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“Reconcile land system changes
with planetary health”

Delivering an equitable transition to sustainable and low-emission livestock systems in low- and middle-income countries (LMICs)

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Abstract

Animal sourced foods (ASF) are an important component of balanced nutritious diets while livestock production provides incomes and livelihoods to millions of small holder producers in the LMICs. These production systems are getting adversely affected by climate change. At the same time, livestock is a major source of greenhouse gas emissions (GHGs) even in the LMICs. Therefore, there is an urgent need for novel approaches for transitioning livestock systems in LMICs to climate-smart, sustainable and inclusive systems. This transition must consider the diversity of livestock production systems in LMIC contexts to meet multiple objectives of climate change adaptation, mitigation and improving livelihoods and nutrition. These approaches must be collaborative and LMIC driven while bringing together local, regional and global partners across research, development and scaling pathways. Those approaches include:

- Developing and adapting genetics and genomics tools to conserve and improve forage and animal breeds for adaptation, efficiency, and lower greenhouse gas (GHG) emissions.
- Leveraging advances in animal health innovations to benefit animals, people and ecosystems now, and in the future.
- Implementing climate-smart animal nutrition strategies, including sustainable forage systems and feed innovations that reduce enteric emissions.
- Improving the environmental management of rangelands to prevent degradation and restore ecosystem services that support both climate adaptation and mitigation co-benefits.
- Enhancing manure and waste management to reduce GHG emissions and achieve circularity.
- Working with the public sector to design and implement policies that enhance systems efficiency, responsiveness, climate-resilience, and low emissions development.

- Deploying and scaling livestock climate innovations and technologies through strong private sector engagement.
- Creating an enabling environment that empowers and strengthens local institutions to lead and disseminate knowledge and best practices.
- Collaborating with national actors to co-develop climate finance projects that support livestock keepers in transitioning to resilient and low emissions systems.

ILRI has led the establishment of the Livestock and Climate Solutions Hub (The Hub) to accelerate the development, translation and adoption of holistic climate solutions in LMICs. The Hub aims to harness the collective strengths of CGIAR centres and partners across animal health, animal genetics, animal nutrition, environment, and social sciences to co-create, adapt and promote solutions that address climate and productivity challenges in LMIC livestock systems.

Keywords: Adaptation, climate change, livelihoods, livestock, LMICs, mitigation