Livestock - its role in our economy and ecosystems

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The main output of livestock in agriculture is animal-sourced food. This makes a big contribution to global food and nutrition supply, particularly protein. Animal-sourced foods are sources of high-quality protein, and are also excellent sources of highly available minerals and vitamins and various bioactive components (taurine, creatine, camosine, conjugated linoleic acids). Livestock are also an important part of the agriculture sector, representing 40% of the total turnover The value of livestock production in Europe (EU-28) in 2017 was estimated at 170 billion euros, and it employs approximately 4 million people. The wide distribution of livestock in rural areas makes livestock an important contributor to the economy and vitality of rural communities.

The output of animal-sourced foods makes livestock an essential part of the global food system. Together with crops grown for food and feed production, they give circularity to our food system, which is essential for soil health, and is helpful to optimise the use of available resources. Where this circularity is challenged or absent due to an excess of crops or animals in a region, the system can come under pressure with impacts on water quality, biodiversity or soil health.

A diversity of livestock systems is important for resilience of the livestock industries, the food they supply and the overall food system. A diversity of livestock systems allows production to be optimised to local conditions, and provides a range of animal sourced foods which are diverse in aspects such as cost to consumers, taste, nutritional value and versatility for meal preparation.

Sustainability (economic, environmental and social) is a key consideration in to-day’s food systems. The contribution of livestock production to climate change receives much attention. Still, environmental sustainability has many other considerations: water quality, biodiversity, circularity (e.g. the return of animal manures to the areas where their feed is produced), soil health, the ratio of human edible food: human non-edible feed in the diet of livestock, antibiotic and pesticide usage, animal welfare. This results in a complex landscape with several interconnections, benefits and trade-offs, and livestock’s contribution to environmental sustainability cannot be easily assessed using a single-dimension analysis such as a life cycle assessment of its carbon footprint. A multi-dimensional assessment is needed, and livestock can contribute positively to most of the dimensions outlined above, but the contribution can also be negative in the wrong circumstances (e.g. a manure surplus due to overstocking causing water pollution).

While food is the main output of livestock production, livestock are much more than food. Other products from livestock production include hides, wool and hair, offals and other by-products like collagen and gelatin, foods with enhanced nutritional effects, compounds used in medicine such as insulin, heparin and hyaluronic acid, manures for fertiliser and fuel (e.g. biogas), biodiversity and landscape and fire management, contributions to culture and wellness as well as being an integral part of vibrant rural communities in many regions. These products, together with food, illustrate that livestock play a very important role in our economy and our ecosystem.