



COMMITTEE ON AGRICULTURE

SUB-COMMITTEE ON LIVESTOCK

First Session

16 - 18 March 2022

Good practices to sustainably enhance the productivity of small-scale livestock producers

Executive Summary

Hundreds of millions of small-scale livestock producers across the globe are crucial contributors to food and other agricultural production, human health and well-being, and maintenance of healthy local environments. However, they face a number of challenges which hinder their productivity, including: inadequate access to productive and natural resources, services, information, technologies and innovations; and endemic, emerging and re-emerging infectious diseases, climate change and environmental degradation. Moreover, small-scale livestock producers are often marginalized and not adequately supported by policy and regulatory frameworks.

A number of good practices implemented at the production, value chain and policy levels have shown positive effects on small-scale livestock productivity. However, for the latter to be successfully and sustainably enhanced, a synergy between activities at these different levels is essential. Coordinated action and development of a supportive enabling environment through sound policy and regulatory frameworks is critical.

Suggested action by the Sub-Committee:

The Sub-Committee is invited to recommend COAG to:

- acknowledge the potential for enhancing the productivity of small-scale livestock production and the need for adequate policy and regulatory frameworks targeting small-scale livestock producers; and
- consider the need, scope and nature of a dedicated policy guidance tool, such as voluntary guidelines, to sustainably enhance small-scale livestock productivity and provide guidance as appropriate.

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

Badi Besbes

Senior Animal Production Officer

Animal Production and Health Division (NSA)

Tel: +39 06570 53406

I. Introduction

1. The Committee on Agriculture at its 27th Session requested FAO “(...) to develop a technical document of good practices, based on sound scientific evidence, including consideration of the relevant policy recommendations adopted by CFS 43 [the forty-third session of the Committee on World Food Security]¹ on this subject, as the basis to consider initiating negotiations by Members on voluntary guidelines to enhance the productivity of small-scale livestock keepers.”²
2. The document is based on the findings of: three consultative workshops covering different regions and involving international organizations, academia, research institutes, civil society organizations, and other public and private sector actors (involving more than 130 experts); the review of over 300 scientific papers, reports, guidelines, manuals and case studies; and responses to a global call for examples of good practices.³
3. This discussion document was developed in line with the CFS 43 Policy Recommendations, FAO Strategic Framework 2022–31, the Global Action Plan of the UN Decade of Family Farming 2019-2028 and the Work Programme for the UN Decade of Action on Nutrition 2016-2025.

II. Small-scale livestock producers and production systems

4. While there is no internationally agreed definition, for the purpose of this document small-scale livestock producers are defined as farmers and pastoralists, who, at the national level, either operate in the lowest 40 percent in terms of land size or the number of livestock per production system, or obtain an annual economic revenue from livestock production which falls within the lowest 40 percent (as per FAO methodology).⁴ Small-scale livestock production relies mainly on the family labour of both women and men and is integral to household livelihoods. Therefore, small-scale livestock producers can be considered a category of “family farmers”.⁵ Small family farms of less than

¹ Committee on World Food Security. 2016. *Sustainable agricultural development for food security and nutrition: what roles for livestock? Policy Recommendations*. FAO. 8 pp. (also available at www.fao.org/3/bq854e/bq854e.pdf).

² C 2021/21, paragraph 14.

³ A practice (i.e. approach, tool or technique) that has proven to work well and produce sound, sustainable results.

⁴ FAO. 2019. *Methodology for computing and monitoring the Sustainable Development Goal indicators 2.3.1 and 2.3.2*. Statistics Working Paper Series / 18-14. Rome. 39 pp. (also available at <https://www.fao.org/3/ca3043en/CA3043EN.pdf>).

⁵ As defined by the UN Decade of Family Farming.

two hectares account for 84 percent of all farms worldwide, but operate only around 12 percent of all agricultural land, and produce roughly 35 percent of the world's food.⁶

5. Small-scale livestock producers are present worldwide and their production systems vary widely in terms of: (i) species and breeds raised (from multipurpose indigenous breeds to specialized, commercial breeds); (ii) the purposes of production, from subsistence to profit; (iii) the scale (from single animals to several hundred) and intensity of production; (iv) their integration with crop and aquaculture production; (v) the natural environments in which the systems are practised; and (vi) the resources used by the system.

6. In countries with a large proportion of small-scale livestock producers, promoting good practices that lead to an increase in total factor productivity is essential for ensuring productive and sustainable agriculture. Total factor productivity refers to increases in agricultural output owing to an overall increase in efficiency of production processes, rather than through the increase in input use.⁷ Over the past three decades, improvements in livestock total factor productivity have been demonstrated in some countries, largely in developed regions. However, livestock systems have not been performing as well as crop production systems. In regions such as sub-Saharan Africa where small-scale producers predominate, efficiency of livestock systems seems to be decreasing rather than increasing.⁸

A. The critical role of small-scale livestock production systems

7. Small-scale livestock systems play a crucial role in the nutrition, food security and livelihoods of hundreds of millions of people across the world. In regions such as Europe and Northern America, where the demand for livestock products has been largely met by large-scale livestock production systems and associated value chains, small-scale production systems continue to provide livelihoods for the producing households and important ecosystem services – such as habitat provision, biodiversity (both wild and agrobiodiversity) and vegetation management – for the benefit of society. For example, two-thirds of the milk produced in Austria comes from mountainous regions, where small-scale dairy producers play a vital role in renewable natural resources management, and landscape and biodiversity conservation, in addition to their contribution to the socio-economic viability of rural areas. Reindeer pastoralist systems practised by the indigenous Sámi people in northern Europe play a vital role in household food security and sociocultural life.

8. In low- and middle-income countries, small-scale livestock production and associated value chains serve as an economic and social engine and provide food security and nutrition, employment and other multiplier effects to local economies. Many small-scale livestock producers are engaged in both subsistence and market-oriented production and processing. Women are significant actors; they are particularly involved in processing activities and the management of small livestock. For example, women in the Gambia manage 74 percent of the national goat population, 47 percent of sheep and 90 percent of poultry.⁹

9. The eggs, milk and meat supplied by small-scale producers can play a critical role in local and national food supplies. Their products are key to nutritious, healthy and diverse diets and are particularly important in areas where undernutrition and micronutrient deficiencies are rife. For example, almost 30 percent of the world's milk is produced in South Asia, where the average number

⁶ Lowder, S.K., Sánchez, M.V. & Bertini, R. 2021. Which farms feed the world and has farmland become more concentrated? *World Development*, 142: 105455.

⁷ FAO. 2017. The future of food and agriculture: trends and challenges. Rome. 180 pp. (also available at <https://www.fao.org/3/i6583e/i6583e.pdf>).

⁸ Acosta, A. & De los Santos-Montero, L.A. 2019. What is driving livestock total factor productivity change? A persistent and transient efficiency analysis. *Global Food Security*, 21: 1–12.

⁹ Touray, O., Ceesay, M. & Njai, O. 2010. Review of the livestock sector with respect to smallholder dairy and livestock and meat sub sectors development in West Africa. The Gambia country report, 235 Draft report, FAO.

of dairy cattle owned is less than two. In Latin America and the Caribbean, small-scale livestock producers generate more than 60 percent of cattle, poultry and pig meat and over 90 percent of the meat from other livestock species.¹⁰ In Africa, rural poultry supply 70–90 percent of poultry meat and eggs and contribute 20–32 percent of total animal protein intake, playing a particularly important role in food security and nutrition in food-insecure, resource-poor areas.¹¹

10. Small-scale mixed crop–livestock production systems are firmly rooted in local communities and traditions, and have been closely linked with the maintenance of healthy local environments. In these systems, livestock make vital contributions to income diversification and crop production through traction and nutrient cycling. This is evidenced by the endurance of mixed crop–livestock production systems across regions. For instance, in Egypt, where traditional farming is based on mixed and integrated crop–livestock systems, around 70 percent of agricultural holdings have large ruminants and almost 50 percent have small ruminants.¹²

11. Pastoral herds can be found in all climatic zones, where they play a role in the maintenance of soil fertility and health, seed dispersal and a wide range of other important ecosystem services. Pastoralists have developed a rich legacy of local knowledge, mobility and grazing strategies for the sustainable use of drylands and mountainous zones, which occupy over 40 percent of the world’s land surface. Their livestock represent a means of extracting multiple values from land that is not suitable for crop production.

12. The importance of sustainably managing livestock diversity has been recognized by Members in adopting the Global Plan of Action for Animal Genetic Resources; small-scale producers play a key role in maintaining and further developing 38 livestock species and over 8 700 livestock breeds under production conditions. With natural disasters becoming more frequent, the diversity of small-scale livestock production systems has significant potential to contribute to sustainable and resilient food systems.¹³

B. Challenges affecting the productivity of small-scale livestock production systems

13. While some progress has been made in improving small-scale livestock production and productivity, a number of long-standing challenges remain that hinder sustainable gains in productivity. These challenges are exacerbated by small-scale livestock producers’ pronounced vulnerability to global issues such as climate change; endemic, emerging and re-emerging diseases; land degradation; water scarcity; and conflict.

14. Small-scale producers – particularly women and youth – are often among the poorest and most vulnerable population groups and have inadequate access to:

- productive resources including infrastructure (transport and appropriate slaughter and preservation facilities), markets and credit;
- natural resources, including secure tenure rights;
- services, including animal health and financial services;
- information, including education and capacity development;
- appropriate technologies and innovations; and

¹⁰ Salcedo, S. & Guzmán, L., eds. 2014. *Agricultura familiar en América Latina y el Caribe: recomendaciones de política*. Santiago, FAO. 486 pp. (also available at <https://www.fao.org/3/i3788s/i3788s.pdf>).

¹¹ Wong, J.T., de Bruyn, J., Bagnol, B., Grieve, H., Li, M., Pym, R. & Alders, R.G. 2017. Small-scale poultry and food security in resource-poor settings: A review. *Global Food Security*, 15: 43–52.

¹² Aboulnaga, A., Siddik, I., Megahed, W., Salah, E., Ahmed, S., Nageeb, R., Yassin, D. & Abdelzaher, M. 2017. *Study on small-scale family farming in the Near East and North Africa region. Focus country: Egypt*. Cairo, FAO. 154 pp. (also available at <https://www.fao.org/3/i6497e/i6497e.pdf>).

¹³ FAO. 2015. *The second report on the state of the world’s animal genetic resources for food and agriculture*. Rome. 606 pp. (also available at <https://www.fao.org/3/i4787e/i4787e.pdf>).

- social protection schemes.

15. For example, in Ethiopia, the country with the largest livestock population in Africa, the bulk of livestock production comes from small-scale producers who are often poor and scattered across rural areas^{14,15}. These producers face challenges such as: lack of availability and access to communal grazing and natural pasture; insufficient access to forage, forage seeds and feed supply; poor animal health due to disease prevalence; and limited access to services and inputs. Limited adoption of improved livestock practices and poor provision of livestock services are also major causes of low productivity.

16. Several small-scale livestock production systems strongly align with the principles of sustainable bioeconomies. However, 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.

17. Globally, small-scale livestock producers are often marginalized and not fully considered by national policies and programmes. Policies specifically designed for the small-scale livestock subsector are rare, and where they are in place, resource allocation is frequently insufficient to realize their objective(s). Of the 2 885 policies, legislations and regulations listed in FAOLEX¹⁶ (as at December 2021) with livestock as a primary subject and agreed over the past five years (2016–2021), only 65 match the keywords “smallholders/peasants” and/or “family farming”, of which 17 from 12 countries¹⁷ are focused on supporting small-scale livestock producers. Additionally, small-scale livestock producers are generally not included in policymaking and decision-making processes. This is partly due to the lack of reliable data disaggregated by livestock production systems and scales, meaning that their critical importance tends to go unrecognized by policymakers.

III. Good practices for sustainably enhancing small-scale livestock productivity

18. Exemplars of good practices that have supported enhancements in small-scale livestock productivity through interventions at the production unit, value chain and policy level and a range of guidelines for different livestock species and themes have been compiled¹⁸. Good practice exemplars include the Balde Cheio programme¹⁹ in Brazil which develops and adapts dairy production practices and administrative tools in a participatory manner with small-scale dairy producers. Over a five-year period, milk production increased by 2.3 times in parallel with a 54 percent improvement in land productivity, a 24 percent increase in individual cow productivity and a 37 percent improvement in labour performance. Another example is the semi-intensive rural poultry production model in Cambodia²⁰ which improved small-scale producers’ productivity through a training and knowledge-sharing programme on good poultry production and health practices, and the development of integrated market clusters (i.e. setting up poultry breeding and poultry fattening units) in villages. The

¹⁴ Central Statistics Agency (CSA). 2020. *Agriculture sample survey 2020/2021 (2013 E.C.) Volume II. Report on livestock and livestock characteristics (Private peasant holdings)*. Ethiopia, Central Statistical Agency (CSA).

¹⁵ Shapiro, B.I., Gebru, G., Desta, S., Negassa, A., Nigussie, K., Aboset, G. & Mechale, H. 2017. *Ethiopia livestock sector analysis*. ILRI Project Report. Nairobi, International Livestock Research Institute (ILRI). (also available at https://cgspace.cgiar.org/bitstream/handle/10568/92057/LSA_Ethiopia.pdf)

¹⁶ FAOLEX is a database of national legislation, policies and bilateral agreements on food, agriculture and natural resources management. See <https://www.fao.org/faolex/en/>.

¹⁷ Argentina, Brazil, Bulgaria, Colombia, Costa Rica, Ecuador, Georgia, Mali, Mauritania, Nicaragua, Paraguay and Turkey.

¹⁸ FAO. 2022. Good practices to sustainably enhance the productivity of small-scale livestock producers - compilation of exemplars and guidelines. (also available at <https://www.fao.org/3/cb8424en/cb8424en.pdf>)

¹⁹ See <https://www.embrapa.br/balde-cheio>.

²⁰ See https://www.ifad.org/documents/38714170/41804382/cambodia_case_poultry.pdf.

implementation of the model (i) reduced the mortality rates of indigenous chicken from 80 percent to 5–10 percent, improved producers' income by USD 150–200 per month and enhanced producers' access to markets.

19. Good practices can differ depending on local agroecosystems, production systems and socio-economic circumstances, so there is no one-size-fits-all approach to small-scale livestock production. Nevertheless, in general they can be grouped within the following themes:

- inclusive, relevant, trusted and accessible capacity development to fill information gaps across the value chain, including through peer-to-peer and participatory learning;
- productive resources matching small-scale producer requirements and local agroecosystems to support resilient production, including in harsh environments;
- efficient use of often-scarce available resources by small-scale producers, such as feed;
- access to effective, efficient and equitable animal health services and practices to reduce high mortality and morbidity in the small-scale livestock subsector and contribute to enhanced disease surveillance and animal welfare;
- low-carbon, sustainable production to support adaptation to and mitigation of climate change, and minimized environmental impacts;
- equitable, inclusive, responsible and safe livestock value chains tailored to small-scale producers to ensure access to input and output markets, value addition and equitable remuneration, and to enhance competitiveness of small-scale producers and producer groups with respect to large-scale enterprises;
- secure and equal access to natural and productive resources to encourage long-term investment and improvement by small-scale producers;
- inclusive and adequately financed research and development partnerships so that small-scale producers can co-create innovations and technologies that are tailored to their specific needs and circumstances; and
- resilience of small-scale livestock production systems to reduce risks and vulnerability, including during increasingly frequent conflicts and disasters.

20. For small-scale livestock productivity to be enhanced successfully and sustainably, it is essential that there is a synergy between activities at the production unit, along the value chain and in the policy arena. Interventions at the production unit alone are less likely to deliver sustainable improvements to productivity.

IV. The need for policy and regulatory frameworks targeting small-scale livestock producers

21. The consultations and literature reviewed highlighted that sound policy and regulatory frameworks are critical for creating a supportive enabling environment. The development of effective policy and regulatory frameworks for small-scale livestock producers requires their active involvement throughout the process and a full understanding of their business model.

22. Current gaps in policy, legal frameworks and institutional settings at the national, regional and global level create significant inefficiencies and hinder the equitable development of small-scale producers. The importance of addressing these gaps in a comprehensive and coordinated manner is highlighted in the Global Action Plan of the UN Decade of Family Farming, including through its first pillar: develop an enabling policy environment to strengthen family farming.

23. There are a number of international instruments that touch on aspects of small-scale livestock production. These include the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security²¹ and the Voluntary Code of

²¹ CL 144/9 (C 2013/20).

Conduct for Food Loss and Waste Reduction.²² However, none of these instruments focuses on the specific vulnerabilities and challenges of small-scale livestock producers or provides consensus principles and guidance on addressing policies and legal frameworks relating to the productivity and sustainability of small-scale livestock production systems. Similar challenges in the small-scale fisheries subsector led to the development and endorsement in 2014 of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication.²³

24. Developing a policy guidance tool that contributes to guide dialogue, policy processes and actions at the national, regional and global level to enhance the role of small-scale livestock production in sustainable development requires an inclusive, participatory and global process. FAO proposes to play a facilitator role and organize consultations involving representatives of governments, small-scale livestock producers and their organizations; researchers; development partners; and other private- and public-sector actors.

²² C/2021/27.

²³ FIPI/R1101.