



LIVESTOCK AND LANDSCAPES



DID YOU KNOW?

ENVIRONMENT



Twenty-six percent of the Planet's ice-free land is used for livestock grazing and 33 percent of croplands are used for livestock feed production. Livestock contribute to seven percent of the total greenhouse gas emissions through enteric fermentation and manure. In developed countries, 90 percent of cattle belong to six breed and 20 percent of livestock breeds are at risk of extinction.

SOCIAL



One billion poor people, mostly pastoralists in South Asia and sub-Saharan Africa, depend on livestock for food and livelihoods. Globally, livestock provides 25 percent of protein intake and 15 percent of dietary energy.

ECONOMY



Livestock contributes up to 40 percent of agricultural gross domestic product across a significant portion of South Asia and sub-Saharan Africa but receives just three percent of global agricultural development funding.

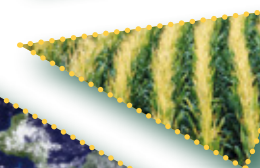
GOVERNANCE



With rising incomes in the developing world, demand for animal products will continue to surge; 74 percent for meat, 58 percent for dairy products and 500 percent for eggs. Meeting increasing demand is a major sustainability challenge.



Agricultural land used for
LIVESTOCK PRODUCTION



Agricultural land used for
OTHER AGRICULTURAL PRODUCTION





WHY DOES LIVESTOCK MATTER FOR SUSTAINABILITY?

- The livestock sector is one of the key drivers of land-use change. Each year, 13 billion hectares of forest area are lost due to land conversion for agricultural uses as pastures or cropland, for both food and livestock feed crop production. This has detrimental effects on regional water availability, soil fertility, biodiversity and climate change. Furthermore, 20 percent of the world grasslands are degraded; this trend is increasing, mainly due to intensified animal density per area.
- Ever-increasing intensification of livestock production based on concentrate feed adversely affects animal health. In industrial livestock production systems, mortality increases, longevity decreases and disease outbreaks and pandemics are more frequent. Animal welfare and health are key to steadily improving livestock production as diseases can decrease livestock production efficiency by up to 33 percent.
- As livestock density increases and is in closer confines with wildlife and humans, there is a growing risk of disease that threatens every single one of us: 66 percent of the emerging diseases in humans have animal origins and one or two new diseases emerge every year. Hormones and antibiotics used in industrial meat production and excess meat consumption also affects human health. Improving livestock husbandry increases animal efficiencies and protect human health and livelihoods.
- Globally, there is enough cropland to feed 9 billion in 2050 if the 40 percent of all crops produced today for feeding animals were used directly for human consumption, while available grasslands were more efficiently used as the basis for livestock feed. Grassland-based and mixed crop-livestock systems optimize nutrient and energy cycles, while encouraging the use of rare livestock breeds that are adapted to low-input and harsh environments. This is crucial in a context of climate change and increasing variability.





HIGHLIGHT

OPTIMIZING CATTLE GRAZING LAND UTILIZATION IN NAMIBIA

The Springbockvley farm in Namibia demonstrate how cattle can utilize marginal grasslands to provide food for human nutrition and contribute to food security. The farm has about 10 000 hectares. It is located in an area with 260 mm average annual precipitation, which is however highly variable between 60 and 680 mm per annum. The area has an average production capacity in the region and can supply livestock feed for both cattle and sheep. There are three herds with up to 300 small cattle and 2 000 sheep and one with 100 cattle and 500 sheep.

The farm is run with a management system that focuses on sustainable resource use, biodiversity, profitability and the well-being of people. This “holistic management” approach includes a detailed time plan to move the herds between the various plots of the farm, depending on the nutrient needs of the animals, the size and livestock feed quality of these plots, and other factors such as soil conditions, breeding seasons, marketing, etc.

These movements of animals also serve to break the lifecycle of parasites, thus minimizing parasite problems. Generally, the time plan aims at meeting animal feeding needs and the need to prepare soil surfaces for the rainy season at the same time. Each season, the time plan is newly designed to optimally meet actual conditions.

This sustainable resource management resulted in increasing stocking rates to 40kg live animal mass per hectare in 2011; this is much more than the regional average. Total animal numbers amounted to 800 Nguni-cattle and 4500 Damara-sheep in 2012. Since 1997, farm income has continuously improved with expenses at only a third of the income. This performance is based exclusively on the resources present on the farm.





PRODUCERS

- Promote livestock systems fed on grasslands and mixed crop-livestock systems.
- Reduce concentrate feed in livestock production.
- Support a focus on animal health that aims at avoiding diseases by adequate rearing, feeding and production conditions.

CONSUMERS

- Consume meat and dairy products from animals reared on grasslands.
- When available, eat organically-grown livestock products.
- Eat less meat.

HOW CAN YOU HELP?

FOOD INDUSTRY

- Ask suppliers how animals are fed and give preference to products from grassland-based systems and organic products.
- Implement sourcing strategies that support grass-fed livestock and mixed crop-livestock systems.
- Inform consumers on origin of products and production methods of livestock products.

POLICY-MAKERS

- Support managed grasslands by area payments or payments for ecosystem services.
- Reduce subsidies for chemical fertilizers and concentrate feed.
- Regulate stocking rates on grasslands and the use of medicines, antibiotics and hormones in livestock production.

RESEARCH REQUIREMENTS

- Estimate how much extensive grass-fed cattle systems contribute to food security, livelihood and other global goods.
- Estimate how much meat can be produced globally without feeding concentrate feed, including reorganized pig and poultry husbandry.
- Identify existing barriers (socio-economic, cultural, political) preventing a change towards more mixed crop-livestock and grassland-based animal production.



Through the Gridded Livestock of the World database, FAO provides detailed information on livestock production systems globally. Going further on mixed production systems, the Sustainability and Organic Livestock model (SOL-m) will be the first global land use model to comprehensively assess how these systems can address global food security.

For more details: www.fao.org/nr/sustainability/sustainability-and-livestock