



# FEED THE FUTURE

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



## Livestock production and resilience in African smallholder systems

M. Bezabih, A. Adie, Alan Duncan

09-10 March 2023, Prairie View, TAMU

Photo: Apollo Habtamu



# Farm types in tropical Africa



Back yard



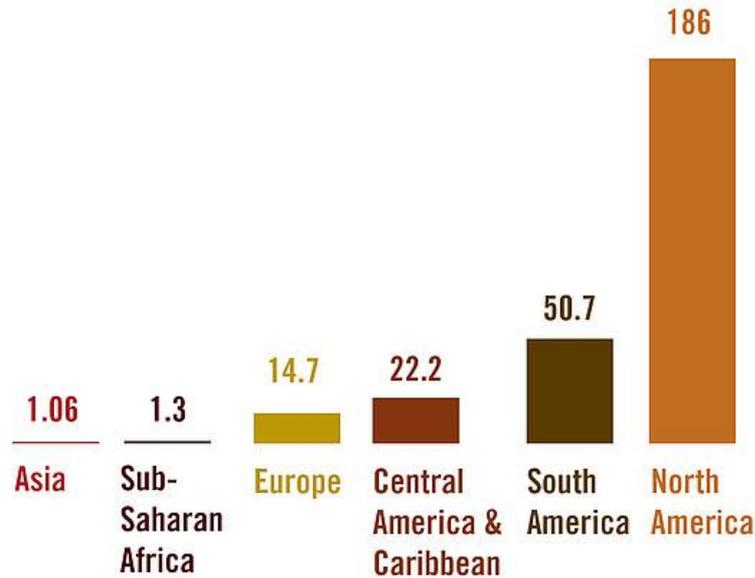
Commercial

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## Dominated by smallholders

Average farm size by region (ha)



Source: IFAD (2010)



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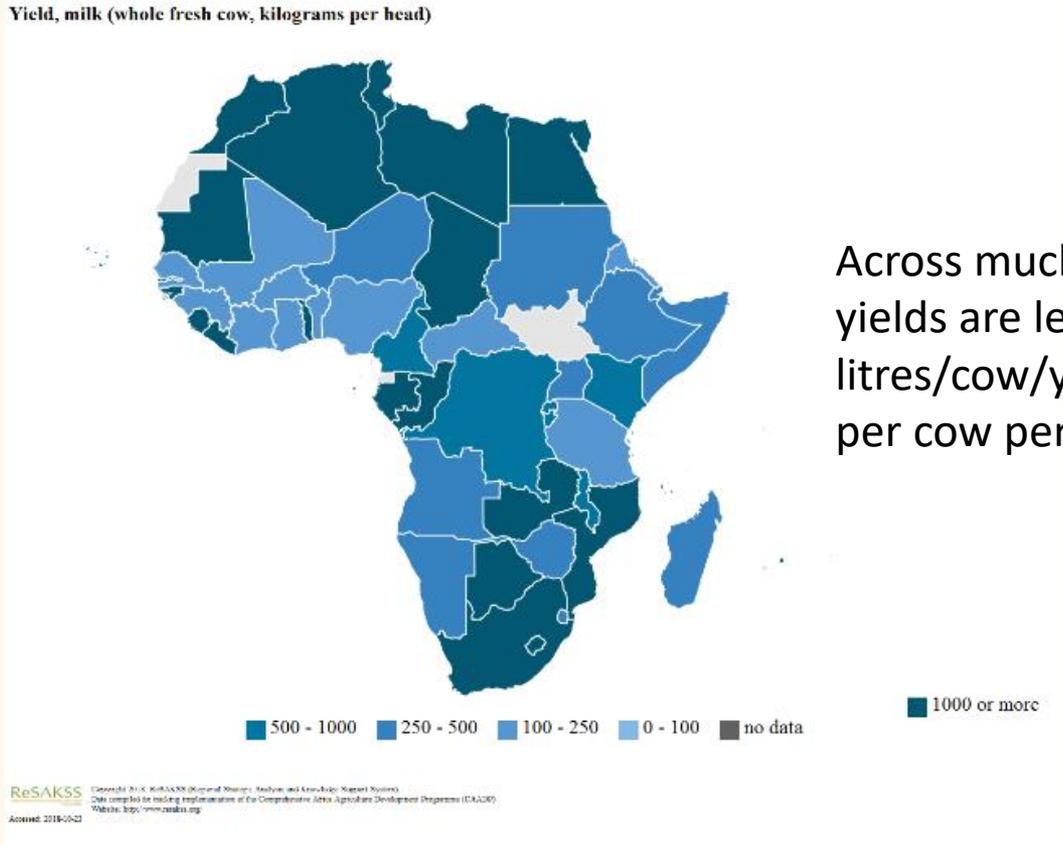
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## Low yields of milk and meat



Across much of SSA milk yields are less than 1000 litres/cow/year i.e. <3 litres per cow per day.



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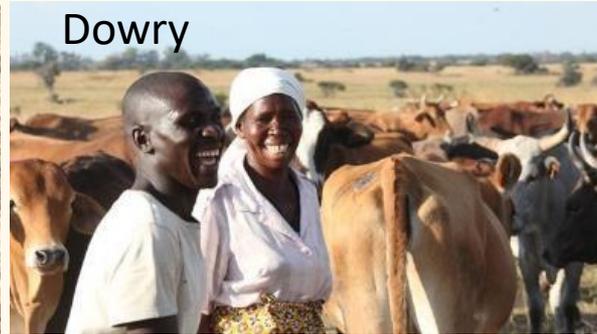
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Livestock are kept for reasons beyond production of meat and milk

Traction



Dowry



Milk

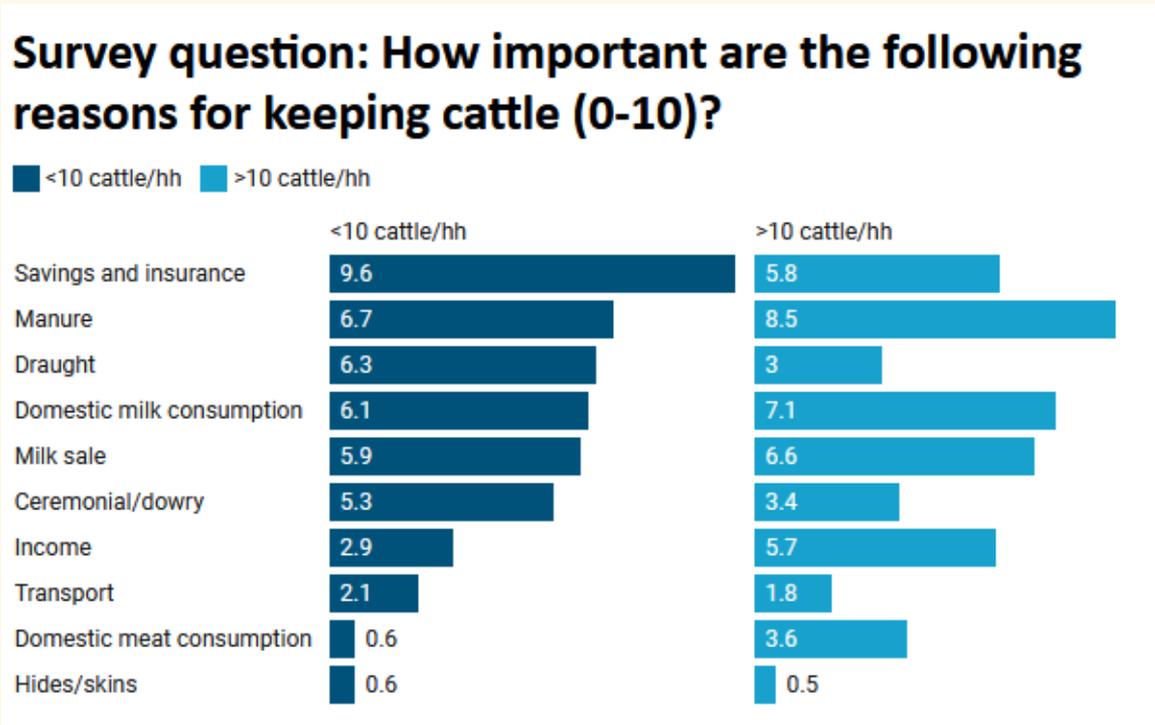


Manure





## Farmer objectives for keeping cattle



Ejlertsen, M. et al., 2012. *Tropical animal health and production*, 45(1), pp.219-229.



## Farmers make decisions thinking about:

- multiple livestock functions
  - whole farm productivity, and
  - risk reductions
- Technological interventions that do not align with such contexts often do not fly



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## Livestock are fed opportunistically

Feed scarcity is a major cause for low productivity



# Innovation Lab for Small Scale Irrigation – conducted research with “a resilience lens”

Community engagements  
were key to understanding  
local contexts and designing  
research for development





## Small scale irrigation technologies for a sustainable fodder resourcing mechanisms

Two stage approach:

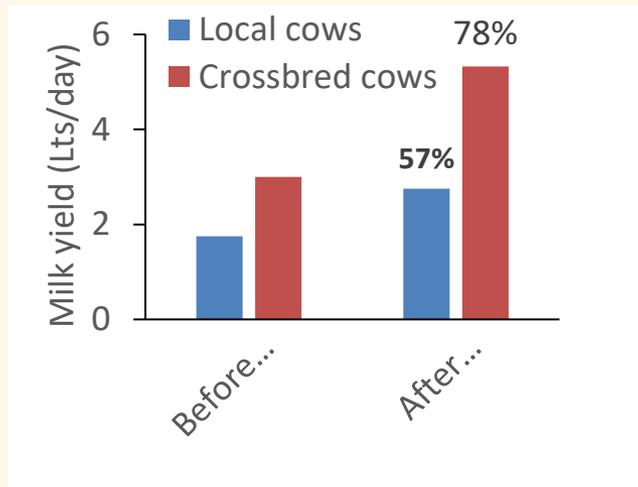
- Experimentation and technology validation
- Engagement with value chain actors



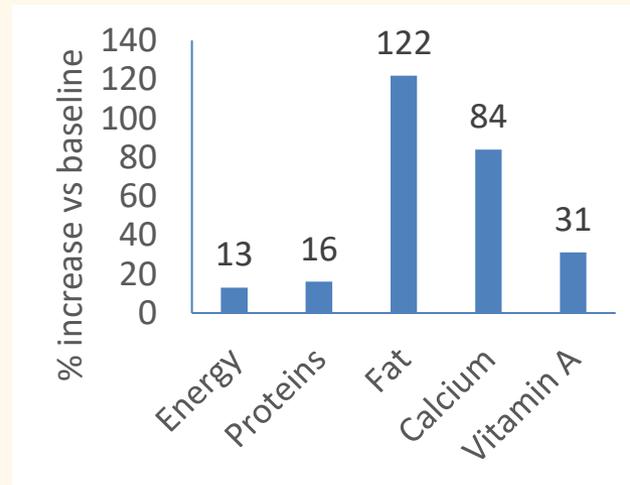


Evidence showed sustainable fodder production practices are important to improve livelihoods, household nutrition and cope with climatic shocks

### Productivity gains

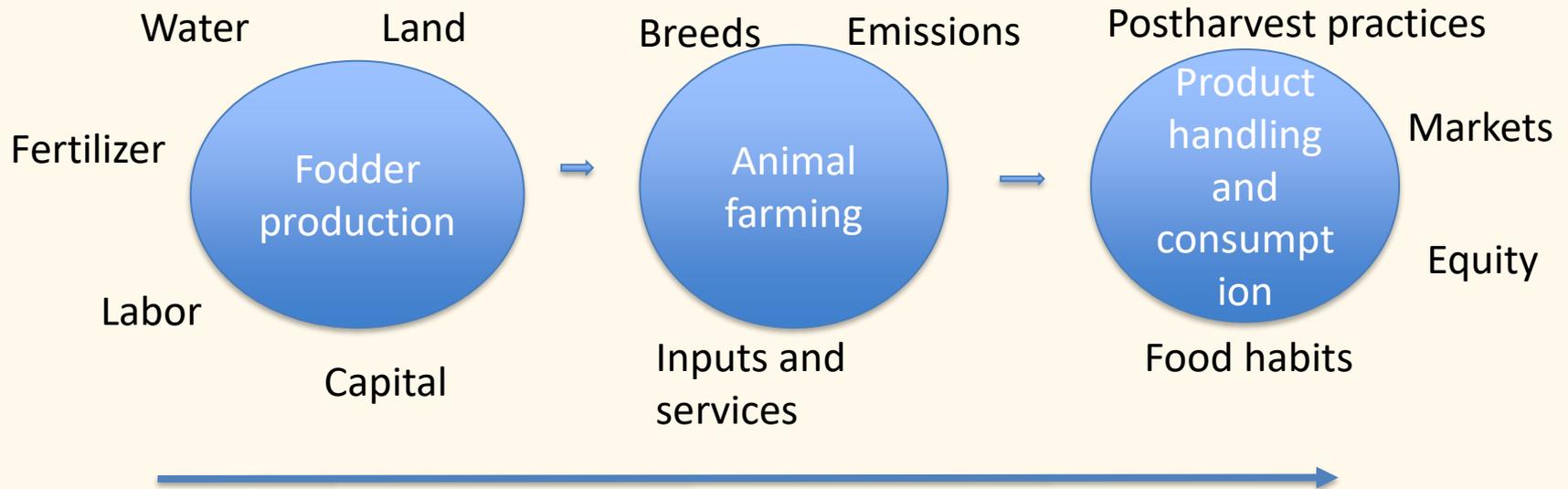


### Nutritional gains



## Opportunities to advance livelihood gains through research

- Improving efficiency with a resilience lens along the value chain





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