



## Frequently asked questions

### FAO Global Conference on Sustainable Livestock Transformation (GC-SLT)

#### THE EVENT

##### 1. Why is FAO holding the Global Conference on Sustainable Livestock Transformation?

The world is facing a number of major challenges. The first is global hunger, food insecurity and malnutrition. The latest [State of Food Insecurity and Nutrition in the World](#) report estimated that in 2021 there were 702–828 million undernourished people. It also estimated that in 2020 about 22 percent of children under five years of age were stunted, 7 percent were wasted, 6 percent were overweight and that almost 3.1 billion people could not afford a healthy diet.

Another challenge is that the world continues to be in a phase of rapid population growth. The global population rose from about 2.5 billion people in 1950 to 8 billion in 2022 and it is projected to reach 8.5 billion in 2030 and 9.7 billion in 2050. The demand for food is expected to increase substantially as the global population increases and as higher incomes drive dietary pattern changes towards more animal source foods. The agriculture sectors, including forestry and fisheries, are also expected to produce more non-food products for energy and feed. At the same time, the natural resources upon which agriculture depends, such as land, water and soil, are increasingly threatened by environmental degradation and climate change.

Climate change has already begun to significantly affect agriculture. Temperatures, precipitation patterns, water availability, sea levels, salinization, as well as the frequency and intensity of extreme weather events, are all changing, with profound impacts on the crop, livestock, forestry and fishery sectors. Many of the countries and populations that are most affected by climate change are those that are already food insecure and malnourished.

FAO seeks to assist its Members to meet these challenges through its [Strategic Framework 2022-31](#) – a ten-year plan of action for the Organization that is built around the four main aspirations of better production, better nutrition, a better environment and a better life. It aligns FAO's overall work to the attainment of the [Sustainable Development Goals](#) (SDGs). Sustainable livestock systems play important roles in achieving each of these four aspirations.

Sustainable livestock production systems play a key role for food security and nutrition, livelihoods, employment and decent work, ecosystem services, and sustainable management of natural resources. Livestock manure is a critical source of organic fertilizer. Globally, hundreds of millions of pastoralists rely on their herds for food, income and as a store of wealth, collateral or safety net in times of need. Livestock are important assets for vulnerable communities.

Additionally, livestock production systems have the potential to contribute to the conservation of biodiversity and to carbon sequestration in soils and biomass. In harsh environments, such as mountains and drylands, use of livestock is often the only way to sustainably convert natural resources into food, fibre and work power for local communities.

The [FAO Global Conference on Sustainable Livestock Transformation](#) will provide a neutral forum for representatives of FAO Members, intergovernmental bodies, producer organizations, research and academic institutions, civil society organizations and private sector bodies to engage in dialogues on innovations and pathways to efficiently produce more nutritious, safe and accessible animal source foods with a reduced environmental footprint, and contribute to vibrant local and diversified livestock systems that are more resilient to shocks and disruptions.

## **2. What is expected from this event?**

This global event is expected to:

- Raise awareness of the contribution of sustainable livestock production to implementing the FAO Strategic Framework 2022-31, to attain the Sustainable Development Goals at global, regional and national levels;
- Share information and knowledge on the strategic direction and technical developments in sustainable livestock production worldwide; and
- Establish priorities for the mobilization and pooling of scientific, technical and financial resources to achieve global sustainable livestock transformation.

## **3. How will the GC-SLT programme be organized?**

It will include an opening plenary session with a speech by the FAO Director-General and presentations by keynote speakers followed by a high-level ministerial panel; four plenary sessions dedicated to the four conference themes of better production, better nutrition, better environment and better life; and a closing plenary session with a high-level ministerial segment.

The programme will be made available on the [GC-SLT website](#). The GC-SLT Secretariat is hosted by the [FAO Animal Production and Health Division](#) and an FAO Advisory Task Force as well as an [External Advisory Panel](#) are providing advice and guidance to the GC-SLT Secretariat on the thematic areas and overall structure of the programme.

In addition to the main programme, the meeting will include five side events related to the sustainable transformation of livestock systems. There will also be an exhibition in the FAO Atrium on 25-29 September showcasing success stories where innovative solutions and approaches have been used to transform livestock production systems to make them more sustainable. For both of them, an open call for proposals was made available on the GC-SLT website. In parallel to the GC-SLT, the Global Youth Dialogue on Sustainable Livestock Transformation will also take place, aiming to connect and empower young people around the globe to discuss key priorities and challenges and identify innovative and actionable solutions for sustainable livestock transformation.

#### 4. What are the four main themes of the GC-SLT?

The programme is structured around four main themes:

- **Better livestock production systems:** encompassing management and use of feed and animal genetic resources, animal health and welfare, digitalization and precision livestock farming;
- **Animal source food for better nutrition:** presenting the state-of-the-art knowledge on the contribution of animal source food to food security and nutrition and healthy diets;
- **Livestock solutions for a better environment:** sharing information about good practices and initiatives to make optimal use of natural resources and reduce greenhouse gas emissions;
- **Better life:** including how to support small-scale livestock producers to improve their livelihoods and income through inclusive services and policies, fostering more efficient and resilient livestock production.

#### 5. Where and when will the event be held?

It will take place in person on 25-27 September 2023 at FAO headquarters in Rome, Italy.

#### 6. Who will participate in the GC-SLT?

Participation is by invitation and representatives of all key relevant stakeholders will be invited to participate in this event. These include the representatives of FAO Members; intergovernmental organizations; and producer organizations, research and academic institutions, civil society organizations and private sector bodies. It is expected that about 400-500 people will participate in person in the GC-SLT.

It will be web streamed so people around the world can follow the event live. It will also be recorded and these recordings will be made available on the FAO website for later reference.

#### 7. What languages will be used in the GC-SLT?

For all of the plenary sessions in the GC-SLT there will be interpretation in Arabic, Chinese, English, French, Russian and Spanish. So, people who speak during the event can use any of these six languages.

### LIVESTOCK AND BETTER PRODUCTION

#### 8. What are the key challenges that small-scale livestock producers, including pastoralists, are facing?

Small-scale producers – including pastoralists – are often among the poorest and most vulnerable population groups. They often have inadequate access to natural and productive resources, information, technology and innovation; are often excluded from policy and decision-making processes; and are more affected by climate change. Although several small-scale livestock production systems strongly align with the principles of sustainable bioeconomies, marketing systems often do not reward small-scale producers for the positive aspects of their production systems, especially in some low- and middle-income countries. They experience difficulties meeting sanitary standards developed for larger-scale systems and have little bargaining power in either input or output markets; this is often aggravated by the lack of organized producer groups.

Moreover, small-scale livestock producers are often marginalized and not adequately supported by policy and regulatory frameworks. The above-mentioned long-standing challenges are exacerbated by small-scale producers' pronounced vulnerability to global issues such as climate change; endemic, emerging and re-emerging diseases; land degradation; water scarcity; and conflict.

### **9. What is the One Health approach and why is it important?**

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development. Ensuring a One Health approach is essential for progress to anticipate, prevent, detect and control diseases that spread between animals and humans, tackle antimicrobial resistance, ensure food safety, prevent environment-related human and animal health threats. By addressing health issues in a holistic and collaborative manner, we can better protect and promote the well-being of all living beings.

### **10. What is antimicrobial resistance and how can we prevent its development in livestock production?**

Antimicrobial resistance is an evolutionary process by which microbes adapt to their surrounding environment. It is exacerbated by the use of antimicrobials in human and animal healthcare and in the agriculture sector, especially when it is inappropriate and abundant. Effectively addressing antimicrobial resistance requires the livestock sectors to join other sectors in their commitment to implement practices that minimize the need for, and the use of, antimicrobials in livestock. Better biosecurity measures at the farm or herd level, improved husbandry hygiene and management, appropriate choice of genetic recourses, advanced nutrition and feeding practices, increased welfare, effective treatment of wastewater from livestock operations, may all contribute to reduce the risk of disease transmission and stress and, consequently, the need to use antimicrobials. Lower antimicrobial use, in turn, reduces the risk of drug-resistant microorganisms entering the agricultural and food supply and their environment. In addition, the use of antimicrobials should be always handled with veterinary oversight.

### **11. How significant is the competition between feed, fuel and food production?**

With the growing demand for animal source food and for biofuels, competition over the allocation of agricultural land for the production of feed and fodder, biofuel crops and food grains and crops for human consumption has increased.

Currently, around 0.5 billion hectares, or 33 percent of available arable land, are used for the production of animal feeds. However, livestock rely primarily on forages, crop residues and by-products that are not edible to humans. An estimated 86 percent of livestock feed is not suitable for human consumption.

### **12. How can animal welfare contribute to sustainable livestock production?**

Animal welfare can have multiple benefits. For example, due care for the welfare of animals during handling and transport can reduce mortality and injuries, limit bruising and levels of stress, preventing financial losses from unnecessary damage to carcasses at the slaughterhouse and poor

meat quality. Improving welfare offers commercial and trade opportunities to markets demanding higher welfare products, often with higher premium prices. From the social and environmental sustainability point of view, other benefits of animal welfare include the reduction of the risk of animal diseases (including zoonosis) and therefore the need to use antimicrobials, thus contributing to the containment of antimicrobial resistance; the mitigation of climate change and environmental damage, as animals with lower cortisol concentration (i.e. less stressed and therefore in a better welfare state) produce less methane; higher safety for animal handlers and staff when animals are less stressed and easier to handle.

### **13. What role do information and communication technologies (ICTs) have in livestock production?**

Information and communication technologies (ICTs) and other technological solutions in livestock production and agrifood systems are indispensable to feed a continuously growing population in the face of unsustainable natural resource use; endemic, emerging and re-emerging diseases; and increasing shocks and stresses, including climate change. These solutions are needed to make the livestock sector more productive and sustainable and boost productivity levels, beyond primary production. Animal identification and recording, for example, are a prerequisite to establish and operate any genetic improvement programme; contribute to animal traceability and disease control; and to deterring stock theft. Traceability of animals and their products helps to ensure the safety and quality of animal products, and contributes to enhance market access and to generate higher incomes for producers and other players in the value chain.

In recent years, ICTs such as mobile phone technology have allowed diverse types of innovations in the livestock sector, which include commodity and stock market price information and analysis, advisory services to farmers and pastoralists for agricultural extension, early warning systems for feed resources, disaster prevention and control, and financial services. ICTs are often complementary with agricultural automation, together allowing for more careful livestock management; providing better working conditions and improved incomes; and generating new rural entrepreneurial opportunities. Tailoring automation to the conditions of small-scale producers is key to reducing barriers to adoption, faced in particular by small-scale producers, women and youth.

As animal herds increase in size, new automation technologies, such as precision livestock farming, can support producers by monitoring and controlling animal productivity, environmental impacts, and health and welfare parameters in a continuous, real-time and automated manner. Advanced digital automation technologies can facilitate the timely identification of disease outbreak points and allow early and precise deduction, treatment and control of zoonosis. Technologies beyond the farm can further reduce food loss and waste, enhance food safety, and enable value addition.

## **LIVESTOCK AND BETTER NUTRITION**

### **14. What is the role of animal source foods in a healthy diet?**

[Healthy diets](#) are based on a great variety of unprocessed or minimally processed foods, balanced across food groups, include whole grains, legumes, nuts and an abundance and variety of fruits and vegetables and can include moderate amounts of eggs, dairy, poultry and fish, and small amounts of red meat.

[Milk, dairy products, eggs](#) and meat, obtained by a wide range of livestock species, provide high-quality proteins, important fatty acids and various bioavailable vitamins and minerals including [iron](#), zinc, selenium, Vitamin B12, choline and calcium, among others. Animal source foods are particularly important at different life stages: [pregnant and lactating women, infants and younger children](#), [school-age children and adolescent](#), and [adults and older adults](#).

#### **15. Should we consume less animal source foods?**

The contribution of [milk, dairy products, eggs](#) and meat to dietary patterns varies substantially across different agrifood systems and population subgroups, with some populations showing very high intake and others very low intake.

In some locations, particularly sub-Saharan Africa and parts of South Asia, many individuals do not consume sufficient animal source food to meet their nutritional needs for several essential nutrients. In other parts of the world, particularly some high-income countries, consumption is very high. This pattern contributes to food insecurity and malnutrition in some contexts, adverse health outcomes in others, and simultaneously to environmental challenges.

[Animal source foods](#) are obtained from a wide range of livestock species and livestock production systems. They have different environmental, social and economic benefits and impacts. Both food and nutrition and agricultural policies are crucial across sectors to optimize outcomes and address potential trade-offs.

## **LIVESTOCK AND A BETTER ENVIRONMENT**

#### **16. What impacts does livestock production have on the release of greenhouse gases and on climate change and how can these impacts be reduced?**

The livestock sector is associated with greenhouse gas emissions, which are estimated at about 10-15 percent of all anthropogenic greenhouse gas emissions. The sector is also a major contributor to methane emissions, representing about 32 percent of total anthropogenic methane emissions. Methane is a short-lived climate pollutant that degrades in 12 years. A recent synthesis report from the Intergovernmental Panel on Climate Change (IPCC) found that methane alone contributed at least 0.5 degrees Celsius to the current global warming, estimated at an increase of average temperature to 1.2 degrees Celsius. There are [multiple options to reduce those emissions across the diversity of livestock systems](#). However, these solutions need to consider the local contexts to align mitigation commitments and livestock development objectives.

Mitigation options can target the improvement of feed and feeding practices, the use of methane inhibitors to tackle enteric fermentation, the improvement of animal health and husbandry, promoting animal genetics and breeding, boosting productivity through genetic improvement and better feeding, enhancement of manure management systems by using biogas plants and recycling of manure in croplands. Moreover, the promotion of carbon sequestration in grasslands is the best strategy to remove carbon from the atmosphere. FAO estimates that by adopting best practices in different livestock systems, greenhouse gas emissions could be reduced by at least 30 percent.

### **17. What impacts does climate change have on livestock production?**

Climate change affects livestock production in multiple ways, both directly and indirectly. The most important impacts are experienced in animal productivity, yields of forages and feed crops, animal health and biodiversity.

Variability in rainfall can lead to shortages in drinking and servicing water and an increase in vector-borne diseases, both of which are detrimental to animal health. It also decreases the yields and quality of forage and feed crops and alters pasture composition.

Heat stress caused by rising temperatures leads to decreased feed intake and livestock yields, reduced fertility rates and increased mortality. Rising temperatures increase the winter survival of vectors and pathogens. Diseases such as bluetongue, Lyme, West Nile virus and schistosomiasis are projected to expand into new areas.

The vulnerability of livestock to the effects of climate change depends on factors such as the duration, frequency and severity of climate shocks, the breed and the health status of animals, and the location of relevant assets such as feedstock, housing and water points.

### **18. How can the circular economy contribute to reduced environmental pollution from livestock and to reduced food loss and waste?**

[The bioeconomy – an economy based on the sustainable and circular use of biological resources and processes](#) to produce food, feed, bio-based products and services – has major untapped potential to support both climate change mitigation and adaptation, reduce environmental pollution and food loss and waste.

The transition to a sustainable and circular bioeconomy involves challenges and risks as well as benefits and opportunities. While the bioeconomy offers many potential solutions for climate action, any potential trade-offs involved in choosing one policy option over another (e.g. regarding land use, food security, human health and safety, etc.) should be carefully considered and mitigating measures put in place.

Taking into consideration the principles of cascading use of biomass, where biomass uses are prioritized in terms of their value and use, biomass from livestock residues has an important role to play in replacing fossil-derived energy with energy from anaerobic digestion of livestock residues, which can reduce methane emissions and produce bioelectricity.

Low external input livestock production systems are traditionally based on a circular economy. At territorial or country level, the circular economy may be upscaled to better integrate crop and livestock production and also the crop processing industry to recycle by- and waste-products as feed.

## **LIVESTOCK AND A BETTER LIFE**

### **19. How important is livestock production in national economies?**

Although the share of agriculture in the national gross domestic product tends to decrease as countries move up the development ladder, the contribution of livestock to agricultural output tends to increase as agriculture modernizes and markets become more specialized. The share of livestock production in developed countries (nearly 40 percent of agricultural output) is twice as large as in developing economies (about 20 percent). For instance, in North America it accounts for

25 percent of agricultural production and in Europe and Central Asia it accounts for 37 percent. This contrasts with much lower shares, ranging between 14 percent and 22 percent, in the regions of Latin America and the Caribbean, the Near East and North Africa, South Asia, and sub-Saharan Africa. This difference in contribution between developed and developing countries is due to the level of demand for animal source food as well as differences in value addition to livestock products which, in turn, depends on the level of development of the processing industry and of the overall infrastructural and institutional framework. It should be noted, however, that the livestock sector has grown faster in developing regions – between 2.6 percent and 4 percent per annum – than in developed regions, where it has averaged 1 percent per annum in Europe and Central Asia and 1.3 percent in North America.

## **20. How important is livestock production for people's livelihoods around the world?**

In several countries across the world, the surging demand for livestock products is largely met by large-scale livestock production and associated food chains. Nonetheless, hundreds of millions of small-scale farmers and pastoralists depend on livestock for their livelihoods. Beyond food production, farm animals play other important economic, cultural and social roles and provide multiple functions and services. They are an essential part of agro-ecosystems and often represent a means of extracting multiple values from land that is not suitable for crop production. In low- and middle-income countries, small-scale livestock systems serve as an economic and social engine and provide food security and nutrition, employment and other multiplier effects to local economies. The eggs, milk and meat supplied by small-scale producers can play a critical role in local and national food supplies. In regions such as Europe and Northern America, where the demand for livestock products has in most cases been met by medium- to large-scale livestock production systems, small-scale systems continue to provide livelihoods for the producing households and important ecosystem services for the benefit of society.

## **21. How important is livestock production for women and youth around the world?**

Globally, there are about 660 million poor people (living on less than USD2.15 per day) including those who do or do not keep livestock, and those who live in urban or rural areas. Livestock is an asset that women in developing countries often can own and control more easily than other assets such as land, property or financial assets. The benefits of livestock ownership can include the income earned from animals and animal products as well as the improvements in nutrition and health that result from consuming animal products. Efficient and effective livestock food supply chains are essential to lowering the risks of food insecurity, malnutrition, food price fluctuations and can simultaneously create jobs. Empowering small producers and retailers by mainstreaming them in the food systems is critical.

Small-scale producers are the main users and custodians of locally adapted livestock breeds. A large part of these are [women](#), who are key actors in conserving livestock diversity and are particularly involved in small livestock production, transformation and marketing. Women also tend to reinvest the vast majority of their income in the household while men are less likely to do so. Income under the control of women is more likely to be used to improve family welfare with women spending up to 90 percent of their income on their families, while men spend 30-40 percent. Women and youth are involved in all aspects of producing and creating healthy food for their families and must be integrated actively into any work that aims to improve family nutrition.



## **FAO'S ROLE IN SUSTAINABLE LIVESTOCK TRANSFORMATION**

### **22. What role does FAO play in assisting its Members to sustainably transform their livestock systems?**

FAO assists its Members to sustainably transform their livestock systems in the following ways:

- Generating evidence on best practices and innovations and building the business case for different pathways towards their wide adoption.
- Partnering with governments, mandated to deliver public goods and services to facilitate the adoption of best livestock practices through enabling environments.
- Co-creating policy instruments and tools through multistakeholder interdisciplinary dialogue. These sets of complementary and self-reinforcing public and private sector actions, or policy instruments, facilitate the widespread adoption of best livestock practices.
- Developing public-private partnerships to test policy instruments and assess their effectiveness.
- Partnering with bilateral and multilateral financing institutions (among others, the World Bank and Green Climate Fund) to support investments in sustainable livestock transformation.