

# EXTENSIVE LIVESTOCK PRODUCTION AS A MEANS OF CONSERVATION FOR RANGELAND BIODIVERSITY

## EXTENSIVE LIVESTOCK VS PASTORALISM

Extensive livestock production, or extensive animal farming, is a low-input production system mostly relying on natural or seminatural grasslands<sup>1</sup> (Jenet et al., 2016). These systems are globally widespread and often linked to specific traditional societies and indigenous people. According to some estimates, extensive livestock production occurs on 25% of the world's land area<sup>2</sup>.

The term “pastoralism” has not a clear, agreed-upon definition. It is important to make a distinction between **management systems**, that imply a tight control over herd movements and therefore grazing intensity, as opposed to free ranging animal farming (*pascolo brado* in Italian), that can easily lead to neglect of basic animal welfare conditions (the animals are left to themselves, not promptly cared for in case of illness and injury or lack of food, water or shelter), with serious epidemiologic risks linked to zoonoses, car accidents and uneven grazing pressure (e.g. herds tend to gather near water sources and shade in summer time), resulting in over/under-grazed areas, both negative for biodiversity conservation.

For the purpose of this document, and taking into account the specific characteristics of this activity in Italy, we will refer to “**pastoralism**” as a model of animal husbandry involving a constant human presence, to provide the herds with guidance and protection from predators, where relevant. On the other hand, some extensive production systems rely on free ranging herds over wide areas, in which the human intervention is limited to fencing and occasional checks; we will keep the more general term of “extensive livestock production” for these situations. There aren't reliable statistics about which proportion of livestock is kept under a pastoral management as opposed to raised intensively, but permanent meadows and pastures account for more than 25% of the Utilized Agricultural Area in Italy<sup>3</sup>.

## THE BIODIVERSITY OF OPEN HABITATS

Animal and plant species adapted to open habitats depend on the conservation of these largely neglected ecosystems; in areas where pastoral societies have been established since long time, even secondary grasslands can host species of remarkable conservation value, including endemic species. Grassland ecosystems are globally threatened from agricultural conversion and intensification of production, that leads to biodiversity loss. On the other hand, more marginal lands, unsuitable for agriculture and historically used for grazing are facing a decrease in the grazing intensity, that is leading to shrub and woodland encroachment and, once again, to biodiversity loss. The decline of pastoralism is associated with the decline of several species of conservation concern, and it is officially recognized as a threat to their conservation (e.g. the decline of soil arthropods can affect some bird species because of the lower food availability of grasslands that are less often grazed than it used to be. Other species' decline related to reduced

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<sup>1</sup> Jenet A. *et al.*, 2016. The path to greener pastures. Pastoralism, the backbone of the world's drylands. Vétérinaires Sans Frontières International (VSF-International). Brussels, Belgium.

<sup>2</sup> Follet, R.F., and D.A. Reed. 2010. Soil carbon sequestration in grazing lands: Societal benefits and policy implications. *Rangeland Ecology & Management* 63:1, 4–15 DOI: 10.2111/08-225.

<sup>3</sup> ISTAT dataset, 2019.

grazing include Mediterranean dung arthropods (according to an IUCN report issued in 2020<sup>4</sup>) and even mountain stream fauna<sup>5</sup>.

The disappearance of shepherding practices and traditions result also in a permanent loss of immaterial cultural heritage.

A relevant proportion of biodiversity in Italy is strongly linked to the open habitats created by local communities through millenary subsistence farming: mosaic mixed farmlands, secondary meadows and pastures, coppice woodlands.

The most renowned area of relationship between pastoralism and conservation is the conflictual relationship triggered by the presence of **large carnivores**. In Italy, we must acknowledge that the availability of domestic livestock contributed to support Apenninic wolf's survival through the worse times of its recent history (the 19 70s and '80s), and the same can be said also on other top predators and scavengers. In the following decades, as reintroductions of wild ungulates succeeded, the pressure towards livestock decreased. Since early days, conservation policies had to enter into dialogue with the shepherding world, to facilitate coexistence through compensation of damage and livestock protection (fences and Livestock Guarding Dogs, LGDs). It has to be acknowledged that the presence of large carnivores imposes relevant economic constraints to pastoralism, that sum up with structural disadvantages linked to CAP mechanisms; the burden of the costs of coexistence must not fall solely on the shoulders of livestock farmers.

## CULTURAL HERITAGE

Another remarkable social and cultural feature that is associated also with pastoralism is the survival institution of **collective properties**, also known in Italy as *Usi Civici* (Commons). These are ancient law institutions, dating back to feudal ages, that granted special rights of use to the members of a community for subsistence reasons, regardless of the land property. Shepherds that belong to communities endowed with civic pastures can graze their flocks at a very low fee, and the survival of this special kind of land tenure is of great importance for the survival of mountain pastoralism.

## A SOCIO-ECOLOGICAL SOLUTION TO GLOBAL CHALLENGES

Grazing has also an important role in increasing carbon content in the soil, by speeding up the carbon cycle through the digestion of cellulose in herbivore's guts, and in feeding the soil fauna and flora. "Carbon credits" deriving from documented carbon sequestration processes in the soil can generate an additional revenue stream.

Supporting pastoralism seems therefore necessary from a multidisciplinary perspective; what is complex to achieve is really to support a pastoralism that may in turn support biodiversity. Intensification is often seen as the only way to make a farming activity more economically viable: stable-bred sheep in the lowlands are presently the main source of commercial low-cost lamb, which in turn makes it even more difficult for highland farms to carry on lamb production in a pastoral system that has indeed higher costs. Sometimes, product-based incentives, such as DOP or IGT, without a suitable regulatory framework that specifies conditions of production, can have a negative effect, as they rather push for intensification instead of better shepherding management.

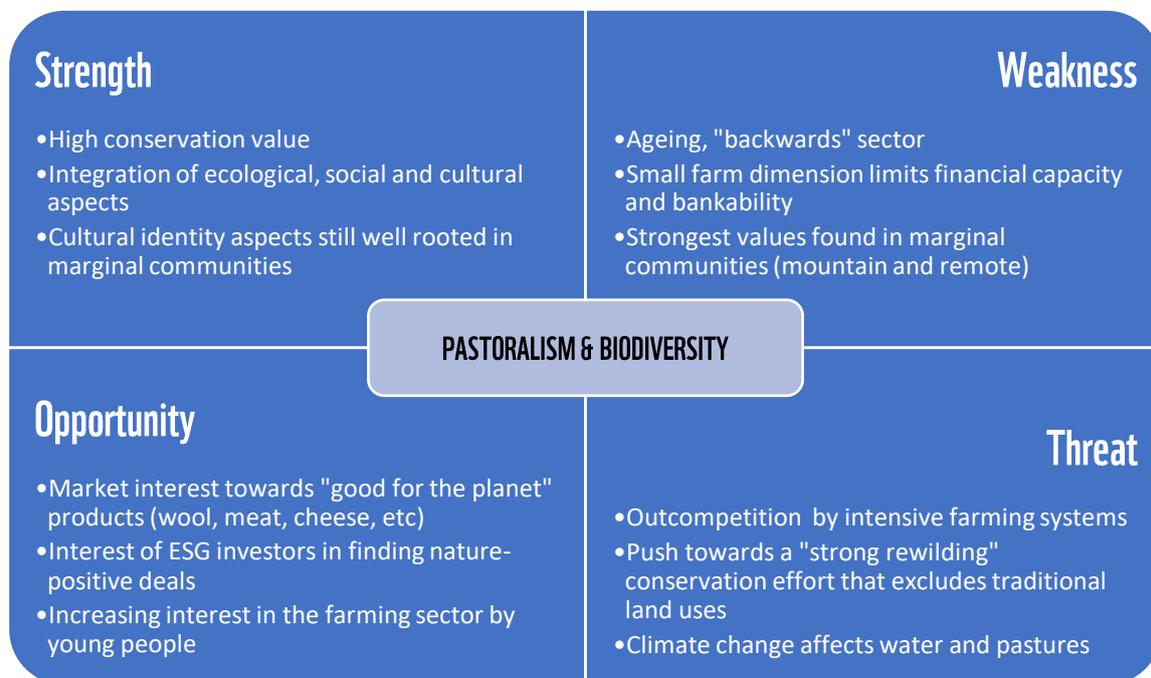
Shepherds and their flocks provide highly valuable ecosystem services to a wide variety of species and to landscape conservation, but in doing so face higher costs and risks, and unfair competition

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<sup>4</sup> Numa, C. *et al.*, 2020. The conservation status and distribution of Mediterranean dung beetles. Gland, Switzerland and Málaga, Spain: IUCN

<sup>5</sup> Scotti A. *et al.*, 2020. Effects of land cover type on community structure and functional traits of alpine stream benthic macroinvertebrates. *Freshwater Biology*, 65, 524-539.

from similar businesses with lower or no positive impact. It is therefore of vital importance, for biodiversity conservation, to identify specific financial pipelines that give an economic advantage only to “biodiversity friendly” pastoralism rather than, generically, to animal farming, and avoid generalist claims that may have no effect or even worsen the situation.



## HOW TO SUPPORT NATURE-POSITIVE PRODUCTION SYSTEMS?

- If you choose to include meat in your diet, please seek meat from extensively-reared animals! Direct purchase on farm or via farmers’ associations and markets can be one way of ensuring that most of the value added of the product goes to extensive production systems.
- Also cheese and wool can be products of pastoral systems that consumers might want to choose. When produced locally, they multiply the value added that returns to the pastoral community.
- There is a need for more information on label on the herd management systems, to enable consumer choices. Labelling pastoral products as such can be a simple way of supporting them. Not all DOP products include rules about livestock origin or management.
- A continuous dialogue among pastoralists’ associations, conservationists’ associations and government must be encouraged, in order to overcome divergencies and pursue the common goals.