



# Animal Husbandry & Health

## Context

There are around a billion livestock farmers in developing countries alone. These include 600 million landless farmers and smallholders who just keep a small number of chickens, goats or pigs, but also (semi-)nomadic pastoralists who keep herds of ruminants on marginal sites. Primary target group of German development cooperation are those whose livelihoods are threatened by the increasing industrialisation of animal husbandry. As a global average, livestock farming accounts for 40% of agricultural gross national product (GNP) and 5% of total GNP, yet it receives only 2.5% of the funding officially available for development cooperation in the agricultural sector.

### Animal husbandry – crucial for food security and poverty reduction

According to forecasts by the Food and Agriculture Organization of the United Nations (FAO), demand for products of animal origin will double by 2050, mainly due to growing demand in the Global South. Animal husbandry is therefore a significant topic for development policy in the context of food security (particularly for vulnerable groups) and is considered as an important way out of poverty. In sub-Saharan Africa, for example, it contributes to securing a livelihood for around 80% of the households classified as poor. To ensure that this increase in demand goes hand in hand with the development of a socially sustainable, resilient and environmentally friendly livestock sector, the right measures need to be taken and appropriate framework conditions created.

While earlier approaches often focused on increasing yields by using high performance breeds and agricultural inputs, the emphasis now lies on achieving the Sustainable Development Goals (SDGs). Animal husbandry can contribute to every single one of the 17 SDGs. Appropriate develop-

ment measures include fostering farmer organisations and networks, strengthening agency and negotiating capacities, and establishing a decentralised processing infrastructure and short value chains. The (legally) guaranteed access to land and other resources and to well-functioning veterinary services is of vital importance. Animal welfare is also an increasingly relevant aspect. Measures that address these issues not only contribute to poverty reduction but also to sustainable livestock farming and to food security through healthy products of animal origin. This kind of animal husbandry is not only an important part of the agroecological transformation process but also makes a key contribution towards implementing the One Health approach, which takes into account the complex interdependencies between human, animal and environmental health.

### Animal husbandry and climate

Livestock farming is a major contributor to climate change: around 14.5% of all anthropogenic greenhouse gas (GHG) emissions and 80% of GHG emissions from agriculture are attributed to this sector. The primary sources are intensified commercial livestock systems (above all in the meat and dairy sector), mostly in industrialised countries but also in certain emerging economies. The increasing demand for products of animal origin and the expansion of livestock farming in developing countries mean that emissions will increase there as well. It is especially methane emissions from ruminant livestock which are a particular cause for concern. On the other hand, it is precisely these livestock species that offer the best option for adapting to higher temperatures and droughts. Furthermore, pastures and rangelands are an important carbon sink and hence need to be protected and managed sustainably. FAO experts estimate that emissions could be reduced by up to 30% (and up to 41% in sub-Saharan countries) by using various climate-smart and low-emission livestock farming practices.

## Healthy animals – a key aspect of the One Health approach

All livestock farmers have an existential interest in ensuring that their animals are healthy (*Fig. 1a*). Better animal health can greatly improve the safety and quality of products of animal origin (especially milk, meat and eggs), increase productivity and reduce animal mortality. Pastoral societies have acquired in-depth knowledge about livestock diseases over generations and have developed their own classification, terminology and treatments. Basis for good animal health in agropastoral and pastoral systems is the use of local livestock breeds which are adapted to a particular location and which have developed a certain resistance to endemic diseases. This can considerably reduce the use of medication as well as the danger posed by antimicrobial resistance. However, for bacterial diseases such as tuberculosis and brucellosis, modern diagnostics and treatment approaches are required to combat them.

There are over 200 known types of infectious diseases worldwide which can be mutually transmitted between humans and other animals (both domestic animals and wildlife). Roughly 60% of all infectious diseases are of zoonotic origin and can be traced back to close contact between humans and animals and with products of animal origin. Around 80% of the zoonoses affecting humans are found in low and middle-income countries. The huge increase in livestock densities, above all of pigs and poultry, is considered to be responsible for the development of a large number of zoonotic diseases, such as bird flu, Nipah virus and swine flu. In order to prevent such zoonoses, general principles of hygiene are essential – primarily, but not only, in the food sector.



*Fig. 1a*

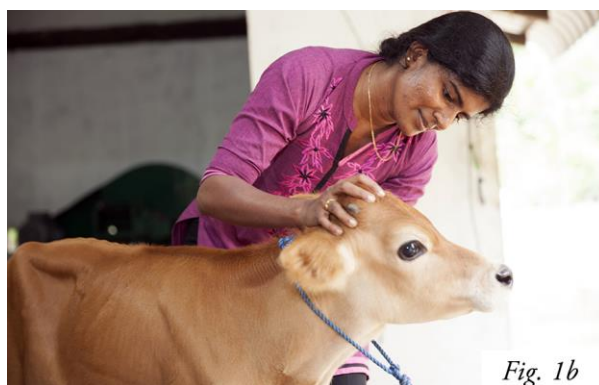
*Figure 1: Good veterinary care is important for the welfare and performance of the animals. It is therefore fundamental to a sustainable improvement in the income and nutritional status of the human population (a). Livestock farming and the processing and marketing of food products of animal origin also make a key contribution to enhancing the socio-economic independence of women (b).*

## Sustainable land management in pastoral systems

Pastures and rangelands that are not suitable for growing crops account for around half of the Earth's land surface area and two thirds of the agricultural land. By means of pastoral systems, these huge areas can be utilised to produce high-quality food without using fossil fuels and in an agroecological manner. As this does not require soil cultivation, artificial fertilisers nor pesticides, the biodiversity of flora and fauna in these regions is particularly rich. Although there are frequent reports of conflicts between pastoralists and wildlife, there is a large number of examples of pastoral livestock farming making a successful contribution towards conserving nature. Highly dependent on the amount of precipitation (which varies from year to year), the yields produced in pastoral livestock systems are not consistent. Yields can therefore not be increased indefinitely – but pastoralists make best use of existing biomass to maximise production. They are thus regarded as specialists in making use of variability, and many experts believe that they are particularly well-equipped to adapt to climate change.

Pastoralism plays a vital role in the economy of many of the Least Developed countries (LDCs) in Africa. During the COVID-19 crisis, pastoral systems have proved to be more resilient than industrial and transnational value chains. Although pastoralism is often associated with land use conflicts and with overgrazing, FAO emphasises its importance as a form of food production in harmony with nature and stresses its potential for innovation. Other important aspects include the high protein efficiency and the role of pastoral systems in maintaining soil fertility by directly depositing manure on agricultural fields.

In contrast, the growing number of violent conflicts over resources between crop farmers and (semi-)nomadic pastoralists is becoming increasingly problematic. It is there-



*Fig. 1b*

fore necessary to promote participatory processes geared towards dialogue and to strengthen mutual trade relations.

## Role of animal husbandry in promoting gender equality

The majority of livestock farmers in LDCs are women, although only 10-20% of them have secure access to land. The roles and duties in livestock farming are often gender specific, with women mostly being responsible for processing and marketing milk and dairy products. As men often migrate to cities in search of labour, women stay in the countryside to take responsibility for livestock. Systematic improvement of animal husbandry and health can therefore contribute to gender equality. By owning livestock, women can generate their own income. In addition, the availability of products of animal origin ensures a supply of important nutrients for their own families. Women are also often successfully trained as Community Animal Health Workers (CAHWs), which makes an additional contribution to women's empowerment (Fig. 1b).

## BMZ activities

BMZ has recognised the growing importance of animal husbandry and health for human welfare and the economic development of its partner countries; it also sees the negative impacts caused by a livestock sector that is becoming increasingly intensified across the globe in terms of GHG emissions, water consumption, deforestation, degradation of natural habitats and the resulting loss of biodiversity and

ecosystem services. Under its initiative "One World – No Hunger" (*"Eine Welt ohne Hunger"*, EWoH), BMZ promotes measures to support sustainable livestock farming in more than 70 technical and financial cooperation projects in over 50 countries. In conjunction with the Paris Agreement, the 2030 Agenda provides the action framework to move towards sustainable and low-emission lifestyles and economic models. An explicit element in this context involves focusing on the weakest and most vulnerable members of society and leaving no one behind.

Particular attention is being devoted to sustainably improving the health, nutritional status and income of small-scale livestock keepers. However, animal husbandry also plays an increasingly important role in the context of peacebuilding and conflict prevention, in the area of climate change mitigation and adaptation, and in the protection of biodiversity. Animal health is also a key component in the BMZ initiative area "Health, pandemic response and the One Health approach". In addition to cooperating with relevant ministries in the partner countries, there is also a close collaboration with national and international research institutions, such as the International Livestock Research Institute (ILRI) within the Consultative Group on International Agricultural Research (CGIAR), e.g. on setting up a One Health Research, Education and Outreach Centre in Africa (OHRECA). BMZ is also involved in international multi-stakeholder initiatives such as the Global Agenda for Sustainable Livestock (GASL).

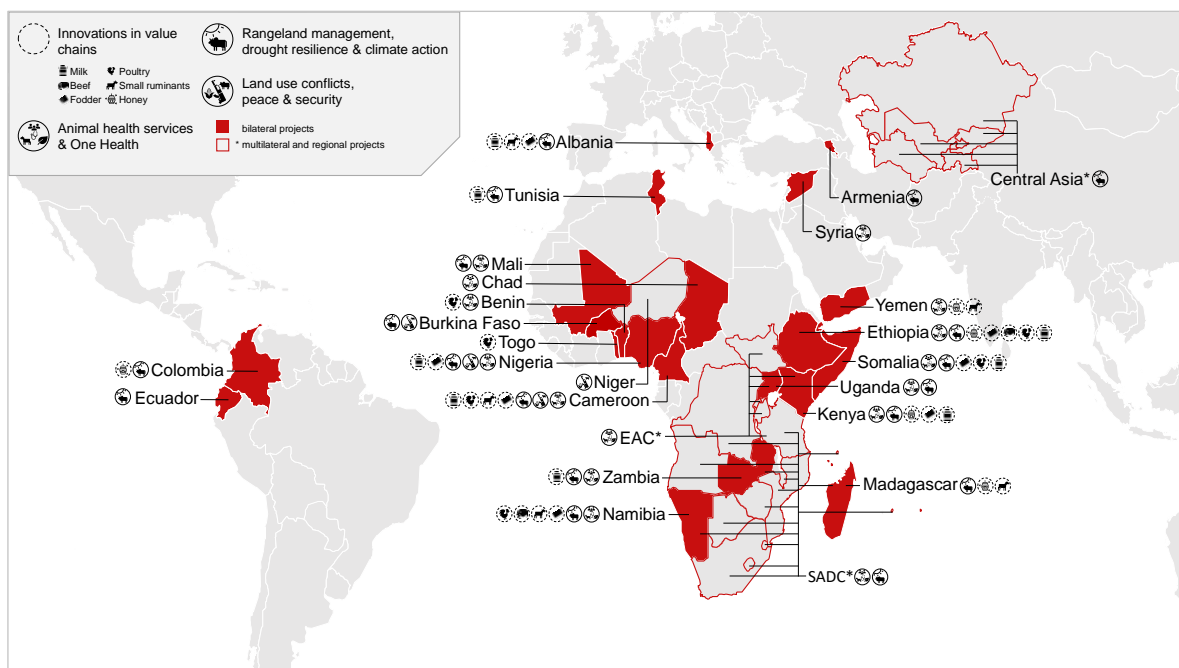


Figure 2: Ongoing livestock-related projects implemented by GIZ with the relevant priority topics (November 2020).

## Examples of our work

On behalf of BMZ, GIZ is developing and implementing innovative solutions and site-appropriate measures in numerous projects, mainly in Africa (Fig. 2). These projects aim at strengthening sustainable livestock farming practices and reducing negative impacts by and on these systems. Examples of the diverse approaches of German development cooperation can be found in the following projects:

In collaboration with national and international partners, the **global programme “Green Innovation Centres for the Agriculture and Food Sector” (GIC)** is promoting innovative approaches in the dairy sector in **Kenya, Tunisia and Zambia**, and in the poultry sector in **Benin and Cameroon** (Fig. 3). By implementing innovations in feeding as well as in animal health and hygiene, and by using digital solutions, the performance of dairy cows as well as of laying hens and broilers can be increased.



*Figure 3: By supporting the poultry sector in Western and Central Africa, the GIC contribute to improving incomes and increasing the availability of nutritious products of animal origin, especially for women and their families.*

In addition, private and public veterinary service providers are being trained and assisted to fit the needs of small-holder livestock farmers. As a supplementary measure, the

activities of the Green Innovation Centres in Cameroon, Kenya and Zambia focus on aspects related to animal health in line with the One Health approach, particularly on promoting and transferring knowledge on the safety and quality of food products of animal origin.

In **Mali** (Timbuktu region), the **global programme “Food and Nutrition Security, Enhanced Resilience” (ProSAR Mali)** is supporting pastoralists in herd management and fodder production. The project also builds and rehabilitates wells and water points to guarantee access to high-quality water for both humans and livestock. This enables pastoral livestock farmers to take better care of their animals during the lean season and hence to increase their household income. As a result, the population is less vulnerable to food crises.

In **transitional development assistance projects**, GIZ is involved in managing crises such as violent conflicts, natural disasters and epidemics. In **Nigeria (“Strengthening Capacities for Peace Building and Conflict Resolution in Nigeria’s Middle Belt” – PEACECORE project)**, GIZ is supporting conflict management between sedentary crop and mobile livestock farmers in Nigeria’s Plateau State. The aim of the project is to develop the capacity of state and civil society actors to de-escalate the conflict and to resume traditional trade and barter relations. In **north-western Somalia**, a further project (**“Improving Disaster Risk Management and Food Security to Strengthen Resilience in ”Somaliland”” – RDRM**) is supporting disaster risk management at federal institutions and promoting resilience, crisis prevention and food security among the rural (agro)pastoral population by improving livestock farming. In doing so, One Health is being established as an overarching approach.

**Further information:** [www.giz.de/en/worldwide/39650.html](http://www.giz.de/en/worldwide/39650.html)

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