European Commission

# EU Support to the Livestock Sector

*State of Play 2021*

*International Partnerships*

*Herd of Jersey cows in the Kwazulu-Natal Midlands, Africa*
*© Kar-man - stock.adobe.com*

**European Commission**
Directorate-General for International Partnerships
Rue de la Loi 41 – B-1049 Brussels
E-mail: intpa-f3@ec.europa.eu

**Internet**
https://ec.europa.eu/international-partnerships/home_en

# Table of Contents

# Setting the Scene

*As part of its communication material, the European Commission Directorate-General for International Partnerships (INTPA) relies on State of Play booklets, which provide a thematic focus on programmes and interventions related to Food and Nutrition Security and Sustainable Agriculture (FNSSA) implemented by INTPA F.3. Their purpose is to inform a wider audience of the EU's vision, approach and results on a particular subject. State of Play booklets are instrumental to communicate INTPA's position and serve a double purpose of capitalising thematic and technical knowledge while communicating on results. With the end of the Multi-Annual Financial Framework (2014-2020), it was considered necessary to update existing State of Play booklets and develop new ones to provide information on achievements and lessons learnt from programmes implemented over the period. As part of this initiative, this booklet discusses EU cooperation within the livestock sector.*

Livestock are a fundamental feature of human life on earth, dating back to the domestication of the major livestock species between 10,000 and 8,000 years ago. Currently, world populations of the most important species stand at 1.5 billion cattle, 1.2 billion sheep, 1.1 billion goats, 850 million pigs, 26 billion chickens, and 2 billion other domestic fowl.[1] The livestock sector supports an estimated 1.3 billion producers and retailers.[2] Livestock provide people with food, including important sources of protein and micro-nutrients, cash income, a form of savings and insurance, fertiliser and draught power for farms, fibres and skins, as well as being used to create and foster social ties.[3] In 2010 there were an estimated 431 million rural poor livestock keepers in the world, making up 15% of the total rural population of developing regions, including 13% of the rural population in South Asia, 27% in Latin America and the Caribbean, and 32% in Sub-Saharan Africa.[4] Older estimates suggest that livestock contribute to the livelihoods of 70% of the world's poor.[5] The livestock sector in developing countries also supports considerable numbers of farm workers and petty traders and processors, many of them also poor.

*Flock of goats in Ethiopia*
*© georgigerdzhikov - stock.adobe.com*

1 FAOSTAT figures for 2019: https://www.fao.org/faostat/en/#data/QCL

2 Herrero, M. et al. (2016). Greenhouse gas mitigation potentials in the livestock sector. Nature Climate Change, 6(5), 452-461.

3 Kitalyi, A, et al. (2005). Why keep livestock if you are poor. In E. Owen et al. (eds.) Livestock and Wealth Creation, Improving the husbandry of animals kept by resource-poor people in developing countries. Nottingham University Press, Nottingham. 13-28.

4 Robinson, T.P et al. (2011). Global Livestock Production Systems. FAO and ILRI, Rome.

5 Livestock in Development (1999) Livestock in Poverty-Focused Development. Livestock in Development, Crewkerne.

Much recent discussion of livestock has revolved around the idea of the Livestock Revolution, the rapid growth in demand for livestock products in developing countries, driven by population growth in general, urbanisation and the growth of a middle class with increasing ability to afford livestock products and other non-staples.[6] Between 1973 and 2013 per capita consumption of meat in developing countries tripled, and per capita consumption of meat doubled, with absolute increases of 161 and 281 million tonnes per year respectively. Corresponding increases in per capita consumption in developed countries were around 20% for meat and 10% for milk over the same period.[7]

There is debate on the extent to which the Livestock Revolution has been, or will continue to be, a unified phenomenon. Up to 2003 at least, growth in demand for milk and meat in developing countries with the exception of China was mainly attributable to population growth. Structural changes in diets were recorded at a regional level in South Asia (towards milk) and East and Southeast Asia (towards meat) were not in other regions where variations between countries were more important. Rapid rates of growth in livestock consumption occurred in East and South-east Asia, in Brazil and to some extent in India, but not generically across developing countries, and could not generically zdistinguish developing from industrialized countries.[8] More recent analyses project a slowing down of the trend in the developing world apart from Africa where it will continue strongly, driven primarily by urbanisation.[9] In Africa it can, given a favourable policy environment and adoption of productivity-enhancing practices, create market opportunities and improved livelihoods for smallholders and resource-poor livestock keepers.[10]

A focus on supposedly global increases in per capita demand for livestock products needs to be replaced by the identification of specific opportunities for development and poverty reduction through the livestock sector. This will include building on the importance of livestock in the livelihood portfolios of smallholders – FAO figures from 14 developing countries show livestock contributing an average of 15% of smallholders' total incomes, a more important share than agricultural employment or remittances. Livestock can be an important asset for resilience against external shocks such as drought, though economic analyses of this have reached diverse and location- and system-specific conclusions. Livestock have been rightly observed to contribute to all three of the fundamental rural livelihood strategies: "hanging in" to precarious livelihoods, "stepping up" to higher levels of market engagement, and "stepping out" towards non-agricultural livelihoods.[11,12]

*"More recent analyses project a slowing down of the trend in the developing world apart from Africa where it will continue strongly, driven primarily by urbanisation."*

The FAO report Livestock's Long Shadow[13] brought into focus another aspect of the global livestock sector – its negative environmental impacts, particularly but not solely its contributions to global warming through emissions of greenhouse gases (GHGs), now estimated at 14.5% of total global anthropogenic GHG emissions.[14] This contribution of the livestock sector to climate change has stimulated widespread public discussion of the need for transformative change including a sharp reduction in the consumption of livestock products, a discussion that needs to (but does not always) differentiate between the situations in developing and industrialised countries.[15]

*Cattle on confinement in farm on Brazil*
*© Andre Nery/ Shutterstock.com*

6 Delgado, C. et al. (1999). The coming livestock revolution. Choices, 14(316-2016-7248).

7 Latino, L. R., Pica-Ciamarra, U., & Wisser, D. (2020). Africa: The livestock revolution urbanizes. Global Food Security, 26, 100399

8 Pica-Ciamarra, U., & Otte, J. (2011). The 'Livestock Revolution': rhetoric and reality. Outlook on Agriculture, 40(1), 7-19.

9 Latino et al. (2020).

10 Mwangi, D. M., & Omore, A. (2004). The Livestock Revolution-a view on implications for Africa. In E. Owen et al. (eds.) Responding to the Livestock Revolution: The role of globalisation and implications for poverty alleviation. British Society for Animal Science Occasional Publication 33, Nottingham University Press, Nottingham, 51-65.

11 FAO (2018). World Livestock: Transforming the livestock sector through the Sustainable Development Goals. FAO, Rome.

12 Dorward, A. et al. (2009). Hanging in, stepping up and stepping out: livelihood aspirations and strategies of the poor. Development in Practice, 19(2): 240–247.

13 Steinfeld, H. et al. (2006). Livestock's Long Shadow: environmental issues and options. FAO, Rome.

14 Gerber, P. et al. (2013). Tackling climate change through livestock – a global assessment of emissions and mitigation opportunities. FAO, Rome.

15 Houzer, E. & Scoones, I. (2021). Are Livestock Always Bad for the Environment? Rethinking the protein transition and climate change debate. PASTRES, Brighton.

# Issues Related to Livestock Production

*Pastoralists in Arusha, Tanzania.*
*© Katiekk / Shutterstock.com*

## Livestock and Poverty

Figures on the worldwide numbers of poor livestock keepers, and the preponderance of livestock keepers within the larger category of the rural poor, have been presented above. These figures require us to understand who the different sorts of poor people (and people vulnerable to slipping into poverty) who keep livestock are, why they keep livestock, and how development cooperation in the livestock sector can reduce poverty.

Poor and vulnerable livestock keepers in developing countries fall into a number of partially distinct categories, distinguished by livelihood strategies and by agro-ecological systems. The largest group is undoubtedly that of mixed crop-livestock farmers, 57% of poor livestock keepers, spread across a range of agro-ecological zones, most importantly in arid or semi-arid systems (31% of poor livestock-keepers).[16] These people keep a range of livestock species, and integrate them to very varying degrees with their crop-cultivation: some keep livestock on distant grazing lands with very little integration with crop cultivation, others may take considerable efforts to collect and manage animal manure as fertilizer, and/or or use animals for land preparation and other agricultural tasks. Either crop residues or purposely-grown fodder crops may provide inputs from crop cultivation to livestock production. Small livestock (sheep, goats, chickens) may also be kept around homesteads as an income-earning activity and for milk, meat and eggs for household consumption.

Pastoralists and other users of extensive grazing lands were estimated in 1999 to make up 20% of poor livestock keepers. There are many overlapping definitions of pastoralism and related livestock production systems,[17] and a certain fuzziness needs to be accepted, as in a useful recent definition: "pastoralism refers to a wide family of livestock-based, livelihood and food production systems that are highly diverse but that all share a specialization in improving animals' diets (and welfare) by managing their grazing itineraries at a variety of scales in time and space".[18]

16 Livestock in Development (1999).

17 Devendra, C. et al. (2005). Livestock Systems. In E. Owen et al. (eds.) Livestock and Wealth Creation, Improving the husbandry of animals kept by resource-poor people in developing countries. Nottingham University Press, Nottingham. 29-52.

18 Kieta, N. et al. (2016). Guidelines for the enumeration of nomadic and semi-nomadic (transhumant) livestock. FAO, Rome. As cited in: FAO (2021). Pastoralism – making variability work. FAO Animal Production and Health Paper No.185. FAO, Rome.

FAO estimates that over 180 million people are raising livestock in pastoral and agropastoral systems included under this definition. Not all pastoralists by any means can be counted as poor but most can be considered vulnerable – to climate variability, environmental trends, and inappropriate policy. Producing successful and sustainable models for the development of pastoral systems and the fostering of sustainable livelihoods for pastoralists is an important development priority.

Large numbers of poor people with no access to agricultural land keep livestock, in their homesteads, using a variety of improvised feeding strategies, including use of household food waste, and use of very localised common resources like roadside grasses. This sort of production, predominantly of poultry and small ruminants, is found across continents and in rural, peri-urban and urban areas.[19] Both within such systems and as an adjunct to mixed crop-livestock farming, small livestock production is closely associated with women[20], and also with the satisfaction of immediate cash needs, such as school fees or health expenses.

Livestock keeping, across systems, is often viewed as serving an "insurance" or "consumption-smoothing" function, or serving as a "buffer-stock" against crises, as livestock, particularly small livestock, can readily be sold to meet immediate needs for cash or food. Outside the case of pastoralism, where livestock undoubtedly act as investment, savings and insurance against drought, the evidence for such an effect is contradictory and context-specific.[21]

The ability of development within the livestock sector to reduce poverty cannot be taken for granted, particularly as small-scale livestock production has a limited capacity to create employment, and depends strongly on macro-economic factors within particular countries, as well as producer capacity to increase productivity that is itself limited by small farm sizes, low livestock numbers per farm household., and low availability of labour.[22]

## Livestock and Emergencies

Pastoralist populations worldwide live predominantly in arid or semi-arid areas which are prone to drought. There are strong suggestions that the frequency and severity of drought in these areas are increasing, but it is also the case that socio-economic trends such as individuation of rangeland ownership or encroachment on rangelands by agriculture, mineral extraction or protected areas, and inappropriate policies are increasing pastoralists' underlying vulnerability to drought. This being the case, there are important overlaps and synergies between humanitarian work and development for pastoralists: development cooperation must take account of immediate humanitarian needs and coordinate with agencies that serve those needs, while humanitarian work risks having to be endlessly repeated if development needs are not met and more appropriate development policies are not identified and promoted. More concretely, interventions must be made not only to feed destitute people but to maintain their livelihoods, which entails maximising the chances of livestock herds being maintained through crises or restored thereafter. To this end a range of emergency interventions for livestock-based livelihoods, which sit between relief and development, have been developed and promoted: purchasing of livestock during drought onset ("destocking"), provision of animal vaccination and emergency drugs, provision of water for livestock, provision of feed (especially for key breeding stock), and post-emergency restocking.[23] The European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO) has made an important contribution to piloting, refining and evaluating several of these types of interventions, especially in Kenya during the 2000s.[24]

*Piglets in Antananarivo, Madagascar*
*© Dennisvdwater - stock.adobe.com*

19 Devendra et al. (2005).

20 Kristjanson, P. et al. (2014). Livestock and women's livelihoods. In A. Quisumbing et al. (eds.) Gender in Agriculture. Springer, Dordrecht. 209-233.

21 FAO (2018). Transforming the Livestock sector through the Sustainable Development Goals.

22 FAO (2018). Transforming the Livestock sector through the Sustainable Development Goals.

23 LEGS (2014). Livestock Emergency Guidelines and Standards, 2nd Edition. Practical Action Publishing, Rugby.

24 Zwaagstra, L. et al. (2010). An assessment of the response to the 2008-2009 drought in Kenya. A report to the European Union Delegation to the Republic of Kenya. ILRI, Nairobi, Kenya. https://cgspace.cgiar.org/bits-tream/handle/10568/2057/assess-ment_drought_2010.pdf;seq

Pastoralist areas in many cases overlap with areas of state fragility or conflict, and "protracted crises" can occur in such areas when natural disasters and conflict intersect and feed off each other. Development for the livestock sector must then take place under conflict conditions, in some cases working across political frontiers. Some of this work has been highly successful: the Operation Lifeline Sudan programme in Southern Sudan (now the independent country of South Sudan) between 1990 and 2004, for which the European Union (EU) was one of the main donors, was successful in establishing Community-Based Animal Health Workers (CAHWs) and promoting rinderpest vaccination in a war situation.[25] The programme had to manage the complex linkages between livelihoods, the ownership and use of livestock, conflict, marketing systems, seasonality and vulnerability, but was able to introduce participatory and innovative elements outside the traditional humanitarian framework.

## Animal Source Foods and Nutrition

A number of significant reviews have demonstrated the benefits of animal source foods for human nutrition, especially the nutrition of children, as they are rich in micro-nutrients such as Vitamin A, iron and Vitamin B12, as the nutrients they contain have high levels of bio-availability, and as relatively small amounts added to a plant-based diet can raise nutrient adequacy.[26, 27, 28, 29]

Concerns about the negative health impacts of over-consumption of animal source foods, which are a significant problem in industrialised countries and among some populations in middle-income and some low-income countries, have been combined with concerns about the sustainability of livestock production, especially the associated GHG emissions, for example in the Report of the EAT-Lancet Commission.[30] The Report's healthy reference diet includes "no or a low quantity of red meat [and] processed meat" while being less restrictive on intake of dairy products. A box notes that overall intake of animal source protein in sub-Saharan Africa is less than in the healthy reference diet. Critiques of the Report have noted its unaffordability for large populations of poor people in developing countries,[31] and its failure to account for regional and national differences in natural resources available for food production,[32] both points relevant to the consumption of livestock products by the poor, and its arguments do not detract from the arguments on the nutritional value of animal source foods for poor people and their children.

## Livestock and Greenhouse Gas Emissions

As highlighted above, the livestock sector has been estimated, in a widely-quoted figure, to contribute 14.5% of global GHG emissions.[33] This figure includes emissions from the production, processing and transport of feed, including attendant energy use and emissions from conversion of forest to grazing or to feed production: these account for 45% of livestock-related emissions. Enteric fermentation, the production of methane by the digestive processes of ruminant livestock, especially cattle, accounts for about 40% of livestock-related emissions. The remainder is mainly accounted for by manure storage and processing and other energy uses (other accounts provide slightly different breakdowns).[34] The overall figure has led to much discussion in academic and policy circles and in the media, and is frequently used to support a call for a radical change in diets in favour of plant-based foods. Such changes are sometimes framed as due to take place globally, in other cases more specifically in the richer countries. As mentioned above, the argument is frequently associated with a separate argument on the negative impacts of over-consumption of animal source foods, but may neglect the current under-consumption of animal source protein among the poor, especially in Africa.

> *"The livestock sector has been estimated, in a widely-quoted figure, to contribute 14.5% of global GHG emissions."*

Discussion of GHG emissions and mitigation options in the livestock sector in a development context, requires careful

25 Catley, A. et al. (2008) Policies, practice and participation in protracted crises: The case of livestock interventions in southern Sudan. In L. Alinovi et al. (eds.) Beyond Relief: Food Security in Protracted Crises. Practical Action Publishing, Rugby.

26 Murphy, S. P., & Allen, L. H. (2003). Nutritional importance of animal source foods. The Journal of Nutrition, 133(11), 3932S-3935S.

27 Randolph, T. F. et al. (2007). Invited review: Role of livestock in human nutrition and health for poverty reduction in developing countries. Journal of Animal Science, 85(11), 2788-2800.

28 Grace, D. et al. (2018). The influence of livestock-derived foods on nutrition during the first 1,000 days of life. ILRI Research Report, Nairobi.

29 Iannotti, L., et al. (2021). Livestock-derived foods and sustainable healthy diets.Discussion Paper, UN Nutrition. https://www.unnutrition.org/wp-content/uploads/Livestock-Paper-EN_WEB.pdf

30 Willett, W. et al. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. The Lancet, 393(10170), 447-492.

31 Hirvonen, K., Bai, Y., Headey, D., & Masters, W. A. (2020). Affordability of the EAT–Lancet reference diet: a global analysis. The Lancet Global Health, 8(1), e59-e66.

32 Thorkildsen, T., & Reksnes, D. H. (2020). The proof is not in the EATing. EuroChoices, 19(1), 11-16. It should be noted that the EAT Lancet report itself contains some ambiguity on whether its reference diet, or the framework for it, is intended universally or for adaptation in the light of local and regional realities.

33 Gerber, P. et al. (2013).

34 Herrero, M. et al. (2016).

35 Rivera-Ferre, M. G., López-i-Gelats, F., Howden, M., Smith, P., Morton, J. F., & Herrero, M. (2016). Re-framing the climate change debate in the livestock sector: Mitigation and adaptation options. Wiley Interdisciplinary Reviews: Climate Change, 7(6), 869-892.

discussion of the metrics used (e.g. emissions per kg of product, per animal or per hectare), and of the assumptions, and an approach disaggregated by farming system.[35, 36] An additional consideration is that for pastoralist systems on natural rangelands, in some analyses seen as very GHG-intensive, the "baseline scenario" or scenario without domestic livestock on the rangelands may in fact contribute higher emissions because of the activities of wild ruminants and termites.[37] There are significant technical options for supply-side mitigation of emissions from the livestock sector: soil carbon sequestration in rangelands; interventions to improve feed digestibility; use of feed additives; avoided deforestation through intensification of ruminant production; improved animal management; rehabilitation of rangelands; carbon sequestration by legumes; and improved manure management. However, the economic potential of these mitigation options is less than 10% of the technical potential, because of constraints on adoption, high costs and possibilities that production will increase as efficiency increases are realised (the rebound effect), or shift to other regions.[38]

## Competition for land and water

Livestock production currently uses about 70% of total global agricultural land (arable land and grassland). This includes direct grazing, and it is very important to note that much livestock production takes place on the vast tracts of land that are too dry, too cold, too mountainous or too infertile for crop production . However it is also true that cultivation of animal feed occupies about 40% of global arable land. At a time of rising concern about feeding the growing global population, a concern made all the more acute by both the prospects of falling yields of food crops under climate change and the need to reverse deforestation to mitigate climate change, development for the livestock sector is increasingly under scrutiny to ensure it is not taking land out of either food production or forested areas. One model of the boundary for sustainable livestock consumption concludes that, because livestock can graze grasslands not suitable for food production, and also consume crop residues, both defined as "low-opportunity cost feedstuff", that livestock could still account globally for around 35% of human protein needs, without competing for land with food crops, and that some growth in the consumption of animal source foods in Africa and Asia would be possible even within these boundary conditions.[39] But this will require technological and institutional innovation to increase the efficiency of livestock use of feed resources.

Similar arguments about competition between livestock production and arable farming have been made for water. This debate needs careful differentiation between "blue water" extracted from underground and surface sources, and "green water" or soil moisture from naturally infiltrated rainfall, and between water used in feed production and that used directly in animal husbandry.[40] Globally, 4,387 km3 of water, 94% of it green water, is used annually for feed production , equivalent to 41% of total agricultural use. Livestock water productivity (protein produced per $m^3$ of water) varies hugely between livestock

36 Houzer and Scoones (2021).

37 Manzano, P., & White, S. R. (2019). Intensifying pastoralism may not reduce greenhouse gas emissions: wildlife-dominated landscape scenarios as a baseline in life-cycle analysis. Climate Research, 77(2), 91-97.

38 Herrero, M. et al. (2016).

39 Van Zanten, H. H., Herrero, M., Van Hal, O., Röös, E., Muller, A., Garnett, T., ... & De Boer, I. J. (2018). Defining a land boundary for sustainable livestock consumption. Global Change Biology, 24(9), 4185-4194.

40 Ran, Y., van Middelaar, C. E., Lannerstad, M., Herrero, M., & de Boer, I. J. (2017). Freshwater use in livestock production—To be used for food crops or livestock feed? Agricultural Systems, 155, 1-8.

*Food Security Thematic Programme*
*Livestock vaccination in cattle bank, Phongsaly, Lao PDR*
*© Carine Malardeau*

species, production systems and regions, indicating considerable potential for greater efficiency, particularly but not solely in pigs and broiler poultry, which also are proportionally higher users of blue water. Again, both technological and institutional innovation will be required.[41]

## Animal Health and Zoonoses

Strengthening preventative and curative animal health services constitutes a major component of development in the livestock sector. Animal diseases are a major constraint on livestock production by poorer people, directly and through their effects on domestic and international trade in livestock products, which may result in export bans, costly zoning measures within countries, or occasional large-scale culls of livestock. Improving animal health requires continuing investment in scientific research on treatments, diagnostic and surveillance techniques, vaccines etc., but also ongoing research on and piloting of institutional solutions and accompanying policies for delivery of animal health services on a sustainable and low-cost basis. Services working through Community-Based Animal Health Workers have been popular, but require careful design and integration with the veterinary profession and with private sector suppliers of veterinary drugs (addressing, among other issues, the availability of fraudulent drugs), and appropriate policies to back these up.

The outbreak of the H5N1 strain of Highly Pathogenic Avian Influenza starting in 2003 directed increased attention to the question of zoonoses, diseases transmissible to humans from animals. This attention was further increased by the outbreak of swine flu starting in 2009, and the outbreak of Middle East Respiratory Syndrome starting in 2012, although zoonoses such as brucellosis , bovine tuberculosis, anthrax and rabies have been perennial threats to the health of livestock-keepers, especially among the poor of developing countries. While it is important to distinguish between zoonoses originating with domesticated livestock, and those originating with wildlife, such as Ebola virus or SARS, this distinction is not always observed in the media and public debate. Attention to zoonoses has given new impetus to calls for a "One Heath" approach, as witnessed by the establishment of the International Ministerial Conferences on Avian and Pandemic Influenza (IMCAPI) and its Hanoi Declaration of 2010.[42] One Health can be defined as "an approach to ensure the well-being of people, animals and the environment through collaborative problem solving – locally, nationally and globally" and includes attention to: emerging and endemic zoonoses; anti-microbial resistance, and the part played in it by livestock production practices; and food safety.[43] It can also cover co-delivery of human and animal health services, particularly valuable for remote livestock-keeping communities. However, the full potential of the approach, as integrating not only human and animal, but also environmental, health, needs to be grasped.[44]

41 Heinke, J. et al. (2020). Water use in global livestock production—Opportunities and constraints for increasing water productivity. Water Resources Research, 56(12), e2019WR026995.

42 Mackenzie, J. S., & Jeggo, M. (2019). The One Health Approach-why is it so important? Tropical Medicine and Infectious Disease, 4(2).

43 Mackenzie and Jeggo (2019).

44 Destoumieux-Garzón, D. et al. (2018). The one health concept: 10 years old and a long road ahead. Frontiers in Veterinary Science, 5, 14.

*Dorper Sheep Rams on a dorper sheep stud fartm in the Tankwa karoo in South Africa*
*© Dewald Kirsten/Shutterstock.com*

*Five cows crossing tuquoise river in Bhutan*
*© idraniwinardi - stock.adobe.com*

# Opportunities

The importance of livestock production to the livelihoods, nutrition and culture of the poor, and the complex trade-offs with resource competition and management of climate change, create important needs and opportunities for development cooperation:

- Placing work in the livestock sector firmly in the context of climate change: both working to reduce greenhouse gas emissions from the livestock sector, and helping livestock-keepers remain resilient to the impacts of climate change.
- Continuing to promote technological innovation to ensure sustainable and efficient use of feed resources.
- Continuing to adopt value chain approaches to produce win:win results for small-scale livestock producers, intermediary employment, food safety and nutrition.
- Continuing to develop equitable and sustainable systems for delivery of preventative, curative and regulatory health services, and addressing new concerns about zoonotic diseases.
- Recognising the particular vulnerabilities of pastoralists, and the opportunities presented by pastoralism as a uniquely important and sustainable form of land-use.
- Recognising the need to work at a policy level, integrating trade, fiscal, environmental and land tenure concerns.

# Global Initiatives to Support a Sustainable Livestock Sector

*Many research, policy and networking organisations play a significant role in developing, promoting and communicating innovations in the livestock sector, focussing variously on global animal health, pastoralist, agro-pastoralist and small-holder mixed crop-livestock farming systems. Below is a brief overview of some of these.*

The **World Organisation for Animal Health** ,[45] was founded in 1924 as the Office International des Epizooties (OIE), becoming the World Organisation for Animal Health in 2003, but keeping its historical acronym OIE. It is the intergovernmental organisation responsible for improving animal health worldwide and in 2021 has a total of 182 Member Countries, and has regional and sub-regional offices on every continent. The organisation is governed by a World Assembly of Delegates consisting of the Governments of all Member Countries.

The OIE is responsible for setting standards to ensure the safety of international trade in animals, animal products and potentially harmful organisms through the development of rules that Member Countries can use to protect themselves from the introduction of diseases and pathogens, without setting up unjustified sanitary barriers. OIE standards are recognised by the World Trade Organization as reference international sanitary rules and are adopted by the World Assembly of Delegates; they are prepared by elected Specialist Commissions and Working Groups bringing together internationally renowned scientists, most of whom are experts within the network of about 246 Collaborating Centres and Reference Laboratories, that also contribute to the scientific objectives of the OIE.

The OIE's World Animal Health and Welfare Fund is a multi-donor trust fund, through which the EU has funded 12 programmes with a value of almost €26 million since 2009.[46] The EU also supports the OIE/FAO PPR Global Control and Eradication Strategy for Peste des Petits Ruminants (see below).

The **Global Agenda for Sustainable Livestock (GASL)**,[47] hosted by FAO, is a platform allowing a wide variety of stakeholders to share their views and experience to bring about changes in livestock policies for the sustainable development of the livestock sector. The GASL comprises 97 partner institutions including civil society organisations involved in animal health, welfare and livestock production, UN agencies, research and academic institutions, inter-governmental organisations, donors, and national governments; all of whom participate in the development of what has become known as "The Global Agenda".

The **Pastoralist Knowledge Hub (PKH)**,[48] also hosted by FAO, is a partnership of 37 institutions including the EU, with a special interest in supporting pastoralist and agro-pastoralist societies around the world. The PKH has three distinct pillars under which it provides support to the pastoralist community: a knowledge repository offering online access to publications and reports of relevance to pastoralism; a forum for email-based discussions between pastoralists, their networks and partnering organizations; and a facility to foster alliances among key partners who can share documents and jointly organize events.

The **Livestock Environmental Assessment and Performance Partnership (LEAP)**[49] is a multi-stakeholder initiative hosted by FAO that is committed to improving the environmental performance of livestock supply chains, whilst ensuring their economic and social viability. Its partners include both the European Commission and the EU Joint Research Centre. In order to

45 https://www.oie.int/en/home/

46 https://www.oie.int/en/home/

47 http://www.livestockdialogue.org/en/

48 http://fao.org/pastoralist-knowledge-hub/en/

49 https://www.fao.org/partnerships/leap/en/

shape evidence-based policy measures and business strategies, LEAP develops guidelines and methodologies for understanding the environmental implications of livestock supply chains.

The **Global Alliance for Livestock Veterinary Medicines (GALVmed)**[50] is a public-private partnership, established in 2004, working in livestock health product development and access. Largely funded by the Bill and Melinda Gates Foundation, it works with over 200 civil society organisations, distributors, donors, governments, intergovernmental organisations, manufacturers, marketing and media companies, pharmaceutical companies, research institutions and regulatory authorities. It aims to harness research expertise in the public and private sectors to develop new vaccines, medicines and diagnostics for livestock; and to undertake pilot activities in building awareness among livestock-keepers and establishing distributor networks as precursors to scaling up through private manufacturers. GALVmed focuses on 17 neglected livestock diseases, which include East Coast Fever of cattle and Newcastle Disease of Poultry.

The **International Livestock Research Institute (ILRI)**,[51] headquartered in Nairobi, Kenya and Addis Ababa, Ethiopia, is a CGIAR research centre, whose mission is to "improve food and nutritional security and to reduce poverty in developing countries through research for efficient, safe and sustainable use of livestock—ensuring better lives through livestock". Of the CGIAR Research Programs operating from 2017 to the end of 2021, ILRI leads the Program on Livestock, and is a partner in the Programs on Agriculture for Nutrition and Health, and on Climate Change, Agriculture and Food Security.

Given the vulnerability of livestock-keepers, particularly but not solely pastoralists, to climate-related and other emergencies, the **Livestock Emergencies Guidelines and Standards (LEGS) Project**[52] was established to improve the quality of response to livestock emergencies such as during severe drought or following earthquakes or floods. LEGS is an independent initiative that aims to improve the quality and livelihoods impact of livestock-related projects in humanitarian situations. In a number of those situations, inputs such as emergency veterinary care often arrived too late to be of any value, sometimes were technically inappropriate and, when delivered to beneficiaries free-of-charge, often undermined existing local service providers, damaging the capacity of local services to provide more long-term support. LEGS has responded to these institutional gaps by helping to create capacity for preparedness for livestock emergencies and by promoting interventions to increase the resilience of vulnerable livestock-dependent populations.

The key activity of the LEGS Project is the production and dissemination of the LEGS Handbook,[53] which provides standards and guidelines for appropriate and timely livestock-based livelihoods responses in emergencies, using a participatory and evidence-based approach. The Handbook is supported by a global training programme and awareness raising activities across Africa, Asia and Latin America. LEGS receives EU funding both through the Directorate-General for International Partnerships (DG-INTPA) and the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO).

Non-Governmental Organisations (NGOs) are important actors in developing and piloting new approaches to development. One network of NGOs that has considerable experience in the livestock sector, and has been a significant partner in EU-funded projects (for example in South Sudan) is **Vétérinaires Sans Frontières (VSF) International**,[54] which comprises a network of non-profit member organisations from Austria, Belgium, Canada, the Czech Republic, France, Germany, Ireland, Italy, The Netherlands, Portugal, Spain, Sweden and Switzerland. It is based in Brussels.

The VSF network is working to reduce poverty and improve the livelihoods of small-scale farmers and pastoralists by promoting the health and productivity of their livestock within a sustainable environment through more than 200 projects in over 30 countries in Africa, the Americas and Asia. Working at the interface between emergency assistance and development, the VSF members share the common vision of supporting agro-ecological production models, promoting a healthy and sustainable relationship between humans, animals and their environment.

50 https://www.fao.org/partnerships/leap/en/

51 https://www.ilri.org/

52 https://www.livestock-emergency.net/

53 LEGS (2014). Livestock Emergency Guidelines and Standards.

54 http://vsf-international.org/

# EU Support to the Livestock Sector

## Policy Guidelines

Support to the livestock sector is implicit in the European Consensus on Development,[55] adopted in 2017 by the European Council, the European Parliament and the European Commission, as part of the European Union's response to the UN 2030 Agenda for Sustainable Development and the Sustainable Development Goals. Given the importance of livestock to the food security and the incomes of poor people in developing countries, but also the widespread concerns about the contribution of the livestock sector to greenhouse gas emissions, appropriate support to livestock can be seen as crucial to at least three of the themes ("the five Ps") of the Consensus.


*The 5Ps of Sustainable Development. Source: UN Twitter Account, http://twitter.com/ungeneva/status/749708052190797824*

Under **People**, the EU and its Member States "will work to ensure access for all to affordable, safe, sufficient and nutritious food", with particular attention to vulnerable groups including children under five. The contribution here of animal source foods, particularly from small livestock kept by poor households, will be important. The EU will also "take action to address global health threats such as epidemics and antimicrobial resistance", where it is clear that the role of industrial but also small-scale livestock farming in developing countries, needs evidence-based study and action. The People theme covers gender equality, to which the linkages between small livestock production and women are highly relevant.

Under **Planet**, the Consensus states that "environmental considerations need to be integrated across all sectors of development cooperation" and specifically mentions "the conservation and sustainable management and use of natural resources" as well as tackling desertification and drought. The EU is, in its own right, a Party to both the UN Framework Convention on Climate Change (UNFCCC) and the UN Convention to Combat Desertification (UNCCD). In the livestock sector these obligations can be, and are fulfilled through work on sustainable land management in pastoral and other dryland areas, where livestock are a major source of livelihoods, as well as programmes that more explicitly address the question of greenhouse gas emissions from livestock and crop-livestock systems. The mandate of ECHO to provide emergency assistance and relief to victims of natural disasters outside the EU is also important for assistance to livestock-dependent populations.

Under **Prosperity**, the Consensus recognises sustainable agriculture as a key driver for poverty eradication and sustainable development, mentions support to pastoralists as of central importance, and participatory rangeland management as an important governance issue for agriculture, but the contributions of livestock to soil fertility, and in some regions farm power, within mixed crop-livestock agriculture are also relevant. The need for sustainable agriculture and food systems to protect the environment, including through the mitigation of greenhouse gas emissions, is also noted.

Similar commitments are also found in the EU's Farm to Fork Strategy (see Box A).

55 https://ec.europa.eu/international-partnerships/european-consensus-development_en

## *Box A: The Livestock Sector in the EU's Farm to Fork Strategy*[a]

*The Farm to Fork Strategy of 2020is at the heart of the European Green Deal and central to the European Commission's agenda to achieve the UN's Sustainable Development Goals. As well as addressing the environmental footprint and resilience of the EU's food system (for which much of the food is produced in developing countries), the Strategy commits the EU to leading a global transition towards competitive sustainability from farm to fork through both its trade and its development cooperation policy. Undertakings of particular relevance to the livestock sector in developing countries include the following:*

- EU trade policy should "obtain ambitious commitments from third countries in key areas such as animal welfare… and the fight against antimicrobial resistance", promoting international standards through the relevant bodies, encouraging safe and sustainable production and processing of food, and supporting small-scale farmers to access markets while meeting standards.
- Within a general commitment to focus international cooperation on food research and innovation with particular reference to climate change adaptation and mitigation, there is mention of inclusive and fair value chains, animal health and welfare, food safety, antimicrobial resistance, and coordination of development and humanitarian interventions.
- Regulation of food imports to the EU will include strict requirements on the use of antibiotics in livestock

a https://ec.europa.eu/food/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf

## Amounts and Nature of Development Cooperation Funding

The EU gives considerable support to the livestock sector in poorer countries through development cooperation funding, but calculating the amount of this is not straightforward. Projects that can be identified as having some relation to the livestock sector include those where livestock is only one of several sectors addressed, which is an integral part of good practice in sustainable development, but which may inflate estimates of funding levels to the sector. For example, 56% of livestock-related funding in 2019 was for multi-purpose projects integrating livestock activities. With that qualification, the analysis of funding patterns and trends presented here is based on statistical analyses of European Commission databases of contracts signed in recent years,[56] relating exclusively or together with other priorities, to Food and Nutrition Security and Sustainable Agriculture (FNSSA). Humanitarian aid flows to livestock-keeping communities, which are considerable, are not included.

*Broiler house in Ivory Coast*
*© Flatfeet/Shutterstock.com*

56 For reasons of data availability, depending on the indicator under discussion, the analysis uses 2014-2020, 2018-2020, and 2019 alone. These differences are clearly indicated in the text.

Development cooperation funding related to livestock amounted to €2654 million during the years 2014-2020, 19% of the EU funding of FNSSA. This included contracts where a main or significant project purpose was related to the livestock sector, and multi-purpose projects integrating livestock activities. The proportion of all these in the FNSSA portfolio has increased, with year-on-year fluctuations, from a figure of 9% in 2014 to 20% in 2020.

Of the 2014-2020 livestock-related funding, €2624 million, 76% was allocated to Africa, 14% to Asia, and 10% to other regions or unspecified developing countries. 76% was allocated to project-type interventions, 18 % to sector budget support, and 6% to other modalities.

Table 1 below presents EU livestock-related funding in 2019 by level of purpose and policy orientation. Projects have been categorised by whether development in the livestock sector is "the main project purpose" or "a significant project purpose" or as a "multi-purpose project, also integrating livestock activities". Policy orientation within the livestock sector was selected from: animal health/food safety; livestock industry; multi-aspect food security, increasing smallholder incomes and resilience; pastoral natural resources management; and public capacity building and agricultural research support.

Livestock-related funding is closely integrated with broader development funding within the FNSSA portfolio. From the table above for 2019, multi-purpose projects integrating livestock activities account for 56% of total funding and within that classification multi-aspect food security, income-generation and resilience projects account for 46% of total funding. Projects that could be seen as dedicated to livestock through their main project purpose, account for 12% (€64 million) of the livestock portfolio. As proportions of that sub-total, support to livestock industry accounts for 47% of funding and projects on animal health and food safety for 25%. Pastoral NRM projects make up only 1% of the total portfolio in 2019 (€6 million) though this may underestimate the importance of the topic over the medium-term. Public Capacity-Building and Agricultural Research Support projects account for €113 million or 20% of the total, fairly evenly split between projects with a significant livestock purpose and multi-purpose projects.

**Table 1:** Livestock-related EU Funding 2019 by Policy Orientation and Level of Purpose (€ millions)

| Policy Orientation | Main Project Purpose | Significant Project Purpose | Multi-Purpose Project Integrating Livestock Activities | Total for Policy Orientation |
|---|---|---|---|---|
| Animal Health / Food Safety | 15.9 | 6.3 | 2.8 | **24.9** |
| Livestock Industry | 29.7 | 39.9 | 2.3 | **71.9** |
| Multi-aspect food security, increasing smallholder incomes and resilience | 9.5 | 74.2 | 255.9 | **339.6** |
| Pastoral Natural Resource Management | 6.1 | 0.0 | 0.1 | **6.2** |
| Public Capacity-Building and Agricultural Research Support | 2.5 | 59.8 | 50.5 | **112.8** |
| Total for Level of Purpose | **63.8** | **180.2** | **311.6** | **555.6** |

Table 2 represents funding in 2019 by policy orientation and livestock species. In keeping with the predominance of multi-purpose projects within the portfolio, multi-species projects make up a large majority of funding, with ruminant species, separately or in combination with other species, making up nearly all the rest. The picture is similar when livestock products are concerned: multi-aspect food security projects involving multiple livestock products account for 58% of the portfolio.

Table 2: EU Livestock-related Funding 2019 by Policy Orientation and Livestock Species (€ millions)

| Policy Orientation | Multi-species | Ruminants | Ruminants / Poultry | Ruminants / Pigs | Poultry | Bees |
|---|---|---|---|---|---|---|
| Animal Health / Food Safety | 24.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Livestock Industry | 0.0 | 43.7 | 19.0 | 0.0 | 2.0 | 7.3 |
| Multi-aspect food security, increasing smallholder incomes and resilience | 322.9 | 10.0 | 1.5 | 2.5 | 0.0 | 2.7 |
| Pastoral Natural Resource Management | 0.0 | 6.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Public Capacity-Building and Agricultural Research Support | 112.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total for Species | **460.6** | **59.9** | **20.5** | **2.5** | **2.0** | **10.0** |
| Species as % | 82.9 | 10.8 | 3.7 | 0.5 | 0.4 | 1.8 |

With the Livestock Industry policy orientation, meat projects make up 23% of the policy total, projects combining meat with other products 29%, dairy projects 32%, honey projects 10% and leather projects 5%.

Annex Table 1, also for 2019, shows the degree to which projects are relevant to various key OECD DAC markers. Under the OECD DAC system, markers are assigned to projects according to whether certain major policy objectives can be considered a "principal objective", a "significant objective" of the project or are not targeted. The most relevant markers in this instance are: Climate Change Adaptation, Climate Change Mitigation, Combatting Desertification, Gender Equality, Biodiversity and Environmental Protection and Resource Conservation. More detail on these markers is given in the notes to Annex Table 1.

Livestock-related projects under all classifications are likely to be marked as having Gender Equality and to a lesser extent Climate Change Adaptation as significant objectives. Some projects are marked as having Climate Change Mitigation as a significant objective. Projects under all classifications are less likely to be marked as contributing to Biodiversity. Projects focusing on, or including pastoral natural resource management, are highly likely to be marked as having Climate Change Adaptation, Climate Change Mitigation, Combating Desertification, and Aid to the Environment as either principal or significant objectives.

# Areas of Intervention in the Livestock Sector

*This section provides a further exploration of different sorts of EU-funded projects addressing the livestock sector, principally drawing on a) a database of contracts signed in 2019 and b) responses from 30 EU delegations in developing countries to a brief email questionnaire. Projects are described under the main headings used in the statistical analysis above, with the caveat that there are multiple and significant overlaps between these categories.*

## Multi-aspect food security

The majority of EU cooperation in the livestock sector is routed through projects and programmes described as addressing "Multi-aspect food security and increasing smallholder incomes and resilience". Of livestock-related contracts signed in 2019 alone, there were 81 such projects and programmes, in countries including Burkina Faso, Cameroun, Chad, Côte d'Ivoire, Ghana, Mali, Nigeria, Sierra Leone, Congo, the Central African Republic, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda, Angola, Malawi, Mozambique, Zambia, Mauritania, Armenia, Mongolia, North Korea, Yemen and Colombia. Many of these projects overlap with projects addressing livestock-based value chains, projects addressing greenhouse gas reduction from livestock, and projects addressing pastoral development. In other programmes, addressing the livestock sector is a component in an area-based development strategy – see Box B.

## Public Capacity-Building

Support and capacity-building for policy development, planning and monitoring is a hallmark of EU development cooperation in the agriculture sector, and there are multiple examples of such support which incorporate issues of livestock policy. An example which specifically addresses livestock policy is found in Nigeria – the Technical Support to the Implementation of the National Livestock Transformation Plan. This involves support to engagement with stakeholders in federal and state governments, setting up of a Project Management Office including a framework for monitoring and evaluation of results, and coordination with other development partners and with the private sector. The SIRGE project on reduction of greenhouse gas emissions in the Ugandan beef industry includes important elements of capacity building - see Box C.

Capacity-building support is also given to agricultural research organisations, as in

### *Box B: The Namibia Communal Land Development Project*[b]

*In the context of the sharp division of the Namibia agriculture sector and land tenure system into commercial and communal sectors, the overall objective of the programme is to contribute to improved rural livelihoods by fostering the integration of communities resident in communal areas, mainly practising extensive mixed crop-livestock agriculture, into the mainstream economy. Achievements include:*

- *Very large-scale registration, mapping and digitization of communal land rights*
- *Land-use planning at regional and local levels (the latter implemented through a participatory approach), which needs to cover crop-production and extensive grazing land-uses*
- *Infrastructure development notably including infrastructure for livestock production: fences, kraals, boreholes and water reticulation*
- *Skills development for farmers, involving multiple governmental and NGO stakeholders, including the Meat Board and Meat Corporation of Namibia.*

*Future programming in Namibia is expected to include investment in water infrastructure, primarily for human use but with secondary benefits for livestock production.*

b https://cgspace.cgiar.org/bitstream/handle/10568/101634/ECo-PPR_PP.pdf

### *Box C: Reduction of Greenhouse Gas Emissions in the Ugandan Beef Industry*[c]

*SIRGE (Strengthen an Innovative System for the Reduction of Greenhouse Gas Emissions and Environmental Impacts of the Nascent Beef Industry in Uganda in Support of Rural Sustainable Transformation) is a project of the EU's DeSIRA initiative (Development Smart Innovation through Research in Agriculture), being implemented from 2021 to 2023. Its approach is participatory, involving farmer groups, local government (a particularly important stakeholder under decentralisation) and the central government's Climate Change Department. Its activities include:*

- *Collection of data on greenhouse gas emissions from cattle on rangelands, and carbon sequestration in pastures, using field and remote-sensing methods, leading to the development of an accessible forecasting model, and provision of accurate data to government.*
- *Development of climate-smart practices for feeding and genetic improvement, appraised through modelling, and scaling up of those practices, including in ways that are inclusive for women and youth.*
- *Capacity building for the Climate Change Department and other national agencies for the development of fit-for-purpose, and fulfilment of reporting obligations under the UNFCCC, and participation in regional and international dialogues on livestock sector emissions reduction and development of Measurement, Reporting and Verification systems.*

c https://europa.eu/capacity4dev/file/111757/download?token=PfnegRJS

Mauritius, where the EU supports the Faculty of Agriculture of the University of Mauritius in molecular research methods, climate smart agriculture, and food processing including support to the dairy value chain. In Malawi, support is given to Farmer Field Schools to promote the use of agricultural innovations and to multidisciplinary research on climate-smart agriculture led by CGIAR centres and European research institutions.

## Livestock Industry and Value Chain Projects

Projects focussing on the production, processing and marketing of livestock products, often making use of value chain approaches, are an important strand in EU cooperation in the livestock sector. Of contracts signed in 2019 where the main project purpose was within the livestock project purpose was within the livestock sector, such projects represented 47% of funding. Significant here were a suite of projects aiming to achieve a sustainable increase in the production volume, quality, value addition and employment generation of the Ugandan beef value chain, through technical support to government, work with smallholders and small beef-related businesses, with attention paid to the roles of women and youth, and to climate resilience. An example of support to poultry value chains is given in Box D. Projects in Niger and Egypt have focussed on the leather value chain and there has been support to honey value chains in Eritrea, Guinea-Bissau and elsewhere.

Development of dairy value chains is a key cooperation strategy that can improve

### *Box D: Support to Poultry Production in Eritrea*[d]

*The EU's programme of Support to the Agricultural Sector/Food Security in Eritrea included support to the National Hatchery in Asmara, which is responsible for breed improvement, through procurement of equipment. A particular focus was the development of appropriate breeds for hotter lowland zones of the country. Over 100,000 chickens were distributed to 5108 households in five of the six regions of the country, of which 3425 were female-headed. Mortality rates were acceptable, and lower than for similar distributions of sheep and cows. Egg production for chickens distributed under the programme can be projected on known productivity parameters to meet the full protein requirements of almost 5000 people.*

d https://www.scp-centre.org/our-work/step/

## *Box E: Development of Dairy Value Chains in Madagascar*[e]

*The "Improvement in the Milk Supply System around Antananarivo" (ASA Lait) project, between 2015 and 2020, encouraged an increase in milk production through better recognition of animal health and husbandry (feed supply, stabling, health services, breed improvement), a better organisation of the value chain including producer organisations, a more commercial orientation (milk collection and sales centres) and work on hygiene and milk quality in association with promotion of labelling and agro-ecological production in other value chains. It has achieved:*

- *An improvement in the capacity of 1545 livestock-producers; producer needs were diagnosed through a participatory process and they were able to receive training in fodder cultivation as well as locally-organised animal health and genetic improvement services. 82% of beneficiaries adopted fodder cultivation, 64% improved stabling, and 88% followed recommended practice on milking hygiene. There was a rise in total milk sales by these beneficiaries from 314,000 litres in 2015/16 to 904,000 litres in 2019/20. There was a moderate increase in the proportion of project-associated income accruing to female livestock-producers.*
- *Establishment and increasing independence for 73 producer groups, all of which engaged in collective fodder cultivation, 22 of which generated income through stud services, milk collection or both.*
- *Increased access by consumers and processors to high quality milk.*
- *A sustainable strengthening of the technical, economic, analytical and policy-influencing capacities of the stakeholder organisation, the Malagasy Dairy Board.*

e https://europa.eu/capacity4dev/file/111757/download?token=PfnegRJS

nutrition, especially the nutrition of children and generate employment. It is however subject to certain major challenges:

- Dairy products are highly perishable and if not properly processed, stored and transported may pose major food safety risks. Development of dairy value chains may require both the introduction of processing technology and support to producers, small businesses and cooperatives in managing and using it.
- In many developing countries, successful increases in dairy production depend, or are thought to depend, on the introduction of high-yielding breeds of dairy cow, either as purebreds or through crossing with local breeds, which may pose challenges for animal health as these are typically less resilient to endemic animal diseases and to climate variability such as the risk of drought.
- Many developing countries, particularly in West Africa, currently have high demand for dairy products, especially in cities, but extremely low domestic milk production, partially because of lack of suitable land that is not subject to animal disease challenges. These countries are significant importers of dairy products, in particular powdered milk, from EU member states, which can be seen as constraining the development of domestic commercial milk production, an issue that is being addressed under the EU's principle of policy coherence for development, through evidence-based discussion and negotiation of these complex issues, and dialogue with both the domestic and European private sectors.

## Animal Health / Food Safety

Animal health, which has a strong overlap with issues related to the safety of animal source foods for humans, is a major theme of EU development cooperation. Box F gives an example of an animal health programme in Nicaragua.

An important focus of animal health programming has been, and will continue to be, the eradication of Peste des Petits Ruminants (PPR), a highly contagious disease of sheep and goats, widespread in Africa and Asia, and now spreading further, including into Bulgaria, an EU Member State. The EU has supported major projects for which PPR eradication is a primary objective, in Ethiopia, Djibouti and Nigeria. At the pan-African level it is an important

component of EU support to the African Union Inter-African Bureau of Animal Resources (AU-IBAR), it is a component of programming at regional level through the Southern African Development Community and at national level in Namibia and Zimbabwe. PPR eradication can be seen as an entry point into long-term engagement with national veterinary and epidemiological surveillance services, including strategies to harness private sector veterinary operators. The EU also supports the research programme on "Epidemiology and Control of Peste des Petits Ruminants in East and West Africa" implemented by the International Livestock Research Institute (ILRI) with European and African partners, generating evidence on disease epidemiology, impact and feasibility of eradication, validating and testing vaccines and vaccine delivery models, and improving surveillance capacity and coordination, all with regard for the needs of female livestock-keepers and those in remote high-risk areas[57].The EU has made a high-level commitment to, and supports with €2.5 million, the joint FAO/OIE PPR Global Control and Eradication Strategy, which has the objective of achieving global eradication by 2030

## Pastoralist Development

Pastoralists (for definitions see above) are recognised as a group of people with a strong dependence on livestock and specific needs for development intervention to address poverty, environmental vulnerability and political marginalisation, while at the same time there are significant challenges to designing and implementing such intervention. Some of this intervention falls under the heading of Pastoral Natural Resource Management (PNRM). 2019 saw four contracts where PNRM was the main policy classification: two in Chad and two African regional programmes. One programme in Chad, PASTOR, has as its objective the promotion of a collaborative and sustainable use of pastoral resources, with impacts for pastoralists, for the expansion of available land resources, for expansion of pastoralist water supply, and

57 https://cgspace.cgiar.org/bitstream/handle/10568/101634/ECo-PPR_PP.pdf

### *Box F: Support to the Bovine Value Chain in Nicaragua*[f]

*This € 20 million programme addressed the development of both milk and beef value chains, largely through strengthening animal health facilities. The programme upgraded a regional laboratory for Boaco and Chontales Departments and the South Caribbean Autonomous Region, which host 51 % of the cattle production of the country, through new equipment for both animal health and food safety, increasing the availability of tests in these areas. Two mobile units were also established for testing in remote areas. This has made possible sampling and testing at farms, 12 milk collection centres, 11 local slaughterhouses, and dairy businesses in 11 municipalities. Achievements include:*

- *5,678 farms were certified free of brucellosis and tuberculosis.*
- *7,519 and 330,680 animals were identified and registered in the National Traceability System.*
- *7,260 farms received training and technical assistance.*
- *16,160 cows in the breeding service were artificially inseminated.*

f https://europa.eu/capacity4dev/file/111757/download?token=PfnegRJS

*Farmer and his calf*
*© Instituto Nicaragüense de Tecnología Agropecuaria (INTA)*

## *Box G: Carbon Sequestration in Pastoral Systems*[g]

*CaSSECS (Carbon Sequestration and Greenhouse Gas Emissions in Agro-Sylvo-Pastoral Ecosystems in the Sahelian CILSS States) is a project of the EU's DeSIRA initiative (Development Smart Innovation through Research in Agriculture), being implemented from 2020 to 2023. The objective is to improve the understanding of the net carbon flows in pastoral and agropastoral livestock systems to better quantify their contribution to climate change and to develop livestock policies appropriate to the Sahel. The approach is a multi-stakeholder one, involving government and NGO technical staff, researchers, pastoralists and agropastoralists. The project plans to enable:*

- *Herders to adopt mitigation-friendly practices which also increase productivity.*
- *Government technical staff to undertake independent assessment of the environmental impacts of livestock systems.*
- *Managers of the national greenhouse gas inventories to make available the necessary data for global analyses.*
- *Ministries, producer organisations, and regional and international organisations to use the products and outcomes of the project to change the ways livestock systems are represented within the relevant policies.*

*In field sites in Senegal and Burkina Faso the project is using repeat interviews with pastoralists, monitoring of herd demography and GPS tracking of herd movements, building on existing databases, to identify herder strategies for transhumance and choices of feed resources.*

g https://www.cassecs.org/

*Food Security Thematic Programme*
*Veterinary services in cattle camp, Yirol, South Sudan*
*© Carine Malardeau*

*Cows eating*
*© Instituto Nicaragüense de Tecnología Agropecuaria (INTA)*

the reduction of farmer-herder conflict (an important development issue across the Sahel and the Horn of Africa). In addition, large numbers of projects labelled as addressing multi-aspect food security, smallholder incomes and resilience, are in fact focussing on pastoralists as beneficiaries, in countries including Uganda, South Sudan, Sudan, Mali, Mauritania, Mongolia and especially Kenya, where a series of county-level projects were initiated in 2019 across the Arid and Semi-Arid Lands (ASAL) areas, largely inhabited by pastoralists, aiming to enhance food and nutrition security for vulnerable households, generate sustainable livelihoods and protect productive assets.

Outside Africa, the STeP EcoLab project in Mongolia works through a commodity, in this case cashmere, to achieve sustainable development for pastoralists, demonstrating win:win solutions for cashmere-based livelihoods and environmental sustainability, building capacity for farmers, financial intermediaries and regulatory institutions, and establishing with stakeholders a feasible roadmap for the industry, including a label that can give European consumers a way to value and identify goods produced through more responsible production practices.[58]

58 https://www.scp-centre.org/our-work/step/

## *Box H: Support to the Livestock Sector in Conflict and Post-Conflict Areas – South Sudan*[h]

*In South Sudan, a country severely affected by civil war and armed conflict, the EU has funded several major programmes with livestock-keepers. The Pastoral Livelihoods and Education Project (PLEP 2) in particular, implemented by FAO, has focused on 21 cattle camps in the volatile areas of Lake State and Terakeka within Central Equatorial State, where cattle-raiding and livestock-related conflict have been very prevalent. The project has delivered achievements in animal health, treating 56,000 animals and vaccinating almost 200,000 (cattle, sheep, goats and poultry) against multiple diseases. It has mobilised 63 community facilitators who have facilitated camp-level action plans for disaster risk reduction including training of Community Animal Health Workers, improving water infrastructure and its management by communities, and clearing bush to establish livestock routes. 40 enterprise groups for youth and adult learners have been established.*

h https://www.scp-centre.org/our-work/step/

## *Box I: Small-scale livestock projects in Haiti*

*In Haiti, the poorest country in the Western Hemisphere and one repeatedly devastated by natural disasters, current small-scale EU projects which address the livestock sector, with overall budgets of between €22,000 and €194,000, include:*

- *Support to Resilience of Food and Nutrition Security in the Lower North-West through Strengthening of Community and Institutional Stakeholders, which has distributed 428 goats to 214 small-scale producers, distributed 400 guinea fowl to 100 producers, constructed 4 collective and 15 individual shelters for goats for use in adverse conditions, and planted fodder species over 14,000 m2.*
- *Resilience for Pestel and Corail, implemented by the NGO, CRS, which has trained 400 people in goat production and 300 in cattle production, constructed 15 breeding centres, distributed 42 stud goats and 21 bulls of improved breeds and engaged in vaccination campaigns.*
- *The Programme of Support for Local Value Chains in the Lower North West, which has trained 573 livestock-keepers in husbandry, production and storage of forages, and animal health, introduced 15 Boer stud goats, established 85 shelters, and financially supported 132 livestock-keepers.*
- *The Support Project for Improvement of Food and Nutrition Security in the North-Eastern Department, which has supported 302 households with construction of chicken coops and distributed 3264 laying hens, producing eggs for both household consumption and sale.*

As pastoralists are considered to have high vulnerability to climate change and variability, several projects concerned with pastoralist development address resilience and adaptation. One major regional project in the Sahel, CaSSECS, addresses climate change mitigation - see Box G. Important pastoralist projects have also been implemented in conflict and post-conflict areas – see Box H.

## Multi-Actor Partnerships in Livestock Sector Development

As a major donor, the EU is able to enter into significant multi-year programmes with national governments achieving impact at scale. It is also able to act flexibly initiating small projects, many of them implemented by NGOs. These can be particularly useful in promoting, on a pilot basis, the keeping of small livestock species among the extremely poor. Box I gives some examples from Haiti.

*Mother and baby goat in Haiti*
*© Ursula Page/Shutterstock.com*

# Conclusion

Livestock form a crucial element in the livelihoods, the food security and the soil fertility management of hundreds of millions of poor people in developing countries, and represent a way of creating livelihoods from lands too arid or too mountainous for crop farming. There is scope for the livestock sector in some developing countries to generate employment and to reduce trade imbalances.

The EU has responded to the complexities of the sector – which include its significant responsibility for the emission of greenhouse gases and other negative environmental impacts, and its association with zoonotic diseases – with a large portfolio of projects. These have accounted for 19% of overall funding for Food and Nutrition Security and Sustainable Agriculture between 2014 and 2020. In these years, 76% of livestock-related funding has been allocated to Africa. Principally because so much livestock production takes place in mixed crop-livestock systems, and because the development needs of livestock keepers cut across sectors, support to the livestock sector is in the majority funded through multi-purpose projects, where livestock activities are integrated with support for agriculture or other activities. But significant amounts of funding have also been directed to animal health, value chain development for livestock products, and natural resource management in pastoral systems. Across these sectors, it is notable that projects accounting for 81% of funding are marked as having gender equality as a significant objective (using 2019 as a sample year) – development in the livestock sector continues to be a means to address the development needs of women and female-headed households. EU-funded projects also address aid to the environment, climate change adaptation, climate change mitigation, and action against desertification.

In the future all these areas of cooperation can be strengthened. Funding vehicles for this can vary from small-scale projects funded through NGOs, including projects that address the nexus between pastoral livelihoods, emergencies and conflict, to multi-donor commitments at regional and global level, such as that to eliminate Peste des Petits Ruminants, and projects that address livestock within the broader agricultural sector. Early indications are that a major part of support to the livestock sector in coming years will be channelled into projects and programmes addressing climate change. An increase in action on climate change mitigation within the livestock sector, provided it uses the most appropriate baselines, assumptions and metrics for measuring emissions, and addresses the diversity of livestock systems and the predicaments of poor livestock-keepers, will be a very important contribution to sustainable development.

*“In the coming years, the EU is in a strong position to make a significant contribution to the global livestock sector in a way that reduces poverty and contributes to environmental sustainability.”*

In the coming years, the EU is in a strong position to make a significant contribution to the global livestock sector in a way that reduces poverty and contributes to environmental sustainability.

**Annex Table 1:** EU Livestock-related Funding 2019 by OECD DAC Policy Markers (percentages)

Level of Objective: P = Principal, S = Significant

| OECD DAC Marker | Climate Change Adaptation | | Climate Change Mitigation | | Desertification | | Gender Equality | | Biodiversity | | Aid to Environment | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | P | S | P | S | P | S | P | S | P | S | P | S |
| **Main project purpose** | **24** | **31** | **11** | **20** | **0** | **24** | **6** | **49** | **0** | **19** | **35** | **38** |
| Animal Health / Food Safety | 31 | 0 | 0 | 47 | 0 | 31 | 0 | 33 | 0 | 31 | 47 | 0 |
| Livestock Industry | 13 | 35 | 13 | 0.4 | 0 | 13 | 13 | 35 | 0 | 13 | 13 | 35 |
| Multi-aspect Food security, Increasing Smallholder Incomes and Resilience | 0 | 100 | 0 | 52 | 0 | 0 | 0 | 100 | 0 | 0 | 52 | 48 |
| Pastoral Natural Resource Management | 100 | 0 | 49 | 0 | 0 | 100 | 0 | 100 | 0 | 49 | 100 | 0 |
| Public Capacity-Building and Agricultural Research Support | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| **Significant project purpose** | **13** | **75** | **3** | **77** | **10** | **42** | **2** | **91** | **0** | **18** | **13** | **78** |
| Animal Health / Food Safety | 0 | 4 | 0 | 4 | 0 | 4 | 0 | 4 | 0 | 4 | 0 | 4 |
| Livestock Industry | 0 | 63 | 0 | 43 | 0 | 43 | 5 | 75 | 0 | 43 | 0 | 78 |
| Multi-aspect Food security, Increasing Smallholder Incomes and Resilience | 24 | 75 | 0 | 90 | 24 | 7 | 1 | 99 | 0 | 7 | 24 | 75 |
| Pastoral Natural Resource Management | 10 | 90 | 10 | 90 | 0 | 90 | 0 | 100 | 0 | 17 | 10 | 90 |
| **Multi-purpose project, also integrating livestock activities** | **3** | **52** | **0.3** | **50** | **0** | **46** | **0** | **79** | **1** | **6** | **4** | **77** |
| Animal Health / Food Safety | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 100 |
| Livestock Industry | 0 | 26 | 0 | 43 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 68 |
| Multi-aspect Food security, Increasing Smallholder Incomes and Resilience | 3 | 58 | 0.3 | 60 | 0 | 56 | 0 | 82 | 2 | 5 | 4 | 77 |
| Pastoral Natural Resource Management | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 100 | 0 | 100 | 0 |
| Public Capacity-Building and Agricultural Research Support | 1 | 20 | 0 | 1 | 0 | 1 | 0 | 69 | 0 | 9 | 7 | 80 |
| **Grand Total** | **9** | **57** | **3** | **55** | **3** | **43** | **1** | **80** | **1** | **11** | **11** | **72** |

*Note to Annex Table 1*

The OECD Policy Markers considered here are adapted from the GIZ Policy Marker system

- Climate Change Adaptation: whether a project helps build capacities for adaptation to climate change, including managing the explicit risks that are associated with climate change and extreme weather events, or directly addressing the impacts of climate change.
- Climate Change Mitigation: whether a project contributes to the objective of reducing or limiting greenhouse gas emissions, or enhancing GHG sequestration in soil or plants.
- Desertification: whether a project promotes the objectives of the UN Convention to Combat Desertification; prevention or reduction of land degradation, or rehabilitation of degraded or desertified land.
- Gender Equality: whether a project contributes to reducing inequalities between women and men or substantially improving the lives of women or girls.
- Biodiversity: whether a project promotes the objectives of the UN Convention on Biodiversity; the conservation of biodiversity, the sustainable use of ecosystems, species or genetic resources, or the equitable sharing of the benefits of the utilisation of genetic resources.
- Environmental Protection and Resource Conservation: whether a project aims to bring about an improvement in the environment or includes human and institutional capacity development that integrates environmental concerns.

MN-BM-22-001-EN-N



Published by Directorate-General International Partnerships
Directorate Green Deal, Digital Agenda



Directorate-General International Partnerships
Rue de la Loi 41 – B-1049 Brussels
E-mail: europeaid-info@ec.europa.eu
For further information:
https://ec.europa.eu/international-partnerships/home_en

Publications Office
of the European Union

ISBN 978-92-76-49107-1
ISSN 2443-6259
DOI 10.2841/494946