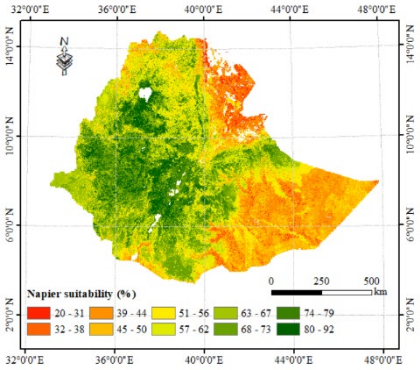
FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Feed the Future Innovation Lab for Livestock Systems

Application of integrated decision support systems to improve livestock systems in Ethiopia: Research and capacity development

Small-scale farmers across Ethiopia struggle to provide sufficient, high-quality feed for their livestock. There is also confusion about what fodder crops will grow best in a given region. By resolving such issues, food security for consumers will improve as the livestock system becomes more productive and resilient.

Building on progress of the Feed the Future Innovation Lab for Small-Scale Irrigation in Ethiopia, this project uses Integrated Decision Support Systems (IDSS) to study improved forages, livestock feed crops, their production, and environmental and socio-economic impacts. It reviews feed strategies for on-farm production and market sale of fodder crops cultivated under small scale irrigation. This project complements our modeling work in Future Livestock Systems.



Preliminary map of suitable land for Napier production in Ethiopia

The IDSS is a suite of biophysical and socio-economic models, namely, the Soil and Water Assessment Tool (SWAT), Agriculture Policy Environment eXtender (APEX), and Farm Income and Nutrition Simulator (FARMSIM). These models will investigate Ethiopia's main fodder crops for poultry, cattle, or small ruminants, namely, Napier (*Pennisetum purpureum*), alfalfa (*Medicago sativa*) and desho (*Pennisetum pedicellatum*). Other analysis will investigate Elephant grass (*Pennisetum purpureum Schumach*), mixed vetch (*Lathyrus cicera*), and oats (*Avena sativa*). Several livestock technologies and strategies will be analyzed to identify and evaluate systems that increase feed production and quality in Ethiopia.

Objectives

This project intends to:

- demonstrate IDSS as a solid methodology for assessing livestock research
- prepare for using IDSS methods in new research
- assess forages and livestock feed crops in terms of production, environment, and socio-economic impacts
- evaluate farmer strategies for using feed
- promote Human and Institutional Capacity Development in the livestock sector.

Contacts and Key Partners

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- Feed the Future Innovation Lab for Small-Scale Irrigation

Quick Facts

- Duration: 15 months
- Scale: Data from 4 research sites in high- and low-land zones

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