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COMMITTEE ON AGRICULTURE

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Livestock Sector contributions to achieving SDGs

Executive Summary

The livestock sector contributes directly or indirectly to each of the 17 Sustainable Development Goals (SDGs), and in particular to SDGs 1 (no poverty), 2 (zero hunger), 3 (good health and wellbeing), 5 (gender equality), 8 (decent work and economic growth), 10 (reduced inequalities), 13 (climate action) and 15 (life on land), with complex interactions between these goals.

This document discusses these interactions through four interrelated criteria: (i) food security, nutrition and healthy diets; (ii) inclusive economic growth and improved livelihoods; (iii) animal health and welfare; and (iv) natural resources and climate change. For each of these criteria, the challenges and opportunities for the livestock sector are discussed, as well as the actions undertaken for its sustainable development and for achieving the targets of the above SDGs.

While progress has been reported for most of the SDG indicators related to livestock under FAO custodianship, countries seem to be lagging in achieving SDG 2. This will likely be accentuated by the COVID-19 pandemic and related economic slowdown.

The document highlights the need for a holistic and inclusive approach to livestock sector policy and technical actions that should include all stakeholders within the food system, build the capacity of countries to develop and use coherent evidence-based policy, institutional and technical tools, generate analytical evidence and facilitate policy dialogue.

Suggested action by the Committee

The Committee is invited to:

- Request FAO to strengthen its livestock sector policy and technical support to Members, using an integrated approach that contributes positively to the SDGs while addressing the complex interactions between the livestock sector and the SDGs, including through the *Hand-in-Hand Initiative*.
- Request FAO to produce voluntary guidelines to enhance the productivity of small-scale livestock keepers and improve their contribution to food security, nutrition and poverty eradication.
- Request FAO to produce comprehensive and evidence-based global assessments of the contribution of livestock to nutrition and healthy diets.
- Request FAO to develop appropriate data, knowledge and tools to guide countries in preparation and implementation of livestock policy and investments in relation to achieving the SDGs.

Queries on the substantive content of the document may be addressed to:

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I. Introduction

1. Agenda 2030 serves as a call to action by countries and stakeholders to end poverty while protecting the planet. It covers the three dimensions of sustainable development: economic growth, social inclusion and environmental protection.

2. The livestock sector contributes to each of the SDGs and in particular to SDGs 1 (no poverty), SDG 2 (zero hunger), SDG 3 (good health and wellbeing), SDG 5 (gender equality), SDG 8 (decent work and economic growth), SDG 10 (reduced inequalities), SDG 13 (climate action) and SDG 15 (life on land). This document reviews these contributions in four main areas of work: (i) food security, nutrition and healthy diets; (ii) inclusive economic growth and improved livelihoods; (iii) animal health and welfare; and (iv) natural resources and climate change. It summarizes the challenges and opportunities; reviews actions undertaken by FAO and other stakeholders; outlines priority areas for technical and policy action, and highlights the need for a holistic and inclusive approach to livestock policy and technical actions, considering their inherent complex interactions.

II. Food Security, nutrition and healthy diets

A. Challenges and opportunities

3. Globally, more than 800 million people are chronically hungry and billions more face other forms of malnutrition. Pregnant mothers and young children are particularly vulnerable. Hunger and malnutrition reinforce poverty by impeding cognitive development in children and reducing labour productivity in adults, forcing families to subsist rather than plan for the future. Countries are currently off track in achieving Zero Hunger¹ and the COVID-19 pandemic will exacerbate the difficulties.²

4. Animal-source foods are energy and protein-dense³ and sources of many other essential nutrients. Livestock species and breeds are adapted to a wide range of environments, so the sector can contribute significantly to the eradication of hunger and malnutrition even in areas that are unsuitable for crop production.

5. Globally, livestock products contribute 34 percent of protein and 17 percent of calorie intake of diets, but this contribution is not equitably distributed among regions. The food systems worldwide provide low-cost calories for most people, but often without adequate attention to nutrition and healthy diets, resulting in high burdens of all forms of malnutrition. At the same time, food safety must also be ensured.

B. What FAO is doing

6. Supporting countries to achieve SDG 2 is FAO's primary focus. FAO's work includes ensuring healthy diets through food system policy coherence, targeting vulnerable groups such as children through school meals,⁴ making data on food composition and diet quality available for decision-making⁵ and supporting countries develop food-based dietary guidelines,⁶ among others.

7. FAO's work to curb hunger and malnutrition is further fostered at the regional, sub-regional and country levels. By working closely with countries, as well as with regional economic communities, FAO's decentralized offices contribute directly to improving livestock productivity and thus to improved nutrition and food security.

¹ <http://www.fao.org/sdg-progress-report/en/#chapeau>

² FAO. 2020. COVID-19 and food security, technical note

³ FAO/WHO. Guiding Principles Sustainable Healthy Diet. 2019 <http://www.fao.org/3/ca6640en/ca6640en.pdf>

⁴ <http://www.fao.org/publications/card/en/c/CA4091EN>

⁵ <http://www.fao.org/nutrition/assessment/en/>

⁶ <http://www.fao.org/nutrition/education/food-dietary-guidelines/en/>

8. FAO, through the Codex Alimentarius Commission (CAC), provides support in the application of CAC standards by developing capacities to ensure the safety of feed and food of animal origin.

C. Priority areas of policy and technical actions

9. Productivity of small-scale producers is to be doubled by 2030⁷ to improve their nutritional status and the food security of their fellow citizens. For livestock, the productivity gap can be bridged with adoption of innovative husbandry practices, supported by enabling policies.

10. Informed decisions must be based on data and scientific evidence. Therefore, a consensual document is urgently needed to present a comprehensive global assessment of livestock's contribution to food security and nutrition, particularly for the billions of people suffering from hunger and malnutrition.

III. Improved livelihoods and inclusive economic growth

A. Challenges and opportunities

11. Around 10 percent of the world's people live in extreme poverty. While this proportion has been consistently decreasing in recent years,⁸ poverty will likely increase due to the unprecedented economic slowdown brought on by the COVID-19 pandemic.⁹

12. Livestock supply chains constitute the world's third most important source of income, after crop production and non-agricultural employment. Globally more than a billion people depend on livestock value chains for their livelihoods. Small-scale livestock keepers and pastoralists represent a large part of the livestock producers. About 600 million of the world's poor keep livestock and are vulnerable to climate and conflict-related shocks. Migration is a common coping mechanism when alternative income streams are not feasible.

13. Livestock are an asset for economic resilience and income, and support crop production with manure used as fertilizer, ploughing and transport. They also stimulate demand for other goods and services and promote economic transformation. The global demand for livestock products is expected to increase by up to 50 percent by 2050, creating further economic opportunities. However, ability to take advantage of these opportunities is not equal. Small-scale producers have little bargaining power in either input or output markets and limited access to social protection schemes. Many smallholders are women, who often have less access to production resources, credit, knowledge and information and markets. The involvement of youth in farming is also decreasing. Pastoralists are often marginalized and not considered by national policies and programmes.

B. What FAO is doing

14. FAO produces guidelines and manuals to improve the development of livestock value chains,^{10 11} health and husbandry practices. FAO is building capacity at local level to promote best practices and facilitate sharing of these practices.

15. FAO cooperates with several partners to support countries in the development of Livestock Master Plans based on identifying the most important and strategic opportunities for investment and contribute to sustainably transform the livestock sector.

⁷ SDG Target 2.3.

⁸ <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>

⁹ <https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest>

¹⁰ <http://www.fao.org/3/ca5717en/ca5717en.pdf>

¹¹ <http://www.fao.org/3/i1103e/i1103e.pdf>

16. FAO provides support to governments to expand social protection schemes to small-scale livestock keepers, including pastoralists. FAO promotes economic inclusion of smallholders by supporting their integration into value chains and diversification of their sources of income.

17. FAO oversees the Pastoralist Knowledge Hub¹² to unify and empower pastoralists and works with pastoralist communities to improve their production and health practices and thus their access to national and international markets.

C. Priority areas of policy and technical actions

18. Increasing the productivity of livestock farming and its better integration with plant production are means to increase sustainability. Effective and coherent policy implementation is required to ensure that productivity gains and the resulting financial benefits are equitable and do not compromise animal health and welfare, human health or environmental sustainability.

19. Supporting actions to small-scale producers must involve a holistic and inclusive approach along the value chain. Complementary policy and institutional changes such as participatory advisory and extension systems; linking research and innovation to local markets; and access to credit and insurance must be incorporated.¹³

20. Cooperatives and other producer's associations should be established or strengthened to improve smallholder representation in policy-making processes as well their bargaining power and access to inputs and markets.

IV. Animal health and welfare

A. Challenges and opportunities

21. The human health burden of zoonoses is high, with an estimated 2.7 million human deaths a year. Many animal diseases that are not zoonoses trigger heavy economic losses (averaging 25 percent at global level) in animal production. For example, the annual global impacts of Peste des Petits Ruminants (PPR) and Foot-and-Mouth Disease (FMD) in endemic regions have been estimated at USD 2.1 billion and over USD 12 billion, respectively. Vaccines and other tools for disease control are frequently not available when and where they are needed.

22. Diseases also disrupt the participation of countries in international trade, jeopardizing food security and livelihoods. Intensification of animal production often results in an increased use of antimicrobials (AM), contributing to the development of antimicrobial resistance (AMR).

23. Practices to increase the short-term profitability of livestock production may degrade animal welfare, affecting the immunity and productivity of animals, rendering them more susceptible to diseases. In many countries, animal welfare policies, standards and practices are poorly implemented.

B. What FAO is doing

24. FAO works closely with the World Health Organization (WHO), and the World Organisation for Animal Health (OIE) to jointly pursue the "One Health" approach that seeks to comprehensively address the disease threats at the animal-human-environment interface. FAO promotes and supports "One Health Platforms" at national, regional and global levels to tackle health threats of animal origin and address risks relating to human-livestock-wildlife interactions.

¹² <http://www.fao.org/pastoralist-knowledge-hub/en/>

¹³ Devaux, A., Torero, M., Donovan, J., & Horton, D. 2018. Agricultural innovation and inclusive value-chain development: a review. *Journal of Agribusiness in Developing and Emerging Economies*. DOI:10.1108/JADEE-06-2017-0065.

25. Within the Food Chain Crises Framework (FCC), the Emergency Prevention System (EMPRES) identifies the potential threats to value chains and markets and promotes evidence-based mitigating measures.

26. FAO supports a “progressive pathway” approach to all major high impact diseases¹⁴. Globally agreed strategies for the control of FMD and PPR are supported by joint OIE and FAO technical secretariats and further supported by the Secretariats of the European Commission for the control of FMD (EuFMD) and the programme against African Trypanosomiasis.

27. FAO, including through its joint division with the International Atomic Energy Agency,¹⁵ builds capacity in member countries for diagnosis, monitoring and control of livestock diseases. FAO contributes extensively to the Global Health Security Agenda and the Emerging Pandemic Threats programmes to build capacity to prevent, detect and respond to priority zoonotic diseases.

28. In collaboration with OIE and WHO, FAO is supporting the design and implementation of National Action Plans addressing the threat of AMR in at least 35 countries. FAO also supports the application of good animal husbandry practices and control of economically important diseases that drive AM use.

29. FAO advocates for better animal welfare and for practices that benefit both, animals and their keepers. As for One Health, FAO adopted the One Welfare approach to address the interconnection between animal welfare, human wellbeing and physical and social environment.

C. Priority areas of policy and technical actions

30. Multi-stakeholder dialogue is essential to address the global shortage of animal disease vaccines and to provide appropriate and up-to-date guidance at the primary animal health care level.

31. Coherent inclusive policy development and implementation at national level is needed to improve primary animal health care and application of good husbandry and welfare standards as part of an integrated One Health and sustainable food systems approach. Other priority areas for policy and technical work are presented in the discussion document Preventing, anticipating and responding to high-impact animal and plant diseases and pests (COAG/2020/06).

V. Natural Resources and Climate Change¹⁶

A. Challenges and opportunities

32. Livestock are the biggest user of agricultural land. While a large proportion of grasslands cannot be cropped, poor grazing management causes land degradation and biodiversity loss. Livestock consume approximately one-third of global cereal production, but roughages such as grass and crop residues and other agro-industrial by-products are important sources of feed. In some areas, the expansion of arable land at the expense of forest is driven by feed demand.

33. Livestock contribute to greenhouse gas (GHG) emissions (14.5 percent of total anthropogenic GHG emissions) and use significant amounts of the world’s freshwater. The negative environmental impacts of livestock can be reduced and the delivery of ecosystem services enhanced by adopting nature-based solutions, best practices and innovations. Livestock are particularly key to climate solutions in agriculture.

34. Climate change can devastate animal productivity, health and welfare. It can also affect disease patterns, making outbreaks harder to control.

¹⁴ See Preventing, anticipating and responding to high-impact animal and plant diseases and pests (COAG/2020/6).

¹⁵ <https://www.iaea.org/topics/livestock>

¹⁶ More details in Livestock, natural resource use, climate change and environment (COAG/2020/INF/5).

35. Livestock have the potential to contribute to the conservation of biodiversity and genetic resources for food and agriculture, and to important ecosystem functions. However, the diversity of livestock is in a continual state of decline.¹⁷

B. What FAO is doing

36. FAO develops tools, methodologies and protocols to assess the environmental impacts of livestock systems and to identify best practices¹⁸ at country level. FAO builds the capacities of governments, livestock keepers, the private sector and funding institutions to use these tools for national GHG inventories and accessing climate finance and investment plans for the adoption of best practices.

37. FAO is custodian of several SDG indicators related to climate change and natural resources and is strengthening the knowledge and evidence base by developing assessments and evaluating the impacts of technical options to improve the environmental performance of the sector. This includes publications,¹⁹ policy briefs²⁰ and contributions to the Intergovernmental Panel on Climate Change (IPCC) and to United Nations Framework Convention on Climate Change (UNFCCC) processes like the Koronivia Joint Work on Agriculture.

38. FAO supports countries in implementing the Global Plan of Action for Animal Genetic Resources²¹ by providing technical and policy support and monitoring the status of animal genetic resources, including through the Domestic Animal Diversity Information System, which contains data for the calculation of SDG indicators 2.5.1b and 2.5.2.

39. FAO pilots and validates best practices to improve the efficiency of the sector and livestock-environment interactions through projects and support to up scaling and investments. FAO provides convening platforms for intergovernmental processes and multi-stakeholder partnerships for better integration of environment with broader sustainability objectives.

C. Priority areas of policy and technical actions

40. The resilience of small-scale producers must be strengthened through the diversification of incomes, resources, adapted genetics and husbandry. Livestock policy must be developed considering the ecosystem services that livestock production systems utilize and provide.

41. Improving productivity is key to reducing the negative environmental impact of the sector. In particular, low carbon livestock and higher resource use efficiency gains could reduce emissions from the sector by up to 30 percent.

42. Community-based programmes should be supported as an efficient approach to sustainably use and develop livestock breeds. Such programmes should be integrated with improved management of other forms of agro- and natural biodiversity.

43. Promoting regenerative grazing practices and restoring degraded rangelands can help soil carbon sequestration and put carbon back in the ground, while also improving biodiversity and water quality, especially in extensive grazing systems. Improving manure management can avoid nutrient

¹⁷ <http://www.fao.org/3/a-i4787e.pdf>

¹⁸ Tool for Agroecology Performance Evaluation (TAPE) <http://www.fao.org/agroecology/tools/en/> , the Global Livestock Environmental Assessment Model (GLEAM) <http://www.fao.org/gleam/en/>

¹⁹ Tackling Climate Change Through Livestock <http://www.fao.org/3/a-i3437e.pdf>; More Fuel for the Food/Feed Debate http://www.fao.org/ag/againfo/home/en/news_archive/2017_More_Fuel_for_the_Food_Feed.html

²⁰ Shaping the future of livestock <http://www.fao.org/publications/card/en/c/I8384EN/> ; Livestock and agroecology <http://www.fao.org/3/I8926EN/i8926en.pdf>; Five practical actions towards low-carbon livestock <http://www.fao.org/3/ca7089en/ca7089en.pdf>

²¹ <http://www.fao.org/3/a1404e/a1404e00.htm>

losses and contribute to healthy soils. Manure can be used in anaerobic digestion to generate biogas and energy.

44. Expansion into forests for feed production and pasture needs to be halted to tackle climate change and revert biodiversity losses. This can be achieved by conserving and utilizing alternative feeds.

45. Solutions for reducing livestock's negative environmental impacts require coordinated actions, incentives and adequate policies, including regulations and market measures.

VI. Synergies, trade-offs and the need for integrated approaches

46. The FAO report *World Livestock: Transforming the Livestock Sector through the SDGs*,²² reviews how the livestock sector contributes to each of the SDGs. The livestock sector has complex interactions with the SDGs, which makes their achievement an ambitious task²³ that demands an integrated and holistic approach.

47. For example, improving animal health is complementary to improving productivity. Improved productivity has the potential to improve human nutrition and health, as well as livelihoods. Improved productivity also implies greater efficiency, with less use of natural resources and negative impact on the environment and climate.

48. However, there are also many SDGs and targets where conflicts and trade-offs arise. Large increases in livestock production, even with improved efficiency, may increase utilization of and competition for resources. The scarce availability of productive factors in developing countries may prevent small-scale livestock keepers from benefiting from fast livestock growth; overuse of natural resources to increase short-term production could lower productivity in the long term.

49. The 2030 Agenda is considered an integrated agenda and defined as an “indivisible whole” in which the social, environmental and economic dimensions of sustainable development are intertwined and cut across the entire framework. In support of this, FAO proposes 20 interconnected actions in which food and agriculture, people's livelihoods and the management of natural resources are addressed as one.²⁴ An integrated and holistic livestock policy and technical approach, which considers simultaneous contributions, feedback effects, dynamics, synergies and trade-offs between the SDGs, is needed. This approach should address the environmental, social and economic dimensions in a balanced and context-specific manner and build the capacity of countries to generate analytical evidence, inform future policy and investments decisions and facilitate dialogue. In particular, it should support the generation of quantitative evidence on the synergies and trade-offs, and facilitate multi-stakeholder policy dialogue oriented to identify optimal levels of intervention.

50. To support policymakers, FAO needs to strengthen the capacities of countries to develop and use policy and investment tools such as Livestock Master Plans, assist them in generating analytical evidence in the local context, and continue to facilitate multi-stakeholder policy dialogue in intergovernmental meetings (COAG, Commission on Genetic Resources for Food and Agriculture (CGRFA)²⁵) and international fora dealing with livestock (e.g. Global Agenda for Sustainable Livestock (GASL)²⁶, Pastoralists Knowledge Hub (PKH)²⁷).

²² [http://www.fao.org/3/CA1201EN/ca1201eSuggested action by the Committee.pdf](http://www.fao.org/3/CA1201EN/ca1201eSuggested%20action%20by%20the%20Committee.pdf)

²³ Mehrabi *et al.* 2020. <https://doi.org/10.1038/s43016-020-0042-9>

²⁴ <http://www.fao.org/3/I9900EN/i9900en.pdf>

²⁵ <http://www.fao.org/cgrfa/en/>

²⁶ <http://www.livestockdialogue.org/>

²⁷ <http://www.fao.org/pastoralist-knowledge-hub/en/>