**Submission by the International Livestock Research Institute (ILRI) on its views under the topic “Systemic and holistic approaches to implementation of climate action on agriculture, food systems and food security, understanding, cooperation and integration into plans”**

February 2025

This submission is made in accordance with Paragraph 15(b) of Decision 3/CP.27: Sharm el-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security, and pursuant to Paragraph 7 of the Draft Conclusion under SBSTA 60 Agenda Item 11 and SBI 60 Agenda Item 9.

The International Livestock Research Institute (ILRI) presents its views on the first workshop topic under the Sharm el Sheikh joint work on agriculture, “Systemic and holistic approaches to implementation of climate action on agriculture, food systems and food security, understanding, cooperation and integration into plans”. ILRI appreciates the opportunity to submit its views as follows:

**Considering the role of livestock is integral to implementing systemic and holistic approaches to climate action in agriculture, food systems and food security for low- and middle-income country contexts.**

In any discussion of systemic and holistic approaches to climate action in agriculture, food systems and food security, the topic of livestock production and animal sourced foods must be consciously included. Livestock production is foundational to the livelihoods and economies of low- and middle-income countries (LMICs), providing income, employment, and nutrition for millions of rural and peri-urban households. These systems serve multiple functions; beyond supplying food and income, livestock act as a “living bank account,” helping households manage risks and build resilience to shocks such as droughts, floods, and economic downturns. Livestock also generate vital co-benefits—manure for soil fertility, draft power for small-scale farms, access to nutritious food, and support for sustainable crop–livestock mixed systems—contributing to food security at both local and national levels. These functions collectively strengthen food security while ensuring access to nutritious food daily.

Despite these well-documented benefits, livestock systems in LMICs are highly vulnerable to climate-related stresses. Extreme weather events, including prolonged droughts and erratic rainfall, reduce feed availability and water supply, diminishing animal productivity and threatening the livelihoods of small-scale producers. Climate change also exacerbates the spread of livestock diseases, increasing risks to both animal and human health.

While per-unit emissions from livestock in LMICs are often higher due to lower productivity and feed quality, overall emissions from the livestock sector in these countries remain lower than those in high-income nations. However, LMIC livestock systems are disproportionately affected by climate change, facing greater adaptation challenges despite their relatively lower total emissions. Recognizing the role of livestock in both climate mitigation and adaptation is therefore essential for developing equitable and effective climate policies that support resilient food systems.

Additionally, if not well managed livestock production practices contribute to increased greenhouse gas emissions per product, land degradation, and biodiversity loss. To address these challenges effectively, there is an urgent need for robust evidence that informs context-specific, integrated solutions capable of enhancing resilience, reducing the environmental footprint of livestock, and supporting inclusive economic development.

Key innovations—such as improved manure management, forage preservation, sustainable rangeland management and enhanced animal health interventions—show promise in boosting productivity and lowering emissions intensities. However, systematic data collection and targeted research are required to refine these technologies, adapt them to local conditions, and evaluate their social and environmental impacts. Policies and institutional frameworks that incentivize the adoption of effective practices can be more impactful if they are grounded in evidence-based insights and robust monitoring and evaluation systems.

Further investments in climate-smart livestock approaches and stakeholder partnerships—from community leaders to policymakers, researchers, and the private sector—are essential to catalyze large-scale transformation. With the right data, tools, and enabling environments, livestock systems in LMICs can sustainably meet the growing demands for nutritious animal-sourced foods, bolster rural livelihoods, and contribute to global efforts that mitigate and adapt to climate change.

**Views on the topic ‘Systemic and holistic approaches to implementation of climate action on agriculture, food systems and food security, understanding, cooperation and integration into plans’**

ILRI’s understanding of ‘systemic and holistic approaches’ involves the following elements, which should be incorporated and emphasized during the SB62 workshop.

1. **A systemic and holistic approach to climate action must account for the multi-functional dimensions of livestock in LMIC systems, especially their unique contribution to nutritional security and resilience against climate change, alongside climate mitigation targets.** In most LMICs, livestock have a wide variety of functions within livelihoods and farming systems beyond just food production. In addition to food production, livestock provide traction, manure, financial services, ecosystem services, exchange value, and are often an important stepping stone on pathways out of poverty. Furthermore, in countries with high nutritional insecurity, animal sourced foods play a unique role in delivering vital micronutrients and high-quality protein, key for cognitive development in the first 1000 days of life.
2. **Implementing systemic and holistic approaches requires clearly defining system boundaries, along with robust data collection, interdisciplinary analysis, and system-wide evaluations as foundational steps.** Understanding trade-offs and synergies within livestock systems also depends on system boundaries and robust, evidence-based insights into the complexity of livestock systems. To capture these intricacies, analytical and programmatic frameworks must address upstream processes (e.g., feed production) and downstream activities (e.g., processing and transportation), as well as indirect impacts including land-use changes and labour dynamics. When combined, these elements help researchers and policymakers to better identify trade-offs and synergies around greenhouse gas emissions, adaptation, nutrient cycling, circular bio-economies, and economic returns that might otherwise remain hidden.
3. **Coherent policy frameworks supporting sustainable livestock development for climate action on agriculture, food systems and food security are critical.** A suite of policies, strategies and plans related to livestock development exist at regional, national and subnational levels and span several ministerial remits, including agriculture (e.g., livestock policy), human health (e.g., nutritional intake recommendations) and environment (e.g., climate goals). These various documents need to be formulated in a coherent way to not contradict each other. Policymakers need clear guidance from academics and technical experts on how to assess trade-offs since it may not be possible to achieve all goals simultaneously.
4. **Systemic and holistic approaches to climate action need to directly address the socio-economic dimensions of vulnerability to ensure socially equitable outcomes in addition to environmentally sustainable outcomes.** Intersectional socio-economic variables (gender, age, wealth, ethnicity, etc.) differentiate people’s vulnerability to climate change through differential access to opportunities, resources, information. Similarly, socio-economic variables also affect the ways that people experience the benefits and burdens of climate change mitigation and adaptation interventions.
5. **Systemic and holistic approaches to climate action must move beyond one-size-fits-all recommendations and instead promote strategies tailored to regional and national livelihood, nutritional, and economic development priorities and needs.** In animal sourced food systems, much attention is given to changing production practices and consumption patterns. However, these vary significantly across regions and are closely linked to livelihoods, economies and nutritional security. The importance of contextually particular factors cannot be underestimated.
6. **Defining clear mitigation and adaptation metrics and measurement frameworks is essential for developing a robust, evidence-based approach to climate action.** Standardized measurement, reporting, and verification (MRV) and coherent adaptation tracking (AT) frameworks that track biophysical and socio-economic indicators, greenhouse gas emissions, adaptation progress, productivity, and socio-economic indicators are vital for evidence-based decision-making in livestock systems. By providing a clear, transparent record of both environmental and socio-economic impacts, coherent MRV and AT systems will enable policymakers, researchers, and practitioners to identify the most effective practices and technologies to scale-up, as well as potential synergies and trade-offs.
7. **Cooperation for implementation of systemic and holistic approaches for climate action in LMICs must be driven by relevant LMIC sectoral actors including producer associations, ministries and private sector to ensure that climate actions meet their needs and priorities.** While external support and resources will be needed for LMICs to advance climate action in agriculture, LMICs must retain the power of self-determination in priorities and selecting the most appropriate interventions and approaches.

**Part 2. Views on the workshop format and presenters**

1. **Format of workshop:**

ILRI believes that, to the extent possible, the workshop should be implemented in a hybrid format to allow for greater participation from LMIC participants who may not be able to fund their travel to Germany or obtain the needed visa. As with all UNFCCC events, there should be balanced speaker representation between LMICs and high-income countries and between genders.

The workshop should have ample time dedicated to case studies from a diverse set of countries demonstrating how systemic and holistic approaches are being implemented currently. For this to be possible, we believe at least 2 days is needed for covering the workshop topic adequately.

The outcome of the workshop should be a report synthesizing the successful cases presented and documenting key policy recommendations.

1. **Suggested sessions/speakers**

Given the critical nature of livestock in LMIC farming systems as described above, we recommend that at least a half day of a 2-day workshop be dedicated to specific livestock issues, including strategies to reduce emissions while protecting food security. ILRI recommends inviting speakers who can make expert presentations on the role of livestock production in addressing climate action on agriculture, food systems and food security. We recommend also having topical panels with experts from national ministries of agriculture/livestock to dive more deeply into the areas of concern. Two expert speakers from ILRI who can address the issues described in this submission are:

1. **Dr. Claudia Arndt**, Senior scientist and Team Leader of the ILRI Mazingira Centre. The Centre’s work focuses on establishing accurate baseline emissions for livestock systems in LMICs and identifying feasible, context-specific strategies (e.g., feeding, health and manure management) for low emissions, sustainable livestock development. It also explores nutrient use efficiency to assess trade-offs, optimize livestock production, and enhance circular bio-economy approaches.
2. **Dr. Todd Crane**, Principal scientist in ILRI’s Livestock, Climate and the Environment program. He leads a research team focused on human dimensions of climate change adaptation and mitigation, including locally led adaptation, gender impacts of climate change and climate change interventions, socially-inclusive scaling of mitigation and adaptation practices, and science-policy interactions.

ILRI looks forward to supporting the discussions within the SB62 workshop and stands ready to contribute content as needed.

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