

AGRO-PASTORALISM AND HUSBANDRY

The role of animal integration in local and national food systems



Abstract

Historically, hardly any farming could function without animal integration. Today, animal husbandry still plays a role in most farming systems, albeit with varying significance and intensity. Moreover, for vast stretches of land on all continents, animal ranching or pastoralism is the only ecologically sustainable form of land use (apart from national parks, lately carbon sinks), and, as a centuries-old way of living and providing livelihoods, transhumance – the seasonal mobility of livestock and herders – was even adopted in the UNESCO list of immaterial cultural heritages in 2019.

However, despite its recognised importance for rural economies and livelihoods, animal husbandry is increasingly coming in for criticism. The issue here is above all its interaction with climate change, excessive exploitation of natural resources owing to non-sustainable production methods, health aspects in the context of unhealthy consumption patterns and animal-borne diseases, and, last but not least, animal welfare aspects. Whereas calls for a general restriction of animal husbandry are on the increase in politics and civil society in the Global North, many governments in the Global South want to curb nomadic husbandry and related ways of living. Welthungerhilfe is campaigning for recognising locally well adapted nomadic and semi-nomadic as sustainable livelihood systems and promotes economically and ecologically viable production of animal products in accordance with ambitious animal welfare standards and environmental resources (e.g., the size of herds should correspond to local sustainability limitations). However, also nomadic ways of extracting eco-resources must gradually change to balancing extraction with protection of natural regeneration and limited inputs for stability.

Animal husbandry plays a crucial role for rural economies. Food gained from animals is a rich source of protein and of essential micronutrients (like iron, calcium, Vit B12), needed for a healthy life, but often lacking in rural diets, with widespread negative health consequences especially for women and young children (cf. Section on nutrition). The integration of livestock rearing into family farms therefore contributes to a balanced diet at household level. Furthermore, animals are an important source of natural fertiliser for crops and hence also for functioning nutrient cycles and soil fertility. They provide traction and are a means of transport, which allows people in remote areas and under unfavourable conditions to have access to markets. In addition to value-chain development and risk diversification aspects, livestock are an invisible safety net, serving as a savings strategy and insurance. Moreover, animals are often of cultural importance (dowry for marriage, gifts to friends, etc.); they show the social status of their owner and contribute to mental wellness.

For most farming smallholder units in developing countries, animals are complementary to agricultural land use (cf. Section on agriculture). But there are vast regions that are not suited for crop production. Here, animal production remains the chief source of livelihood for the (agro-)pastoralist communities. A major share of the areas they use is arid and semi-arid land (ASAL). Drylands cover over 40% of Earth's land surface, provide 44% of the world's cultivated systems and 50% of the world's livestock, and are home to more than two billion people (Dryland Systems 2021). These are not all pastoralists, but their primary production relies heavily on animals' utilisation of dryland vegetation. In sub-Saharan Africa, 62 per cent (including dryland forests and hyper-arid zones) of the land surface consists of such areas, and 286 million people live in them, not counting larger cities. The role of these lands as well as the role of (agro-) pastoralism in national economies is often underestimated. Here, animals are the glue that cements the pastoralist bonds – through their role in marriage, ceremonial activities and as compensation for aggrieved parties. In some places, moving herds are indispensable for the fertilisation of agriculture, and there

are long-standing agreements between pastoralists and farmers.

By grazing, the livestock removes the excess forage (grass and shrubs that could otherwise burn in bushfires), stimulating the growth of new pastures while maintaining the critical soil cover. The role of ASAL for carbon sequestration is tremendous. It is estimated that improved livestock rangeland management could potentially sequester a further 1,300-2,000 million metric tons of carbon dioxide by 2030 (IUCN 2017). On the other hand, climate scientists predict that global drylands will expand by up to 10% under a high greenhouse gas emission scenario by the end of the 21st century, with as much as 80% of this expansion occurring in developing countries (cf. Section on climate). Adaptation to drylands thus gains a high relevance for development and food and nutrition security strategies (IUCN 2019).

However, the very elements of (agro-) pastoral food systems – soil, water and vegetation – are increasingly under threat. While climate change with its varying rainfall patterns and recurrent droughts is causing shrinking vegetation cover and water retention, exposing soils and aggravating erosion, and hence the loss of topsoil, the number of severe bushfires has risen over the past few years. At the same time, the ferocity of rains has risen, resulting in water not having enough time to infiltrate and be available for the vegetation – a vicious circle for which there are further reasons alongside climate change. For example, the excessive use of vegetation for firewood and charcoal causes it to shrink, while free herding threatens not only the sensitive ecosystems located particularly in ASAL, but also leads to conflicts with sedentary farmers.

Further elements threatening the sustainability of food systems in ASAL include the underdeveloped road and storage infrastructure as well as lack of market information. Traditional animal husbandry in ASAL does not include end-fattening for securing good prices; animals' slaughter weights depend on the prevailing forage situation only. The milk sales are similarly non-elastic (cf. Section on rural economy). Whatever milk is produced is sold without delay at whatever price the market offers. Moreover, the proximity of livestock to humans, in connection with inadequate veterinary services, the lack of vaccination of animals and the tradition of consuming unprocessed or raw livestock products like milk and blood pose a high risk of transmission of zoonotic diseases, especially for young children (cf. section on water and sanitation). Infrastructure for health as well as education is also thinly spread, and often, a lack of public transport makes it unreachable. Furthermore, pastoralists are frequently regarded as a (security) problem and as leading a 'backward life-

style'; hence many governments are pursuing a sedentarisation policy.

Other than pastoralists, smallholder farmers can choose from a variety of crops and animals. Where space is a scarce and/or resource and fodder can only be obtained from the household waste or along the roadside, rabbits, chicken or other small animals may be the choice. Where capital for investment is a limiting factor, goats may be affordable, whereas a dairy cow may not. Stable-bound animal keeping is the solution where free grazing is not possible. Where markets for animal products are favourable, most agricultural land may be devoted to fodder production. In some areas, animal traction is economically advantageous. Other than a tractor investment, costs for draft animals are much lower, and they can be fed on non-commercial vegetation and produce dung.

WHH supports context-specific development pathways for pastoralists. In Somaliland, for example, WHH trains producer groups in hygienic milk production and facilitates better transport solutions to reduce the current 30% of milk spoilage and deliver healthy milk to customers. Additionally, the use of invasive *Prosopis juliflora* to produce a drought-bridging fodder is being explored.

Nevertheless, animal husbandry integrated in farming systems faces major challenges, too. Erratic and irregular rainfalls with increasingly frequent droughts on the one hand and floods on the other threaten harvests and hence also feed production, while new pests and diseases reduce yields of fodder crops and impair animal health.

Pastoralists often face competition for access to and use of resources (land and water primarily) not only with sedentary farming, but also with industrial land uses, urbanisation, tourism and nature conservation as well as land-grabbing for the sake of investment (cf. Section on Land). The challenge for governmental institutions and development organisations is to promote the reconciliation of customary systems with formal, statutory regimes without losing the intrinsic flexibility pastoralism requires.

Policies to strengthen food systems in smallholder settings must recognise the value of animal husbandry for ecological sustainability, income of rural smallholders and human nutrition. Farming systems must be promoted where animals complement but do not compete with or undermine agricultural production. Livestock keepers should be supported to make use of technical, biological and economical innovations, for example via ICT (e.g., mobile apps), optimising feeding and breeding, or by joint marketing/processing institutions.

We should, however, be wary of glorifying pastoralism or any other form of animal husbandry. In some

pastoral areas, it is not local pastoralists, but 'absentee animal lords' who are possessing large herds that are taken care of by local herders. They have little interest in the long-term ecological balance of livestock and natural vegetation. Even large-scale burning down of perennial vegetation for grass

is often happening in sub-humid and humid ecozones. Also, traditional pastoralists may tend to overstock, where the cultural importance of large herds is dominating or alternative forms of investment are missing. Only the close look at any given situation can tell which destruction or sustainability

Welthungerhilfe's involvement in relation to animal integration in food systems:

- Together with smallholder farmers, we analyse which types of animals best complement the existing or potential farming system and household nutrition patterns, which animal products are marketable and which bottlenecks exist to enhance the family farm's productivity and cash return or the families' nutrition. We organise farmer-to-farmer visits to promote proven innovation and link producers to markets.
- WHH supports the setting up of appropriate infrastructure for the marketing of milk, meat and other animal products under special consideration of food safety and hygiene conditions as well as safeguarding animal welfare and human health aspects.
- In many arid and semi-arid areas, we run projects that focus on the stabilisation and improvement of rangelands and pastoral economies: clean water, protected rangelands and healthier animals help to secure prosperous and resilient communities and contribute to maintain or improve ecological balance.
- We promote animal feed production and storage to complement forage in regular dry seasons and to buffer droughts for climate change resilience.
- WHH's integrated projects aim at strengthening the resilience of pastoralist communities regarding rangeland aspects as well as institutional improvements to mitigate resource conflicts and establish security. This includes support and training for political empowerment, so that pastoral men and women actively participate in societal development issue of their countries.

Welthungerhilfe's demands in relation to pastoral and animal-integrating food systems:

- Governments must respect the socio-cultural value which animal husbandry has in many communities; hence, it should be integrated in the policy agendas on food and nutrition security, income generation of the rural poor as well as environmental sustainability. The continuous sensitisation on the safe handling and utilisation of livestock and animal products could prevent health problems of animals and humans, and the transmission of zoonotic diseases. It would allow the realisation of the full performance potential of the animals while respecting animal welfare norms.
- Animal integration and animal-based economies hold a major potential to contribute effectively to sustainable food systems. If they are to benefit from this potential, an adequate structural and political framework needs to be set up.
- Especially the strengthening of food systems in arid and semi-arid settings must consider safeguarding and improving basic natural resources – soils, water and vegetation. This includes area protection and appropriate rangeland management, also with regard to soil and water conservation, vegetative enrichment, identification of major threats to vegetation and community-driven legally binding regulations which are properly enforced. Given the large areas producing comparatively little output, measures in soil, water and vegetation preservation must be supported by public investments.
- Increasing production, productivity and marketing comprises economically and ecologically viable herd size, sustainable fodder production and storage to buffer droughts, including the respective training; use of productive fodder plants and under-utilised fodder resources; training in animal health; support for adequate

breeding programmes; transparent market information systems; access to credits to withhold animal sales at unfavourable times; support for cooperative marketing and transport of animals to markets; investments and training in milk, meat and leather processing to reduce losses and ensure food safety and buffer market fluctuations; better management of slaughterhouses and milk collection/processing; and improvement of key transport routes to improve terms of trade.

- National and international policies must recognise the specific needs and respect the cultural rights of the pastoral communities. This means reversing the state of underrepresentation of these communities and enabling them to have a greater say in national decision-making and resource allocation. A self-determined and peaceful way of living for pastoral communities (including access to education, health, veterinary services and a nutritious diet) must be promoted.

References

IUCN (2019): Drylands and Climate Change. IUCN, Gland, September 2019. <https://www.iucn.org/resources/issues-briefs/drylands-and-climate-change>

Dryland Systems (accessed 11/2021): General Facts. ICARDA. <http://drylandsystems.cgiar.org/facts/general>

IUCN (2017): Drylands and Land Degradation. IUCN, Gland, June 2017. <https://www.iucn.org/resources/issues-briefs/drylands-and-land-degradation>

FAO (2016): Improving governance of pastoral lands. Governance of Tenure Technical Guide 6, Rome

This section is an excerpt of the WHH Position Paper Rural Development. Please also consult all other sections at www.welthungerhilfe.org/position-paper-rural-development

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