



Harnessing livestock for climate action and food security: A strategic opportunity for Africa and the Global South

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Science-based evidence: Shared challenges, proven solutions

Livestock systems are central to food security, rural development and economic growth across the Global South. In Africa, where livestock systems contribute up to 40% of agricultural GDP, climate change increasingly threatens the productivity and incomes of smallholder farmers and pastoralists. Moreover, livestock production also generates **approximately 12% of global greenhouse gas (GHG) emissions**—primarily methane, a highly potent GHG that is about 80 times more powerful than carbon dioxide at trapping heat over a 20-year period. Notably, G20 countries account for **more than 50%** of global livestock emissions.

Investment in improved livestock practices offers opportunities to build resilience while simultaneously reducing GHG emissions. Recent scientific evidence confirms that livestock has one of the **highest mitigation potentials within**

food systems. In regions with rising demand for livestock products, like Latin America and fast-growing producers in Africa and Asia, the **mitigation potential can be realized as co-benefits of improved practices that improve resilience and enhance productivity**. This can be achieved through the provision of better feed that reduces enteric fermentation, practices improve animal health and reduce mortality, and improved grazing and manure management. In some systems these innovations can yield production growth alongside sharp absolute emissions reductions, making these regions frontrunners for peer learning and cooperation. For example:

In Latin America, sustainable intensification strategies could cut livestock emissions by **50%** while producing **40%** more beef by 2050—proving that climate action and food security can go hand in hand.



In Sub-Saharan Africa, improved forages and animal health could cut beef-related emissions by **60%**, while more than doubling production to meet growing demand. It can also reduce milk-related emissions by **20%** while increasing milk production by **140%**.



Beyond emissions reductions, agriculture can sequester carbon dioxide (CO₂) from the atmosphere while sustaining food production—through grazing management, silvopastoral systems, afforestation, and sustainable land use—making mixed livestock systems both carbon sinks and climate adaptation tools.

While this note does not focus on Asia, there are significant opportunities in the region as well, with beef and milk demand expected to grow by 75–80% by 2050, highlighting the need for sustainable intensification to deliver more with fewer emissions.

Seizing opportunities

These mitigation co-benefits are feasible using well-tested practices, such as improved tropical forages, animal health, grazing strategies, and integrated market systems, as well as [emerging approaches in low-emission breeding](#). Importantly, scientific and technical experience is transferable, providing a catalyst for South–South collaboration in sustainable livestock development.

Even though the livestock sector is responsible for approximately 12% of global GHG emissions, only 1% of climate finance is allocated to the sector. To tap its large emission-reducing potential, a much larger share of climate finance needs to go the sector to leverage investments in emission-reducing practices that also help strengthen resilience and improve livelihoods.

Setting up context-specific monitoring, reporting and verification (MRV) systems that track the implementation and effectiveness of integrated productivity-mitigation approaches will be important to aid countries in the Global South to learn how to scale proven livestock practices, attract finance, and drive South–South collaboration toward shared climate and developmental goals.

Realizing these opportunities will require improving accessibility and targeting of climate finance, including by simplifying funding processes, expanding direct access for local actors, increasing the share finance available on concessional terms to minimize increases in debt-servicing burdens, and exploring innovative financing mechanisms like leveraging unused Special Drawing Rights (SDRs) for development finance purposes.

Data gaps

Current emissions reporting practices often use so-called Tier 1 estimates for emissions, which, in the case of livestock, mean that emissions are estimated based on general per-animal default emissions estimates rather than



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livestock system-specific emission estimates, yielding inaccurate baselines. This data challenge is significant because livestock emissions tend to vary dramatically by production system and region. Thus, existing (Tier 1) estimates overlook factors such as feed quality, grazing regimes, manure handling, and animal performance. More resources are needed for the development of systemspecific emission factors and activity data, especially regarding emission intensities of full production systems (grazing, feed, manure management). Absent improved data, policymakers will have to work with inaccurate baselines, hampering effective targeting and financing of specific interventions.

From evidence to impact: Proven implementation pathways

Research shows that the high-impact, feasible interventions for immediate implementation in Global-South countries include:

- ✓ Improved grazing and feeding and pasture practices to enhance grassland quality and increase soil carbon
- ✓ Animal health and disease prevention systems to control outbreaks and improve productivity
- ✓ Market systems optimization to maximize animal productivity and income

These interventions offer the best combination of solution maturity, feasibility and cost-effectiveness, providing concrete entry points for scaling sustainable livestock practices.

Meanwhile, donor and private sector interest in low-emission livestock is growing. But readiness gaps remain—particularly in terms of project design and data infrastructure.

Closing the readiness gap requires three critical support mechanisms

- ✓ Cross-ministerial coordination (agriculture, environment, finance ministries)
- ✓ Technical assistance for proposal and project design and scaling successful pilots
- ✓ Strategic partnerships linking science-policy-finance (e.g., CGIAR, FAO, GIZ, and private banks and investment asset managers)

To accelerate livestock–climate integration across the Global South, G20 engagement could focus on five key actions:

- ✓ **Position livestock centrally in global climate and food security dialogues**, recognizing its role in both climate mitigation and adaptation.
- ✓ **Mobilize more, higher quality and more easily accessible finance for solutions targeted at the livestock** sector to support implementation of national and regional programs that deliver measurable GHG reductions and resilience outcomes – drawing on instruments such as the Green Climate Fund (GCF), Global Environment Facility (GEF), IFAD, and emerging carbon markets and other innovative financial mechanisms such as under [CompensACTION](#) initiative by the German Federal Ministry for Economic Cooperation and Development (BMZ), which links science-based evidence to practical payment-for-ecosystem-services (PES) and PES-like pilot projects.
- ✓ **Invest in robust MRV systems, activity data acquisition, and system-specific emission factors** that capture the full emissions profile of diverse livestock production systems.
- ✓ **Strengthen South–South partnerships**, enabling countries to adapt and scale innovations in low-emission livestock, with support from science, policy and finance via, for example, CGIAR, multilateral development banks and regional institutions.
- ✓ **Repurpose existing agricultural support** towards greater investment in emission-reducing and productivity-enhancing R&D and provide incentives—such as [ecosystem service payments](#)—for the adoption of sustainable livestock practices.

Why G20 Leadership Matters

Investing in livestock systems is not only a climate strategy, but also a rural and economic development imperative. With the right support and national priority setting across ministries, Global South countries can lead on low-emission, climate-resilient livestock supported by climate finance. South–South collaboration can accelerate this transformation through shared science, policy experience, and innovation. The G20 is well positioned to share knowledge on best practices and develop share frameworks that enable member countries and their institutions to align science, policy, and finance for tangible benefits for people, planet, and prosperity.

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