

The benefits of pastoralism for biodiversity and the climate

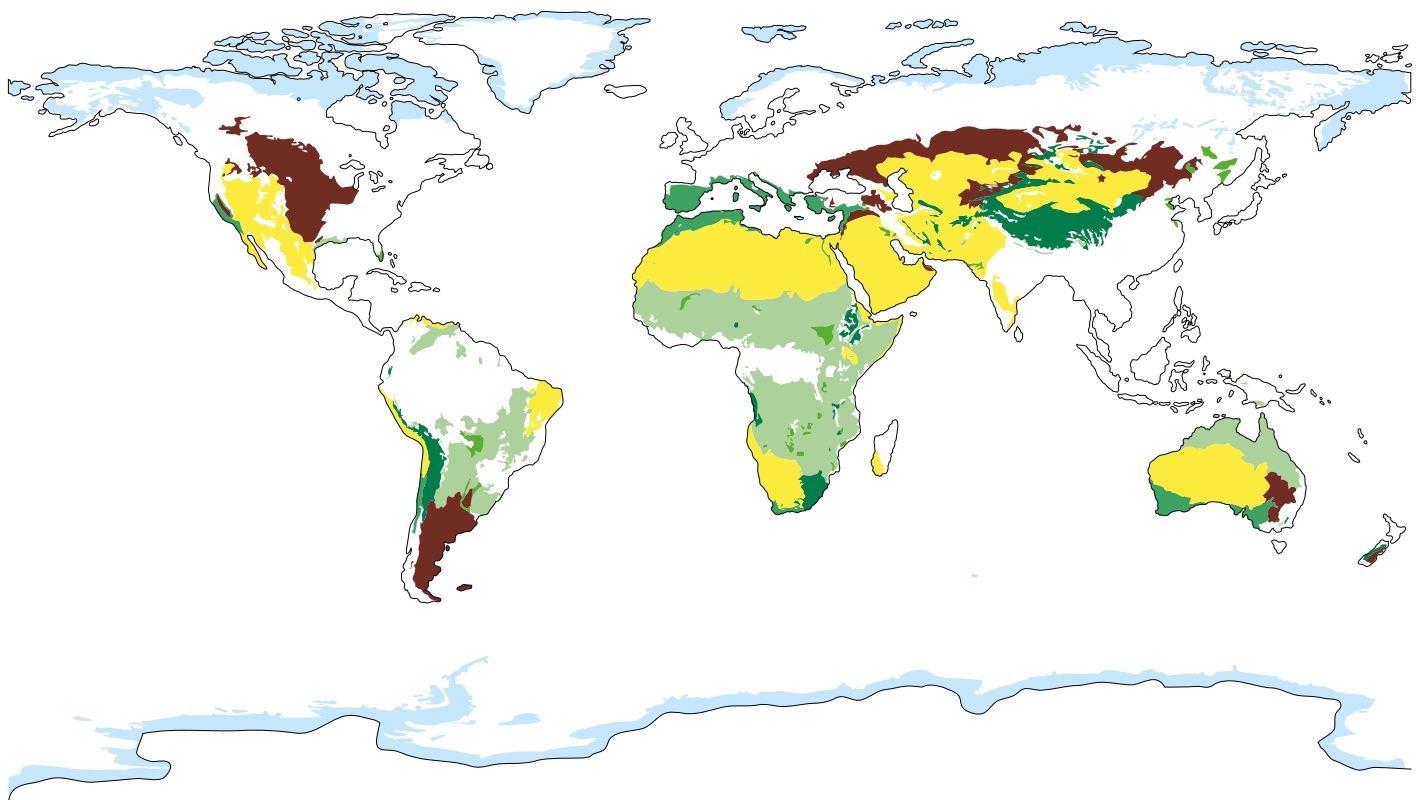


Livestock can be good for the environment. It depends on which livestock, where. Pastoralism – the system of often mobile, extensive livestock production on rangelands – can improve biodiversity, help sequester carbon and protect the environment. In the face of simplistic anti-livestock narratives, it is important to recognise the role of pastoral systems and pastoralists in addressing the linked crises of climate and biodiversity.

This set of six briefs argues for a positive vision for livestock and the environment. The briefs focus on pastoral systems in extensive rangelands, which cover over half the world’s land surfaceⁱ.

Distribution of rangeland types (ILRI et al. 2021)ⁱⁱ

Source: *Terrestrial ecoregions of the world*



	Deserts & xeric shrublands	27,984,644.64 km ²		Temperate grasslands, savannas & shrublands	10,104,079.63 km ²
	Flooded grasslands & savannas	1,096,129.62 km ²		Tropical & subtropical grasslands, savannas & shrublands	20,295,424.19 km ²
	Mediterranean forests, woodlands & scrub	3,227,266.28 km ²		Tundra	11,598,465.28 km ²
	Montane grasslands & shrublands	5,203,411.00 km ²		Total area in km ²	79,509,420.64 km ²

When advocating for the protection of 30 percent of the world's land for conservation by 2030 – as in the 30x30 campaignⁱⁱⁱ, which is very prominent in discussions for the 2022 biodiversity COP^{iv} – it is essential to recognise that it is local land users such as pastoralists who are the best conservationists. They must be central to the solution, rather than being excluded, marginalised and removed from ancestral lands in the name of 'conservation'.

The debate about livestock, biodiversity and the climate requires nuance and differentiation, rooted in solid evidence. It is clear that livestock production can be bad for the environment: examples are the destruction of the

Amazon by beef ranching or the production of soya, which is transported across the world for carbon-intensive industrial production systems. But not all livestock systems are the same. Extensively grazed, especially mobile, pastoral systems do not automatically cause 'desertification', as is sometimes assumed, but can enhance biodiversity and offer a low-carbon alternative to industrialised systems^v.

In sum, certain livestock production systems – notably pastoralism – can benefit the environment, and so pastoralists need to be central to the COP15 agreements on biodiversity.

WHAT IS PASTORALISM AND WHY IS IT IMPORTANT?

Pastoralism is a vitally important production system that involves millions of people. It is a low-impact system that makes use of highly variable rangeland environments where often no other production can take place. Pastoral production converts grasslands into high quality protein to

improve people's diets. In so doing, such extensive grazing systems generate livelihoods for poor and marginalised populations, and in turn can enhance the environment, including biodiversity.



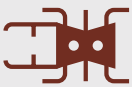
Pastoralism in Sardinia, Italy

POSITIVE ENVIRONMENTAL IMPACTS OF PASTORALISM



LOW CARBON IMPACT LIVESTOCK SYSTEMS

Pastoral systems can show neutral or positive carbon balances, especially for mobile systems that distribute manure/urine and incorporate it, adding to carbon cycling. Yet standard approaches to assessing climate impacts from livestock miss this, as the data comes from industrial systems. This distorts the debate, which often fails to differentiate between different livestock systems^{vi}.



ENHANCING BIODIVERSITY THROUGH LIVESTOCK USE^{vii}

Low intensity grazing with limited disturbance, as well as distributed high nutrient content patches across grazing lands, can enhance biodiversity. Over the landscape scale, transhumance can assist with seed dispersal and connecting biodiverse areas across regions. Removing livestock – as in exclusionary conservation or some rewilding approaches – can change grazing pressure and result in the invasion of particular species, reducing biodiversity, as well as undermining the conservation of rare species: for example, vultures (see *Brief 3 in this series*).



MANAGING OPEN ECOSYSTEMS

Livestock have long been important elements of 'open ecosystems'^{viii} – including savannas, parklands, moorlands, tundra and steppes – where trees and grasslands exist in a complex, changing dynamic. Such ecosystems do not exist in a single stable state: there is no 'pristine', original nature to 'restore'. Non-equilibrium dynamics mean that land degradation due to overpopulated animals is unlikely, as droughts or other abiotic events reduce populations^{ix}. However, such systems can be extremely vulnerable, unless managed well. For example, bush encroachment can destroy rangelands, while mass tree planting efforts are inappropriate in open ecosystems (see *Brief 2*). Such systems thrive on disturbance from grazing, but also fire. The build-up of dry matter can be catastrophic unless it is grazed (see *Brief 4*).



COLLABORATIVE CONSERVATION

Livestock and wildlife can co-exist, and always have done so, prior to the relatively recent insistence on protected areas and so-called 'fortress conservation'. After years when more collaborative conservation approaches have been emphasised, in some places we see a return to exclusionary conservation, which is often militarised and privatised. But these areas are not effectively protected without the participation of local people as landscape users. If livestock keepers are involved in collaborative conservation, pastoralists can act as protectors of nature, helping to enhance the value of wild landscapes (see *Brief 6*).



