Feed the Future Innovation Lab for Livestock Systems

Modeling Livestock System Dynamics and Economywide Policy Impacts in Ethiopia

Understanding the true contribution of livestock to the wider economy in Ethiopia is crucial for evidence-based decision making to improve the sector's performance. Improved understanding of the linkages between producers and consumers could increase the demand for safe, quality animal-source food and its consumption, and therefore improve human nutrition.

This project uses computer modelling to evaluate the livestock system in Ethiopia and its linkages to the broader economy, and it assesses alternative national development scenarios and economywide impacts from improved livestock value chains.

Future Scenarios Workshop in Addis Ababa, Ethiopia at the International Livestock Research Institute

Ultimately, the model will situate the livestock system within the broader agricultural and national economic landscape. Its economywide structure means that it will include equally detailed information on both livestock and non-livestock-related value chains. This will allow the model to compare policies across sectors.

The economywide model will be used by the project to study how different national economic growth and demographic projections affect the trajectory of the livestock system. The analysis will consider different types of future scenarios to identify robust policy priorities for the livestock sector and how different scenarios influence development outcomes, particularly economic growth, agricultural employment, rates of poverty, and dietary diversity. An integrated model will examine the economywide impacts of improvements in Ethiopia's dairy system, such as the successful implementation of reforms identified in previous value chain-specific studies, in order to provide potential evidence of net economywide impacts from dairy sector investments for policy makers.

Objectives
The project aims to:

- Develop a systems-based analytical model that integrates the livestock system within the larger economy
- Use the model to assess future development scenarios for Ethiopia's livestock system
- Use the model to evaluate economy-wide impact of policies to enhance Ethiopia's cattle-dairy system

Expected Outcomes

The project's research products, datasets and tools are expected to include:

- Integrated, economywide model with code and documentation
- Dataset for Social Accounting Matrix
- Two peer-reviewed publications
- Two local events to disseminate findings
- Capacity building workshop for researchers and policy analysts

Connected Projects

This project builds upon existing projects of the Feed the Future Innovation Lab for Livestock Systems:

- Improving the Evidence and Policies for Better Performing Livestock Systems in Ethiopia
- Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia
- Future Livestock Systems (Area of Inquiry)

Contacts and Key Partners

Principal Investigator:

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Co-PI and collaborating institutions:

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- Dr. Bart Minten, Senior Research Fellow, IFPRI, Ethiopia
- Dr. Emerta Aragie, IFPRI, USA
- Mr. Ermias Engida, PSI, Ethiopia
- International Livestock Research Institute

Quick Facts

- Duration: 12 months
- Scale: National, and subnational