Enhancing biodiversity through livestock keeping

Extensive livestock use can enhance biodiversity and support species conservation in multiple ways. Mobile pastoral systems can create bio-corridors through transhumance routes and disperse seeds, enhancing biodiversity across landscapes, for example. Mobile livestock also create fertile hotspots across rangelands, and livestock grazing is essential in reducing fire loads in vulnerable ecosystems.

Carefully managed grazing in extensive (especially in mobile) livestock systems is essential for biodiversity conservation in many ecosystems across the world. A major priority for COP15 must be to ensure that livestock keeping is central to biodiversity conservation plans. This briefing offers eight examples of how biodiversity conservation and extensive, mobile livestock keeping go hand-in-hand.

EIGHT EXAMPLES OF HOW PASTORALISM AND CONSERVATION CAN WORK TOGETHER

1. Mobile grazing both responds to and creates environmental variability. Deposition of dung and urine in particular patches can enhance soil fertility and encourage certain plant species. Concentrated fertility hot-spots – for example around shade trees or water points – are complemented by distributed patches of higher fertility across the rangelands, which are essential for vegetation diversity[i].

2. Light disturbance of grass and soil through grazing and trampling by animals can enhance plant species biodiversity. Mobile grazing allows patches to regenerate following intensive use. A grazed grassland may contain a rich variety of plants, invertebrates and reptiles, in turn enhancing bird populations, for example[ii].

3. Movement across landscapes – for example through transhumance – can assist in seed dispersal, promoting biodiversity and plant conservation. Seeds may be transported over long distances on animals' coats and fleeces, as well as when ingested and then deposited in faeces[iii].

Transhumance routes in Spain and overlaps with biodiversity areas[v]

Source: Parks Journal

4. Transhumance routes are widely recognised as important bio-corridors, and they are crucial for species and landscape conservation: they increase the connections between protected areas and other biodiverse rich semi-natural environments *(see Figure 1)*. In many pastoral settings, long-standing networks of droving routes and transhumant migration paths have been vital for biodiversity over millennia[iv].

5. 'Key resources', which are vital for livestock feeding and watering, are also crucial for migrant bird populations. For example, in the West African Sahel, expansion and intensification of agriculture (e.g. through drainage and increased pesticide use) has affected pastoralism, but also decimated populations of over-wintering migratory birds by removing habitats and pesticide poisoning[vi].

6. Pastoral livestock systems protect important genetic material through the practices of pastoral livestock breeding. This does not aim to create a refined, optimised animal, but rather a herd or flock that can respond to and make use of highly variable landscapes. Pastoralists, as breeders, trainers and carers of animals, are vital for the genetic conservation of animal biodiversity. Active breeding *in situ* improves the ability to respond to environmental change. Pastoralists' breeding practices therefore have huge economic importance[vii].

7. Livestock and certain valuable 'keystone species' – species that are essential for ecosystem conservation – often live side-by-side. For example, in Europe, endangered vulture species are reliant on scavenging dead livestock carrion, while in India the rare Indian grey wolf is reliant on co-existence with pastoralism[viii]. However, co-existing with wild animals is not always easy. In Europe, reintroduced species such as bears and wolves have a large impact on livestock populations through predation, generating conflicts with pastoralists[ix].

8. Grazing by pastoral livestock is essential for the removal of dry biomass and the suppression of hot and dangerous fires in the Mediterranean region. Declining pastoral populations have been associated with the increase in highly damaging fires across the region *(see Brief 4)*.

As COP15 aims to develop a global pact to protect the world's biodiversity, livestock keepers across the world, especially mobile pastoralists, must be at the centre of the discussion. These eight examples show how important livestock keeping can be to meeting biodiversity conservation goals.

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PASTRES Pastoralism, Uncertainty, Resilience

erc European Research Council

ILRI International Livestock Research Institute CGIAR

WAMIP World Alliance of Mobile Indigenous Peoples

Rangelands Initiative Global

Find out more

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