy landscape of value" (Greiner and Owino, 2023) that contributes to poverty alleviation and livelihood transformation in energy-affected communities. As such, progressive policies that can attract investments in renewable energy should be enacted, integrating favourable power purchase agreements, import tax concessions, feed-in tariffs, as well as mechanisms to facilitate the issuance of permits and licenses (Klagge and Nweke-Eze, 2020). These measures would indeed enable the generation of power, which would in turn help supply the national grid. Such policies and investment incentives should also directly address local concerns around land acquisition in host communities (Ndi, 2024b; Atkinson et al., 2022). Ensuring just outcomes will require appropriate frameworks for negotiating agreements to be developed, either by government or by investment companies, with a goal of ensuring inclusivity and addressing the concerns of local communities.

As things currently stand, national elites, making strategic use of an array of institutions, still position themselves to create networks that disadvantage communities, erode their benefits, and orchestrate removal of their land rights. In the Olkaria-Suswa case, it all started by securing a strategic resource: land. In

this contest over land ownership, the companies and foreign entities have gained a competitive edge over the communities through discrepancies in bargaining power. While progressive national and international policies and laws that secure community interests and rights over such resources have been enacted, they are still relatively limited or fail to be applied in the absence of political goodwill to implement them.

Rising pressure to curb global CO_2 emissions has also birthed a new scramble for land in Eastern Africa, as companies seek access to land with sizeable carbon sinks that can be purchased as credits to offset the emissions from their regular business activities. Some of the world's largest mega corporations, such as Netflix, Apple, and Gucci, are implicated in these efforts as part of their attempts to achieve "net-zero" emission status—not by directly reducing their own emissions, but by purchasing carbon credits generated from land that would otherwise be at risk of conversion, thus "enhancing" its management for carbon sequestration purposes. In response to these developments, African countries are strategically positioning themselves in an attempt to profit from the global carbon trade with the "sustainable development" trope as a justificatory argument (Otundo Richard, 2024).

Mirroring long patterns of foreign interest in African resources, tracing back thousands of years to traders from the Indian Ocean World, and later through the advent of colonialism and neoliberal investments in extractive industries, the realization that African rangelands represent a new valuable global commodity has created a means for pastoral communities to potentially tap into the flows of global capital, but also threatened pastoral tenure. Like other resource complexes, asymmetrical power relations between communities, investors, and the state have put pastoral communities at risk of dispossession. Notable examples include the Northern Kenya Rangelands Carbon Project (NKRCP), considered the largest soil carbon removal project in the world, which generates credits by mapping and enforcing livestock grazing routes in associated wildlife conservancies like Biliqo Bulesa Conservancy, where major global corporations including Meta and Netflix have purchased tens of millions of dollars worth of carbon credits (Kimeu, 2025). Pastoral communities in Isiolo County took the conservancy to court on the grounds that it had not adequately consulted local landowners before registering the conservancy (Mukpo, 2025). While proponents of carbon storage initiatives like the NKRCP point to enhanced investments in infrastructure, schools, and services, local herders and pastoral rights groups have expressed concern over the potential for carbon offsets to undercut traditional livestock grazing regimes due in part to a lack of informed prior consent, increased top-down enforcement of land use practices, and convoluted mechanisms for revenue sharing that are determined in an exclusionary way.

The potential for carbon offsets to constitute overt forms of land grabbing appear particularly pronounced when local communities are not directly involved in the design and implementation of carbon programs. Ongoing evictions of Ogiek communities from Kenya's Mau Forest, and resistance against carbon programs by the Maasai of Kajiado County point to local concerns about the potential for the carbon market to displace local livelihoods. Grounded in these grassroots perspectives, Survival International (2025) coined the phrase "blood carbon" with reference to carbon credits purchased at the expense of local pastoral land rights and self-determination.

Dispossession of pastoralists for large-scale agricultural investments

The third resource complex we examine—large-scale agricultural investment—highlights the dominant role of the modern nation state, and the classical theory that intensified production generates surpluses and drives industrialization and economic growth. Despite this logic, attempts to convert pastoral territories into large-scale agricultural zones have constituted some of the most detrimental and unsuccessful land-use interventions of the past century, perhaps most notably illustrated by the history of agricultural development in Ethiopia. Since Ethiopia's imperial period (1941–1974), development policies have focused largely on commercial agricultural production for export (Marcus, 2023). Under the early leadership of Emperor Haile Selassie (1930–1974), Ethiopia pursued agriculture as its main sector, with a primary emphasis on coffee production (Kebbede, 1992). Later during this period, in the 1950s, foreign agricultural companies leased land from the state to produce sugar and other commodities for global markets, accounting for a major portion of the formal workforce. Though agriculture was the major contributor to Ethiopia's Gross Domestic Product (GDP), overall productivity was low, a fact that is perhaps largely attributable to Ethiopia's feudal land tenure system, whereby the sovereign power retained ownership and expected its rural population to work the land on its behalf, thus disincentivizing production. Selassie's modernist aspirations were exemplified by the creation of a series of dams on the Awash River like the Koka Dam in the late 1950s and the Awash II Dam in the 1960s. Koka Dam, located less than 100 km from the capital, Addis Ababa, was meant to generate electricity that would support growing urban demands and drive industrialization, as well as develop the Awash Valley for irrigation to facilitate commercial production and agribusiness investments. Creation of the dam resulted in flooding of villages, smallholder fields, and pastures used by Afar pastoralists and Oromo cultivators. Afar herders were arguably the most directly affected due to the losses of productive seasonal grazing areas along the shores of the Awash River (Gebre-Mariam, 1994). The dam was implemented in a heavy-handed way and featured no prior consultation with local people, nor compensation or formal resettlement initiatives, engendering vulnerability and food insecurity in affected local communities (Gamaledinn, 1987). Awash II, in the Oromia Region, supplied the town of Dera with water in an attempt to fuel urbanization and drive industrialization.

While the dams generated some notable societal benefits in the form of increased access to electricity and water in towns, they affected downstream water access for rural communities like the Issa and Afar people, and other groups that relied on seasonal wetland fluctuations in the Awash River basin (Kloos, 1982).

The revolutionary regime that followed (1974–1991) was characterized by the nationalization of land and collectivization of production in the context of socialist economic policy, however, failed to generate meaningful surpluses of crops or labour, and was associated with widespread food insecurity, including the well-documented 1983–1985 famine during which nearly eight million people faced starvation (Gill, 2010). Though subsistence cultivation and livestock herding remained the backbone of Ethiopia's rural population, the attempts to nationalize agricultural production failed to drive meaningful growth of Ethiopia's GDP (Kebbede, 1992).

Into the 1990s, the government once again renewed its efforts to drive economic growth through agriculture by implementing the Agricultural Development Led Industrialization (ADLI) policy that prioritized intensifying agricultural production through the provision of fertilizers, extensions and new technologies. Though Ethiopia's GDP indeed experienced modest growth during this period, rural food insecurity and poverty were still notably widespread, and land fragmentation continued to become more entrenched.

After the 2008 world food price crisis, the global rush on land was initially labelled as a form of "sustainable development," first under the United Nations's Millennium Development Goals and later the Sustainable Development Goals, while often disguising mere speculation with land. Investors, without sufficient knowledge of the special characteristics, potential and limits of arid and semi-arid lands, secured land for sell-out prices in the Global South. One hotspot for the global land grab was Ethiopia, with pastoralists' territories being among the favored targets of land speculation. The extent of miscalculation by planners who were unfamiliar with the distinctive ecosystems, soils, customary water-management regimes, and socio-cultural fabrics of local people led to investment failures, socio-ecological hardship, development-induced displacement, and violent conflicts. David Turton was one of the first and most acute observers of the damage done by such projects:

> "One thing we know [. . .] is that most displaced people today are not victims of wars or natural disasters but of development – large infrastructural projects such as hydroelectric dams, irrigation schemes, urban clearances and roads. It has been estimated that around 15 million people a year are displaced worldwide by such projects (Cernea, 2008: 20), to which must be added the millions more who lose access to vital economic resources [. . .] without themselves being physically displaced" (Turton, 2021: 239).

While not opposing well-planned projects to improve people's livelihoods, Turton refers to ill-informed projects on pastoralists' territories in southern Ethiopia and the Awash valley that have repeatedly tried to replace time-tested pastoralist knowledge and practices. The results of the 21st century land rush left a stain on development policies that Turton had foreseen when warning about the lack of detailed feasibility studies and socio-economic impact assessments before the implementation of projects (Turton, 2021: 241). These planning failures not only led to economic losses and environmental damage, often for all actors involved (including investors), but also to increased impoverishment and food insecurity among resident pastoralists.

Examples of this were sugarcane farms in southern Ethiopia (for detailed case studies see Buffavand, 2021; LaTosky, 2021; Turton, 2021; Stevenson and Benedikt, 2021). Large agricultural projects, such as these, were promoted as key vehicles for Ethiopia's economic growth strategy. However, despite the influx of capital and the promises of job creation, many pastoralists have been left without needed means for economic pursuits underpinning their livelihoods and fewer opportunities for employment. In fact, the labor for these farms was often imported from other regions, further marginalizing pastoralists and highlighting the inequities inherent in the modernist development model. The result was not only the destruction of livelihoods but also the exacerbation of social and economic inequalities, given that those displaced by these projects had little recourse to legal redress or compensation. For the Kuraz Sugar Development Project in southern Ethiopia, several Sustainable Development Goals were not only not achieved but were reversed, leading to economic losses for both resident pastoralists and investors alike, and to an increase in ongoing violent conflicts in the area (Gabbert, 2021: 11f). After repeated investment failures all over Ethiopia, a study commissioned by the Ethiopian government concluded that much of the land became unused *after* it had been grabbed (UNDP, 2013), emptied of those who once pursued livelihoods on territories that had been open to shared use for centuries. Similar findings have been made for Benishangul-Gumuz and Gambella Regions, suggesting that large-scale agricultural projects "fail in all aspects" (Atkeyelsh, 2019: 12ff).

"Green grabbing" for wildlife conservation and tourism

Due also to the long-demonstrated compatibility between livestock and wildlife—which both benefit from connected rangelands and institutions that prevent ecological fragmentation despite some degree of forage competition and risks of carnivore predation and disease transmission—(cf. Reid, 2012; Homewood, 2008), the value of rangelands as sites with extraordinary levels of biodiversity has led to extensive

appropriation of land for conservation. Land grabbing in this context has taken the form of parks, reserves, and conservancies, established primarily by states but also by private investors and communities. Tanzania and Kenya are important cases in point. Since colonial times, Tanzania has implemented a centralized system of resource governance that, like Ethiopia, places ownership of land in the hands of the state (Brockington, 2008). To the detriment of pastoral communities like the Maasai, Parakuiyo, and Datoga, government authorities have consistently mobilized conservation as a means of reinforcing top-down control over wildlife, alienating pastoral commons in the process (Igoe, 2022). Early game reserves established by German colonial administrators served to manage game populations for colonial sport hunters, as did British Game Ordinances in the mid 1900s. In 1948 and 1959, the British administration passed National Park Ordinances inspired by the Yellowstone National Park model of conservation that were meant to insulate wildlife from human activities altogether (Wanitzek and Sippel, 1998). Though the drivers of wildlife population declines were linked to colonialist trophy hunting practices and habitat fragmentation catalyzed by colonial land reforms, the formation of national parks instead focused on preserving wildlife by restricting the resource rights of pastoralists whose land-use system had uncoincidentally proven compatible with wildlife habitat for millennia prior to the advent of colonialism (Raycraft, 2022). Initially classified as an integrated protected area through the Game Ordinance of 1940, the Serengeti was gazetted as Tanzania's first National Park in 1959 (Sinclair, 2021), at the cost of displacing pastoral Maasai and several hunting and gathering communities from the Serengeti plains (the Serenget Maasai moved southward to nearby Endulen), while the Ngorongoro Conservation Area (NCA), populated by Loita, Kisongo and Salei Maasai, was declared a multi-use region that would accommodate conservation, tourism and continuing pastoralism (Shetler, 2007).

During Tanzania's socialist period, which began in 1967, the Wildlife Conservation Act of 1974 formalized an expanding network of protected areas as state property, encompassing game reserves and game-controlled areas (GCAs) designated for trophy hunting, and national parks and the NCA for non-consumptive wildlife preservation (Nelson et al., 2007). Though the NCA implemented a multiple land use model that supposedly featured continued access for local Maasai herders, exclusionary governance processes have meant that conservation does not effectively guard the livelihood concerns of pastoralists. In 1975, the Ngorongoro Conservation Area Authority banned crop cultivation inside the NCA and restricted pastoralists from settling in the Ngorongoro Crater, though herders were permitted to continue accessing pasture and water on the crater floor (McCabe, 1997). The prohibitions on cultivation were subsequently lifted in 1992, reinstated in 2001, and removed a few weeks later, before ultimately being implemented again in 2009 (Galvin et al., 2015). Restrictions on the use of modern building materials, access to grain and livestock markets and on the provision of social services have further constrained the Maasai of Ngorongoro, though the area is heralded globally as a World Heritage Site and a UNESCO Global Geopark (McCabe, 2003). From the perspectives of local herders, the government has attempted to make it unfeasible for pastoralists in Ngorongoro to continue their way of life—a not-so-subtle way to encourage them to leave (Weldemichel, 2022). These suspicions came to fruition in 2019 when the government revised the longstanding multiple land use model in an attempt to resettle roughly 100,000 Maasai pastoralists outside the NCA completely. Despite widespread protest, the government framed the plan in terms of a voluntary resettlement scheme whereby the Maasai of Ngorongoro would be relocated to Handeni and Kiwai GCAs to the southeast of Tanzania's Maasailand, far from the wildlife tourism circuit. Pre-existing frictions between cultivators and pastoralists in the proposed settlement sites and limited sources of water in the new locations have contributed to widespread resistance to the evictions by the Maasai, who continue to inhabit Ngorongoro and reject the government proposals to move them.

Less ambiguous than the NCA, game reserves and national parks in Tanzania represent clear examples of "fortress conservation," in that they exclude local communities from inhabiting the areas or accessing resources within their boundaries (Brockington, 2002). Examples include Mkomazi National Park, from which Parakuiyo herders were displaced (Brockington, 1999; Homewood and Brockington, 1999), Arusha National Park, which disrupted Arusha, Chagga, and Meru patterns of tenure and resource use (Neumann, 1998), and Tarangire National Park, which restricted Maasai living on the Simanjiro plains from accessing its permanent water sources in the dry season (Davis, 2011; Woodhouse and McCabe, 2018).

Fortress conservation morphed during the neoliberal period (1985 onwards), when Tanzania became a global safari tourism destination and private investors partnered with the state to market an image of "pristine" African wilderness unperturbed by human-driven degradation (Neumann, 1998; Igoe, 2017). The "charisma" of Africa's large mammal species, including the iconic Big Five (lions, buffalo, elephants, leopards, and rhinos), attracted tourist photographers and hunters from around the world. As international capital and tourists flowed into government-run protected areas facilitated by a centralized institutional system and strategic partnerships between the state and private investors, pastoralists were notably excluded geographically from traditional territories and economically from the growing revenue streams (Gardner, 2016). Invariably, the major protected areas on Tanzania's northern safari circuit including Serengeti National Park, the NCA, Arusha National Park, Tarangire National Park, and Lake Manyara National Park, were formed around key sources of water that both pastoralists—most notably Maasai—and wildlife had

previously relied on during dry seasons. In cases defined by pre-existing patterns of pastoral residence, like the Serengeti Plains, herders were evicted (Shetler, 2007). Fixed park boundaries enforced across seasons further dispossessed herders from accessing water sources like the Tarangire River and Ngusero and Lormakau wetlands, circumscribed since 1970 by Tarangire National Park (Igoe, 2022; McCabe and Woodhouse, 2022).

Continuing their perennial patterns of movement, large mammals continue to disperse out from these unfenced protected areas during the wet season, threatening both livestock security and the viability of smallholder farms (Vallin et al., 2025; Bell and Raycraft, 2025; Raycraft, 2024; Raycraft et al., 2024; Raycraft and Bell, 2025). Significantly, tourism revenue from state-run protected areas is not shared with communities in a manner that would equitably offset the losses of land and the costs of wildlife encroachments (Homewood et al., 2012a,b). Though pastoral Maasai communities in some instances capitalized on the wildlife dispersals on village land through partnerships with photographic tourism investors and the formation of wildlife habitat concessions in the early 1990s (Gardner, 2016; Nelson et al., 2010), the state ultimately reformed its wildlife laws in 1998 to reconsolidate central control of the sector (Nelson et al., 2007). Put differently, pastoral communities in Tanzania have generally had to suffer the costs of central protected areas without receiving adequate benefits in return (Keane et al., 2020; Homewood et al., 2020). Conservation, in a political ecology sense, seems to help ensure an unabated revenue stream for the central government from wildlife-related tourism (Bluwstein, 2022; Keane et al., 2020). Rather than "seeing" pastoralists (borrowing from James Scott [1998]) as potential collaborators or stewards, the Tanzanian state seems to view pastoral communities as threats to its monopoly on safari tourism so has sought instead to push herders off the land altogether. This dynamic is best illustrated by the Loliondo case, where pastoral Maasai in Ololosokwan established fruitful photographic tourism operations in areas they deemed to be part of village land (Kileli, 2017). However, the state considered the territories to be within Loliondo GCA and leased the land to an Emirati company, Ortello Business Corporation (OBC), to be administered as a trophy hunting block for tourists. The state doubled down on its position in 2022 by demarcating Pololeti Game Reserve in the contested area, alienating 1500 km^2 of seasonal pastures and undercutting the prospects of fruitful community-based photographic tourism in Ololosokwan and elsewhere in Ngorongoro District. Maasai communities openly opposed the grab, which escalated to violent confrontations between protestors and state paramilitary forces in June 2022, and received international coverage by the European Union and United Nations Permanent Forum on Indigenous Issues (Montalvo, 2022). It would thus be fair to refer to conservation in Tanzania as a form of "green grabbing," defined here as the mobilization of the technical rationales of biodiversity conservation to justify the large-scale re-appropriation of customary lands for other economic purposes (Benjaminsen and Bryceson, 2012; Fairhead et al., 2012).

Discussion and conclusion

Based on our analyses of the case studies presented in this paper, we can infer four driving factors that facilitate land grabbing in the pastoral areas of Eastern Africa:

1) Bureaucratic processes underlying the formation of land-use committees, the awarding of title contracts, and the varying degrees of awareness, understanding, and adaptive dexterity of different social actors with unequal power and capital in navigating these legal complexities to secure their own private and/or communal interests. Such dynamics are perhaps most notably apparent in the context of Kenya's Maasailand, where subdivision of pastoral commons has created a new playing field for individuals to stake claims to land and capitalize on privatization at the expense of collective institutions. Privatization, perhaps not unlike Li's notion of "Land's End," seems to reflect an endogenous process of social change, driven in part by pastoralists themselves and the scramble to secure land before others do (Li, 2014). Such dynamics, which seem to be accelerating rangeland fragmentation, particularly when associated with fencing of private holdings as is apparent in the Greater Mara, are clearly antithetical to the customary enforcement of collective range management institutions, which have continually proved vital for pastoralists given uneven patterns of rainfall across the savanna.
2) Selective policy representation of resource extraction and energy production in terms of returns on investments for private corporations and governments. Conceptualizing initiatives like mineral mining in terms of the value of the extracted commodity in global markets highlights the at-times immense upside for the companies involved, and the governments that either lease access rights or have a direct stake in the revenues generated. Representing such projects purely in terms of profits to investors, however, tends to overlook their complex social and environmental impacts on landscapes and the pastoralists who depend on them. The so-called "resource curse"—describing countries rich in natural resources that are still notably characterized by conditions of poverty—is a well-documented trend in sub-Saharan Africa, a clear sign that despite the

attractive returns resource extraction generates for a minority of stakeholders, benefits are generally not broadly distributed (Auty, 1993). Often, there are no formal mechanisms in place for ensuring that local costs of extraction are offset by direct economic benefits for communities (cf. Kamat, 2017; Kamat et al., 2019). In the context of energy production, broad societal benefits are often made possible by both renewable and non-renewable initiatives that increase capacity for electricity generation, with the potential to transform people's lives through the provision of refrigerators, lights, and charging outlets for phones and televisions among other things. However, without recognition of the societal benefits of maintaining connected rangelands and ensuring continued access and stewardship by pastoralists in light of new developments in energy production, the potential benefits of increased access to electricity may pale in comparison to the mounting constraints on the livestock sector engendered by land alienation and enclosure. Recent trends in the global carbon market, and the emergence of offset programs in pastoral areas in sub-Saharan Africa enabling private companies to indirectly lower their net carbon emissions, pose clear threats to pastoral tenure when implemented by external actors from above in an exclusionary manner. They also, however, represent potential opportunities for pastoral communities to engage the global marketplace and attribute new value to local landscapes in ways that are not necessarily mutually exclusive with pastoralism (Baker et al., 2022). A key factor that seems to exacerbate the potential for carbon offset programs to become a form of land grabbing is a lack of formalized institutional frameworks stipulating the rights of local pastoral communities and the responsibilities of private investors and governments to engage herders as meaningful stakeholders in the design and implementation of these initiatives. Such dynamics are ethnographically visible in both southern Kenya and northern Tanzania.

3) Land use policies informed by classical development theory that prioritize intensified agricultural production over extensive livestock grazing regimes across semi-arid landscapes where pastoralism has been historically practiced. The logic underpinning this development approach—that intensified production generates surpluses in labour, crops and capital that will facilitate industrial development and increase national GDP—has been thoroughly critiqued in the Global South, due in part to its underappreciation of the economic value of pastoralism and the system's inherent adaptability to environmental variabilities. Steeped in modernism and informed by a template of industrialization from Western Europe that was uncoincidentally made possible by linkages to frontier nations in Africa and the Americas, the notion that intensified agricultural production represents a universal driver of economic growth is challenged by the longstanding patterns of pastoral production that continue to make use of marginal landscapes around the world where rainfall is less predictable. It would be fair to say, then, that a key driver of land grabbing in this regard is the ethnocentric projection of classical agricultural development theory onto landscapes to which it was never suited to begin with.

4) Euro-American ideologies of nature/society, which conceptualize African landscapes as remote wildernesses either devoid of people, or in need of insulation from human activities. We have referred to this form of land grabbing as "green grabbing" with reference to the top-down and exclusionary conservation dynamics seen in northern Tanzania, affecting most notably the Maasai and other pastoral groups. Green grabbing appears to draw from an "idea of nature" (cf. Williams, 1980) as something "out there," away from human society and in need of protection from it. The techniques and technologies of conservation science likely contribute to the legitimization of green grabbing by focusing scholarly attention exclusively on wildlife demographics and biodiversity without adequate heed to the complex social realities within which conservation areas are situated. Such dynamics are also clearly influenced by the presence and strategic positioning of private investors, and the central state, insofar as they stand to benefit from the exclusion of pastoral communities from traditional territories through the generation of safari tourism revenue. Thus, we can conclude here that the drivers of green grabbing appear to be a dualistic ideology of nature and society, the stabilizing force of conservation science in legitimizing it, and the enforcement of conservation policies by those in power who stand to benefit from the elite capture of tourism revenue.

Lessons learned from the great African land grab should inspire significant correctives that take account of the value of Indigenous knowledge systems, sustainable and resilient land management practices, land use rights, and the cultural and ecological significance of pastoralist territories. Departing from dominant modernist narratives that portray pastoralists as backward and their lands as vacant, a growing recognition of the interwoven relationships between people, land, and resources that have sustained pastoralist communities for centuries offers crucial climate-adaptive knowledge and reminds us of the fallacy of the divide between traditionalism and modernism (Galaty, 2021a; Latour, 1993). Pastoralists are not only experts in subsistence economy but are specialized in managing livestock in non-equilibrium environments and dealing with uncertainty. While

decades of research on pastoralism have revealed the resilient ways that pastoral systems have proven able to sustain communities in arid lands, we increasingly understand how pastoralists exemplify "reliability professionals" with lessons to teach specialists in modern agricultural sciences rooted in different soils about how to face the climate crisis and other dimensions of uncertainty faced in tropical systems of land use (Gabbert, 2021; Roe, 2020; Scoones, 2023a; Scoones, 2024). Oftentimes ignored is the fact that pastoralists also provide the African markets and beyond with high quality meat (Krätli et al., 2022a: 6; Schlee, 2010: 160). As Little (2021: 78f) describes, "livestock trade represents one of the few economic success stories from a region often characterized as marginal" through markets that pastoralists undergird while providing ethical conditions for livestock so different from industrial meat production. Recent studies describe pastoralist livestock farming as an ecosystem service that provides climate protections through its lower water footprint than industrial meat production (Barsotti et al., 2025; Footprints, 2018), while scarcely contributing to anthropogenic greenhouse gas emissions (Krätli et al., 2022a: 10; Krätli et al., 2022b; Scoones, 2023b). One should add that the knowledge of East African farmers and agro-pastoralists about the interplay of livestock and agriculture, founded on their wisdom and lived experience with sorghum varieties and seed protection, is invaluable in the search for agricultural expertise on climate-resilient grains, climate-friendly agroecology, and food security (Gabbert, 2018).

Considering these lessons learned, implementations of research-based and inclusive approaches to development that value the diverse ways of life that exist within marginalized communities and respect pluriversal knowledge systems, rights to land, food sovereignty, local livelihoods, and self-determination would support equitable and sustainable approaches to peaceful future-making (Gabbert, 2021; Gabbert et al., 2021; Moritz et al., 2024). When rethinking global land policies and development approaches, the voices and experience of pastoralists must be central when strategies for shaping sustainable futures on arid and semi-arid lands, the territories that herders know best, are formulated.

This paper has described four types of land grabbing and land loss experienced by pastoralists. Notwithstanding their productive use of the grasslands that stretch across Africa, Central Asia, and elsewhere, pastoral communities are especially vulnerable to being displaced for environmental and historical reasons: mobile forms of land use that leave areas being recuperated and unoccupied on a seasonal basis, their relatively low population densities, the susceptibility of commonly held lands to encroachment, the misrepresentation and disregard of pastoral knowledge, the complexities and corruption that arise during land privatization, and the development of land markets. Risks of dispossession are deepened by growing global demand for valued resources found in the drylands, including critical minerals for extraction, geothermal, wind and solar sources of renewable energy, oil and gas reserves, carbon sinks, and rich biodiversity, valuable in itself but also as an attraction for global tourism through conservation.

How can the vulnerabilities of the Indigenous residents of the world's drylands be mitigated such that their rights and livelihoods are protected, while local, regional, national and international interest in their resources are harnessed for the benefit of rangeland communities? Explicit recognition of pastoral land rights and expertise should position these communities as central stakeholders able to negotiate, decide about and benefit from the diverse forms of land use that this article has analyzed, whether as managers, partners, participants, royalty holders, or owners and lessors to leaseholders. Based on a foundation of knowledge revealed by a generation of research on arid and semi-arid rangeland ecology, pastoralism, and wildlife conservation, we must transcend dated and self-interested views of pastoralism as antiquated rather than environmentally adaptive through having developed resilient and productive strategies that sustainably harness the potential of drylands through the husbandry of livestock. A progressive approach would be to include the formal recognition and integration of Indigenous pastoral and agro-pastoral practices into national and global development frameworks that acknowledge pastoralist land management strategies as ecologically adaptive and socially sustainable, particularly under the pressures of climate change.

On a global scale, pastoralists' roles in the development of adaptive responses to highly uncertain scenarios especially within the climate crisis cannot be underestimated. On and beyond their territories, pastoralists are active participants in the contemporary world and skilled experts in dryland and crisis management. They pursue strategies that responsibly utilize the resources of their lands not only for their own livelihoods but for the larger good. They are agents and partners in development, collaborators to engage with, not subjects to be displaced. Pastoralist communities must be included and recognized as central stakeholders in decision-making processes regarding land use, economic development, and environmental management. Best practice examples demonstrating how communities can benefit from green energy projects (Waters-Bayer and Wario, 2022) and the protection of wildlife habitat (Raycraft, 2025) show that reciprocal and peaceful solutions are possible and necessary and that cooperative policies can rectify historical exclusions and align development policies with the lived realities and aspirations of affected communities. Policies that acknowledge the cultural, social, and ecological significance of land should emphasize the importance of protecting communal land rights. Strengthening legal frameworks to enforce principles such as free, prior, and informed consent (FPIC) is crucial to safeguarding pastoralist territories against exploitative development projects.

Accordingly, reorientation toward sustainable and inclusive development goals should balance economic, social, political and environmental objectives within a community of practice. Inspired by debates on "territories of life" (Borrini-Feyerabend and Jaeger, 2024), rangeland policies should promote equitable and resilient solutions for pastoralist communities as global citizens with full rights, protecting them against the rampant grabbing of their lands

while cooperating in life projects that should conceptualize pastoral aspirations as part of our common future.

Data availability statement

The data analyzed in this study is subject to the following licenses/restrictions: The ethnographic data used is not available to the public. Requests to access these datasets should be directed to justin.raycraft@uleth.ca.

Ethics statement

The studies involving humans were approved by the Research Ethics Boards at McGill University and the University of Alberta. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their informed consent to participate in this study.

Author contributions

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

Funding

The authors declare that financial support was received for the research and/or publication of this article. The authors are indebted for funding for research from the partnership project on "the institutional canopy of conservation" (I-CAN), which was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC), the International Development Research Centre (IDRC), and the Canadian Foundation for Innovation (CFI). We acknowledge institutional and financial support as follows: JR, from the Canadian Anthropology Society, SSHRC, the Prentice Institute for Global Population and Economy, and the University of Lethbridge; KK, for research funding and support from SSHRC and IDRC, a SYLFF Fellowship, a Wolfe Fellowship, and the University of Toronto; DSR, for research support provided by the DST/NRF South African Research Chairs Initiative (SARChI), the Research Chair of Land, Environment and Sustainable Development, and Stellenbosch University; JG, from McGill University in providing offices and to the I-CAN project for a period of almost a decade. Article processing charges for publishing this article open access were covered by a SSHRC Insight Development Grant (430-2025-01388) administered by the lead author.

Acknowledgments

We appreciate ongoing collaboration with pastoral land rights NGOs in East Africa, namely IMPACT, ILEPA, MPIDO, ACC and SORALO in Kenya and the UCRT in Tanzania. The paper benefited from the helpful comments of several peer reviewers.

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.

Generative AI statement

The authors declare that no Generative AI was used in the creation of this manuscript.

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