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Conservation Innovation in Pastoral Lands around the Globe: Challenges, Lessons and Opportunities

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Key words: Collaborative conservation; open access; devolution

Abstract

Pastoralists and ranchers have a long history of sustained management of rangelands around the world. Several decades ago, some pastoralists and ranchers started new alliances with environmental organizations, businesses and government agencies to diversify their approaches to land management to include what can be called 'conservation'. These efforts highlight conserving aspects of rangeland ecosystems, but often have an equal or greater emphasis on supporting pastoral livelihoods and culture. This paper asks: What types of innovations are pastoralists now pursuing in 'conservation'? How are these innovations performing?

This paper provides a synthesis of some of the types of conservation innovations being led by pastoralists and ranchers around the world. In rangelands that are privately owned, much of the innovation focuses on management practices, like rangeland restoration, regenerative ranching, education, and herding strategies. But some private landowners are taking down fences or herding animals across pastures. In the majority of the world's rangelands, which are commonly managed, conservation innovations emphasize new locally-led governance regimes and institutional innovations. These often build upon and strengthen traditional pastoral management practices and institutions. The most impactful conservation innovations, in the face of urban spread and development, may be those that either maintain the ability of pastoralists and ranchers to keep the land open or allow them to un-fragment fragmented land and knit it back together. Unfortunately, social and ecological outcomes of conservation efforts are rarely assessed over the long term, so it is unclear how impactful these innovations are. Continuing challenges in these initiatives include how to ensure all pastoralists and ranchers benefit (resource-limited pastoralists, women, youth), how to adapt given accelerating climate change, and how conservation innovations can increase the bottom line of ranchers.

Introduction

Pastoral peoples and rangelands now face accelerating economic, political and climatic change that often reduce their joint resilience and capacity to respond to change (Reid, Fernández-Giménez, and Galvin 2014). Pastoralists, however, are often masters of innovation and adaptation, given that they survive and often thrive under harsh and unpredictable conditions. Several decades ago, some pastoralists and ranchers started new alliances with environmental organizations, businesses and government agencies to diversify their approaches to land management to include what can be called 'conservation' (McDonald 2002). These alliances occur all over the world, ranging from those on common land in Africa and Asia, to those on private ranches in Australia and North America (Reid, Fernández-Giménez, and Galvin 2014). Because of the leadership or strong partnership of pastoralists in these alliances, most are not just about conservation but emphasize pastoral livelihoods and culture. This paper asks: What types of innovations are pastoralists pursuing in 'conservation'? How are these innovations performing? Given its brevity, this paper is far from comprehensive, but is rather an initial exploration of new progress in pastoral conservation.

Methods and Study Site

This is a review of current and future possible innovations in conservation in pastoral lands. It is a traditional not systematic review; I read recent future-oriented papers and websites, creating the idiosyncratic synthesis of patterns described here.

Results and Discussion

One of the reasons many pastoralists and conservationists are working closely together is a major shift in how we think and talk about pastoralism. Old myths about the tragedy of the commons or the idea that livestock always overgraze are falling away. New ideas that pastoralism is one of the most compatible land uses with conservation have started to take their place. Because of this shift, pastoralists themselves are becoming recognized as leading conservationists.

Of the many conservation innovations in pastoral lands, I focus on four main major types of innovations. The first are innovations that create the win-win of keeping **land open for both conservation and pastoralism**. This openness not only helps livestock and wildlife but conserves plant species and important habitats that are

part of rangelands. In the face of rapidly changing land use, this is critical to allowing both pastoralism and conservation to succeed. Innovations here include strong efforts by private land owners to welcome wildlife on their lands with livestock, which, in southern Africa, for example, doubles the amount of land conserving wildlife compared with that in parks and reserves (Kreuter, Peel, and Warner 2010). Key in these private lands initiatives is the ability of landowners to find new funding streams with wildlife that help compensate for the disease and predator costs of mixing livestock with wildlife. On pastoral lands used in common, which dominate global rangelands, community-based rangeland management (CBRM) creates formal and informal decision making bodies and institutions that not only keep land open, but sometimes push back on new land uses brought in by outsiders (Reid, Fernández-Giménez, and Galvin 2014). Sometimes governments establish conservation areas that are multiple use, likely the Ngorongoro Conservation Area in Tanzania, realizing that pastoralism and wildlife are more compatible than mixing wildlife with uses like mining and crop farming.

Another related innovation is **knitting land back together** that has been fragmented by privatization of common land. Here, pastoralists are participating in and leading collaborative conservation initiatives that ‘soften’ the boundaries created by fencing on private land. Sometimes this means removing fences or cultivated plots (or even roads in the future). Other efforts establish agreements among pastoralists to graze land on multiple parcels together or move herds opportunistically to share forage among neighbors (Hobbs et al. 2008). For all of these types of initiatives, the biggest impact often comes from the trust built when people from opposing viewpoints come together and agree to collaborate over the long term (Hillis et al. 2020).

A third set of innovations focuses on **true devolution of power** to pastoral communities so that they design and lead joint pastoralism / conservation efforts on their traditional common land. Efforts to devolve power sometimes have limited success in the face of governmental reluctance to share decision making power over common land (Reid, Jablonski, and Pickering 2021). More common are ‘hybrid institutions’ that do not require full devolution, but rather blend the decision making power of pastoralists, NGOs and government in joint decision-making bodies (Robinson et al. 2018). In Ethiopia, for example, there are substantial efforts to strengthen and support pastoral customary institutions of grazing management, which sometimes are pastoral led, but more often create these hybrid institutions (Flintan et al. 2019). In Kenya, community conservancies are hybrid institutions, with pastoralists, government and NGOs managing wildlife and pastoralism together (KWCA 2016).

But there are a few, new examples of pastoralist-designed and led conservation initiatives, like Nashulai Conservancy in the Mara of southwest Kenya. Here, Maasai pastoralists are completely in charge of all decision making. In doing so, the Nashulai community developed a linked model of ‘conserve wildlife – preserve culture – reverse poverty’ with a unique focus on empowerment of women (Nashulai 2021). They established a bird sanctuary and elephant nursery; rehabilitated grasslands by reestablishing seasonal and rotational grazing with fewer, higher quality Boran cattle; restored and monitored water quality in a nearby river; established a formal governing conservancy; and founded the Mara Cultural Training Institute to link pastoralism, culture and wildlife. This level of innovation is also exemplified by the new Narentunoi Conservancy near Nairobi (Parmisa and Reid This volume).

Another innovation is the **return of land to Indigenous Peoples** in countries where settler colonial powers stole indigenous land. Sometimes this is a trade-off for pastoralism because many Indigenous People do not herd livestock (and many do) and thus pastoralism may decline when land is returned. Examples include the transfer of city or state or federal land to Native Nations in the US (Various1 2021). Private landowners sometime bequeath land back to the indigenous owners. This return of land appears to be a trickle compared to the rushing currents in the opposite direction where non-Indigenous people grab even more indigenous land (Borras and Franco 2012; Abbink 2011). This land grabbing continues, even to create parks and reserves, despite mounting evidence that indigenous management is often superior to management of the parks by settler colonial governments (Sangha 2020).

Fourth, pastoralists have long practiced **innovative grazing and conservation practices** with current restoration of traditional practices and adoption of new ones. Despite a long controversy on the scientific value of rotational grazing, many ranchers and pastoralists see improvement of their grazing lands with this approach (Nashulai 2021; Gosnell, Charnley, and Stanley 2020). Another new development is the realization that “modern” ranching on private land has something to learn from pastoralism on common land. This is new because there has long been the assumption that private lands ranching is more productive than common lands pastoralism, but this has been challenged (Behnke 2008). African pastoralists, for example, have long exploited diverse and varying landscapes and grassland types to ensure herd productivity and stability. This exploitation

of heterogeneity is now recognized as a key strategy for pastoralists and ranchers worldwide (Briske et al. 2020).

What innovations support these pastoral conservation initiatives? One of the most important is educational opportunities for pastoralists that support and respect pastoral knowledge and empower their leadership of these initiatives (Coppock et al. 2017). On the research side, there has been an evolution of the level of participation of pastoralists in research, from research subject to research participant to research leader (Reid et al. 2016). There is also a great deal of innovation in the types of partnerships that pastoralists make with researchers. In Colorado of the US, for example, ranchers and researchers now work hand-in-hand on a 10-year experiment comparing continuous grazing with adaptive management (Fernández-Giménez et al. 2019). Both education and research can create transformative opportunities for social learning for individuals or whole communities (Reid et al. 2021).

Discussion and Implications

How are these innovations performing? In most cases, we have little evidence or the evidence is mixed. The impacts of community-based conservation, for example, shows they can successfully achieve either social or ecological outcomes, but win-wins of these two types of outcomes are more rare (Brooks, Waylen, and Mulder 2013; Galvin, Beeton and Luizza 2018). Continuing challenges in these initiatives include how to ensure all pastoralists and ranchers benefit (resource-limited pastoralists, women, youth), how to adapt given accelerating climate change, and how conservation innovations can increase the bottom line of pastoralists.

And what are some ideas for pastoralists and ranchers to consider for the future? Following in the footsteps of the Maori people of Aotearoa/New Zealand, pastoralists may want to consider the value of granting ‘personhood’ to parts of pastoral lands (Muller, Hemming, and Rigney 2019). In the Maori case, the colonial government recognized the rights of the Whanganui River, thus protecting it more strongly from a proposed dam. In the case of pastoralists, personhood or nature’s rights might help pastoralists push back on governmental or corporate land grabbing or powerful extractive industries like mining.

There is also new thinking that open access grazing systems, in very dry, non-equilibrium pastoral systems, need governance structures entirely different than those on wetter, common property land (Moritz et al. 2018). This may mean that some of the driest lands are suited to the relative ‘free-for-all’ that started the idea of tragedy of the commons in the first place. This means conservation will be different in these very dry systems also. This idea also highlights the importance of strong governance structures in wetter, more equilibrium rangelands where over-use is clearly possible.

In conclusion, it is likely that one of the most lasting innovations will be as pastoralists come to ‘own’ conservation action on their own lands. This has the prospect of shifting conservation from an idea imposed from the outside by environmentalists to an entirely new venture, aligned with pastoral culture and livelihoods.

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