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PUBLICATION

The Climate Investment Case for the Livestock Sector



Photo: V. Meadu (SEBI-L)



Publication Type

Policy brief

Publication year

2024

Authors

Wheelhouse N Bisson A Chamberlin R Wisser D MacLeod M

Themes

Environment

Greenhouse Gas Emissions

Solutions Groups

Climate Finance & Livestock Solutions Group

Unlocking Opportunities for Effective Climate Action

Key Messages

- Livestock are vital for nutrition, food security, and livelihoods in low- and middle-income countries (LMICs), but climate change threatens these benefits.
- The livestock sector also presents an environmental challenge, contributing an estimated 12% of global anthropogenic greenhouse gas (GHG) emissions.
- With increasing global demand for animal products, there is likely to be an increase in the GHG footprint of the livestock sector.
- Sustainably increasing livestock productivity is crucial to balance livelihood support and emissions reduction goals.
- Investing in livestock can reduce greenhouse gas emissions while alleviating poverty, improving nutrition, and building climate resilience.
- Additional measures, supported by investments, are needed to abate emissions and increase carbon capture.
- Climate finance could support the shift towards sustainability, but investments to date have been limited.
- The brief identifies several barriers facing financing institutions wishing to invest in livestock and sets out potential solutions.
- There is a narrowing window to shape the nature of the sector's growth and therefore its environmental impact in emerging markets.
- Strategic sector investments are needed to target high-quality growth, reduce emissions, and address climate impacts on the livestock sector.

Importance of the livestock sector in LMICs

For millions of people across LMICs, highly diverse livestock systems represent food, draught power, fertiliser, fibre, a convertible source of income, and resilience in the face of shocks and stressors.

The livestock sector offers numerous co-benefits across various scales of production, from smallholder farms to large industrial operations, right through to consumers and plays a wider role in the sustainable transformation of food systems. These benefits include:

- Health and nutrition through the role animal products, rich in proteins and micronutrients, play in healthy diets.
- Income, market engagement, employment opportunities and livelihood diversification.
- Vital assets and an informal source of savings and insurance for unbanked and uninsured households.
- Empowerment of women, youth, and other marginalized groups.
- Significant contributions to national Gross Domestic Product (GDP).
- Food security for over 1.3 billion people involved in livestock value chains, especially in LMICs.

Yet, the livestock sector also contributes to climate change, which threatens to significantly erode these benefits, especially for smallholder farmers who are most vulnerable.

There is an urgent need to support the livestock sector and those who rely upon it, to adapt to climate change, as well as for action by the sector to limit the contribution it makes to global warming and other negative environmental impacts. This brief aims to inform public development and climate finance institutions, and national-level government agencies - particularly Ministries of Environment and Agriculture - who are responsible for applying for and allocating climate finance.



The livestock sector and those who rely on it need support to reduce emissions and adapt to climate change. Photo: K. Dhanji (ILRI).

Growing demand and climatic impact

Global food production needs to rise by 30% by 2050, with some LMICs requiring a 100% increase in output to support a growing population. This growth must span all food types, with a projected 20% increase in global demand for animal protein compared to 2020 levels, mostly driven by population growth, urbanization, rising incomes and transforming diets in LMICs.

The livestock sector is already a major contributor to climate change, accounting for about 12% of anthropogenic greenhouse gas (GHG) emissions. Meeting this demand for livestock products with no change in productivity will lead to commensurate increase in GHG emissions beyond acceptable levels and violating climate commitments.

Climate finance that helps farmers produce more with less will be key to lowering emissions from livestock. Investments that support sustainable intensification of livestock production will also bring co-benefits, including climate change adaptation.

Return on investment

- Rising global demand for animal products presents opportunities for investment in the livestock sector, particularly in emerging economies, with significant potential to increase productivity, improve livelihoods, and reduce GHG emission intensities and other negative environmental externalities.
- The return on investments includes a multi-benefit, ‘triple win’ accounting for climate adaptation plus mitigation impacts as well as the other co-benefits, not least a direct impact on food security for nearly a billion people. If we take a holistic approach to assessing benefits, the investment profile of the livestock sector is favourable.
- Private sector investment may favour rapidly commercializing production systems that have significant potential to improve productivity. Private investment can be facilitated and leveraged by well-targeted public investments and public-private partnerships.
- Many climate-smart practices and technologies are well-tested but under-deployed. These include close to market technologies such as methanogenic feed supplements. These can be ready to scale with the support of catalytic finance and innovations in digital agriculture and online advisory services.
- Repayment and Return On Investment (ROI) has been strong based on a review of past investments. Exposure to climate shocks and stressors is significant but practical management measures exist and can reduce negative impacts substantially.
- There are significant co-benefits across the Sustainable Development Goals (SDGs) when working with small- and medium-scale farmers, and upstream and downstream micro, small, and medium enterprises.
- Investments in the livestock sector provide effective opportunities to target women, youth, and marginalized groups.

Rising global demand for animal products in LMICs presents a critical opportunity to help lift communities out of poverty and address food insecurity and malnutrition. It also presents an environmental challenge. The livestock sector’s response to this rapidly growing demand will determine its future environmental footprint.



Investments in the livestock sector provide effective opportunities to target women, youth, and marginalized groups. Photo credit- A Habtamu (ILRI).

Growth in demand for livestock products is certain, but we can influence how that growth is achieved and the externalities that come with it. Will productivity gains be sluggish, involve significant land conversion, generate high GHG emissions and only modest co-benefits? Or will climate smart investments set a positive course of strong productivity

growth, optimum co-benefits and carefully managed externalities?

There is an opportunity now to shape the quality and therefore the trajectory of the livestock sector’s growth, particularly in emerging markets. This will require strategic investments which target high quality growth. These should drive increases in productivity, and pay close attention to negative externalities, delivering the co-benefits, but requiring environmental sustainability.

Barriers and corresponding solutions for lending institutions

National governments and lending institutions assessing credit lines for livestock sector climate finance in LMICs face several barriers that can impede their ability to effectively allocate resources and achieve desired outcomes. However, solutions exist to address these barriers and de-risk investments.

Barriers	Solutions
Perceived high risks: Lending institutions often perceive investments in agriculture, particularly in LMICs, as high risk due to factors such as market volatility, climate risks, and the vulnerability of smallholder farmers.	– Strengthen due diligence, screen for known – Use blended finance models that combine concessional loans, and private investments projects and attract more capital. Risk-sharing facilities and guarantees can also help mitigate perceived risks. – Mitigate environmental and social externalities – Integrate insurance products.
Informality of sector and lack of investor-ready businesses	– Blended finance with public financing, synergies with development initiatives (these take the risk) – Business and small enterprise development mentoring, access to finance and other forms of support.

Enabling environment / policy risks: Inconsistent or unfavourable policies and regulations in LMICs can pose significant challenges for lending institutions. This includes issues such as unclear land tenure, weak enforcement of environmental regulations, and lack of incentives for sustainable practices.

- Partner and align with development initiatives and projects that aim to improve a country's enabling environment.
- Support livestock keepers and small and medium-sized enterprises to ensure land tenure can be established.
- Support policy revision and implementation to make policies and regulations more business friendly.
- Facilitate enterprise compliance with appropriate regulatory requirements (training, advisory services, e-commerce).

See more in our companion brief on [Policy Levers to Unlock Climate Finance in the Livestock Sector for National Policymakers to Integrate Livestock into Climate Strategies](#)

Knowledge and Technical Gaps:

National lending institutions may have limited understanding of local contexts, cultural practices, technical considerations and best practices and specific needs of smallholder farmers, leading to poorly designed interventions that fail to achieve desired outcomes.

- Ensure investment proposals are technically sound. For example, including high-quality and sustainable Technical Assistance in projects to ensure that appropriate productivity-enhancing climate-smart practices and technologies are disseminated. Investing in extension systems can offer a strong return on investment.
- Partner with and invest in capacity-building for local institutions, extension services, and other organizations to ensure the successful implementation and sustainability of climate-smart livestock interventions.

Financing institutions' perception of low profitability.

The long payback periods and variable returns associated with agricultural projects, including those focused on climate-smart livestock practices, can deter lending institutions seeking quicker or more predictable returns.

- Lending can be contingent on the application of improved agricultural practices, effective risk management, and strong business models.
- Integrate specialist financing institutions focused on socio-economic returns and non-market benefits, willing to provide patient capital.

Monitoring and Evaluation Challenges: Effective monitoring and evaluation (M&E) of climate-smart projects are crucial for assessing impact and ensuring accountability. However, the lack of robust M&E frameworks and tools can hinder lending institutions' ability to track progress and measure success.

- Establish climate change specific, robust monitoring and evaluation systems to track progress, measure impact, and ensure accountability to environmental outcomes. This can help lending institutions make informed decisions and demonstrate the effectiveness of their investments.
- Develop practical, affordable and credible measurement and adaptation measurement tools and systems.

See more in our companion brief on [Estimating Livestock Emissions to Unlock Climate Finance](#)

Insufficient Scale: Many climate-smart livestock projects are small-scale and fragmented, making it difficult for lending institutions to achieve economies of scale and justify the administrative costs associated with funding numerous small projects.

- Channel funds through local financial institutions.
- Invest in producer groups, cooperatives, collectives and small and medium agro-enterprises that can aggregate farmers and impact.

Conclusion

Up to 1 billion people depend on the livestock sector for their livelihoods and food security. Demand for livestock products across LMICs is growing annually, as is their environmental footprint. There is significant scope to improve climate adaptation, productivity, and sustainable practices across the sector. This will also reduce GHG emissions in the livestock sector, compared to business-as-usual, and provide a platform for increasing the climate resilience of livestock systems and the people they benefit. Investments in the livestock sector can achieve a triple win – strengthening livestock-dependent livelihoods, improving climate adaptation and reducing GHG emissions. This requires increasing livestock productivity, advancing innovation and interventions to directly reduce methane and other GHG emissions, and actions to enhance carbon sequestration. If the positive development outcomes are viewed in sum, the return on investment is high.

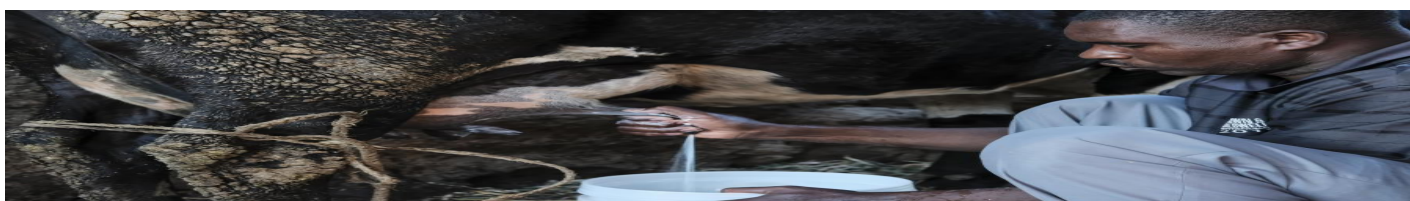


A woman herds goats in Rajasthan, India. Sustainably increasing livestock productivity is crucial to balance livelihood support and emissions reduction. Photo: S. Mann (ILRI).

Currently, climate financing for the livestock sector in LMICs is low compared with other sectors. There remain several barriers towards investment in this sector. However, these can be largely mitigated by using expert knowledge of local systems and reducing risks through measures such as blended financing and strengthened technical advisory support.

There is an opportunity for climate financing institutions to invest in realising the triple win, and to shape the quality of livestock sector's growth, and therefore the trajectory of the sector's environmental impact. Recognizing the sector's growing GHG footprint, and exposure to climate change, the cost of inaction, or late engagement, could be considerable.

Discover how livestock sector projects are delivering climate and social benefits



Case Studies Demonstrating the Climate and Social Benefits of Livestock Sector Projects

Acknowledgments

This document is the result of a collaborative effort of the LD4D Solutions Group on Climate Finance & Livestock. Lead authors: Nick Wheelhouse (Global Research Alliance on Greenhouse Gases and Edinburgh Napier University), Andrew Bisson (USAID), Rebecca Chamberlin (Land O'Lakes Venture37), Dominik Wisser (The Food and Agriculture Organization of the United Nations), and Michael MacLeod (Scotland's Rural College). We gratefully acknowledge the feedback of Leah Arabella Germer (World Bank), Ben Henderson (World Bank), Anne Mottet (International Fund Agricultural Development), Luca Taschini (University of Edinburgh) and Claudia Melim-Mcleod (Future Horizons/University of Edinburgh).

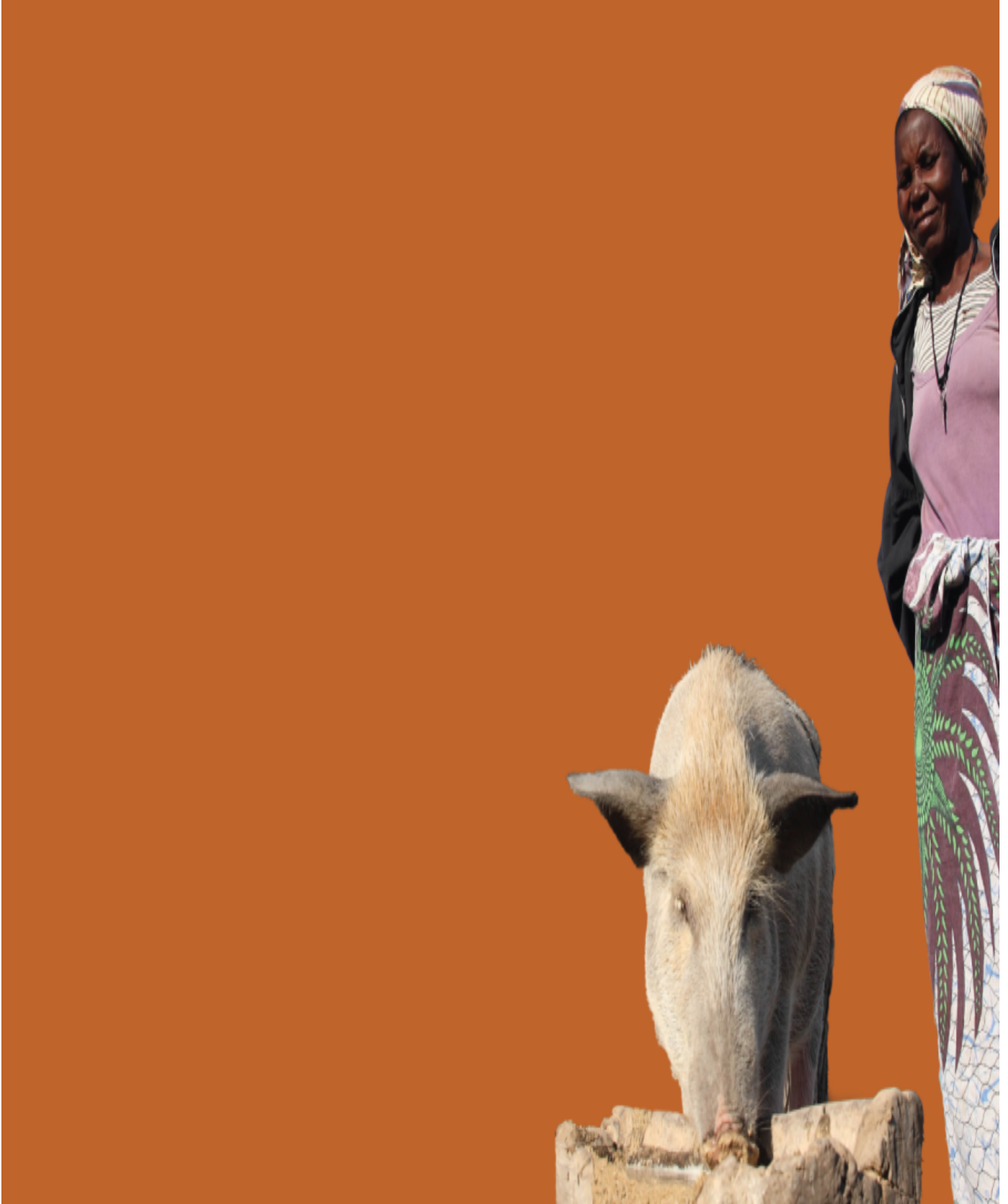
The LD4D Climate Finance & Livestock Solutions Group brings together decision-makers and experts to generate evidence-based insights that help livestock development projects access climate finance. The group aims to unlock much-needed funding for a sector that is currently underrepresented in climate finance - despite its crucial role in adaptation and mitigation.

Livestock Data for Decisions (LD4D) is a worldwide community of over 1,000 members and partners working to improve livestock data and evidence in low- and middle-income countries. LD4D aims to support the transition to more sustainable and inclusive livestock systems by mobilizing trusted livestock data for better policies, investments, and strategies. Learn more at livestockdata.org.

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