

# Dairy development pathways: ILRI's experience

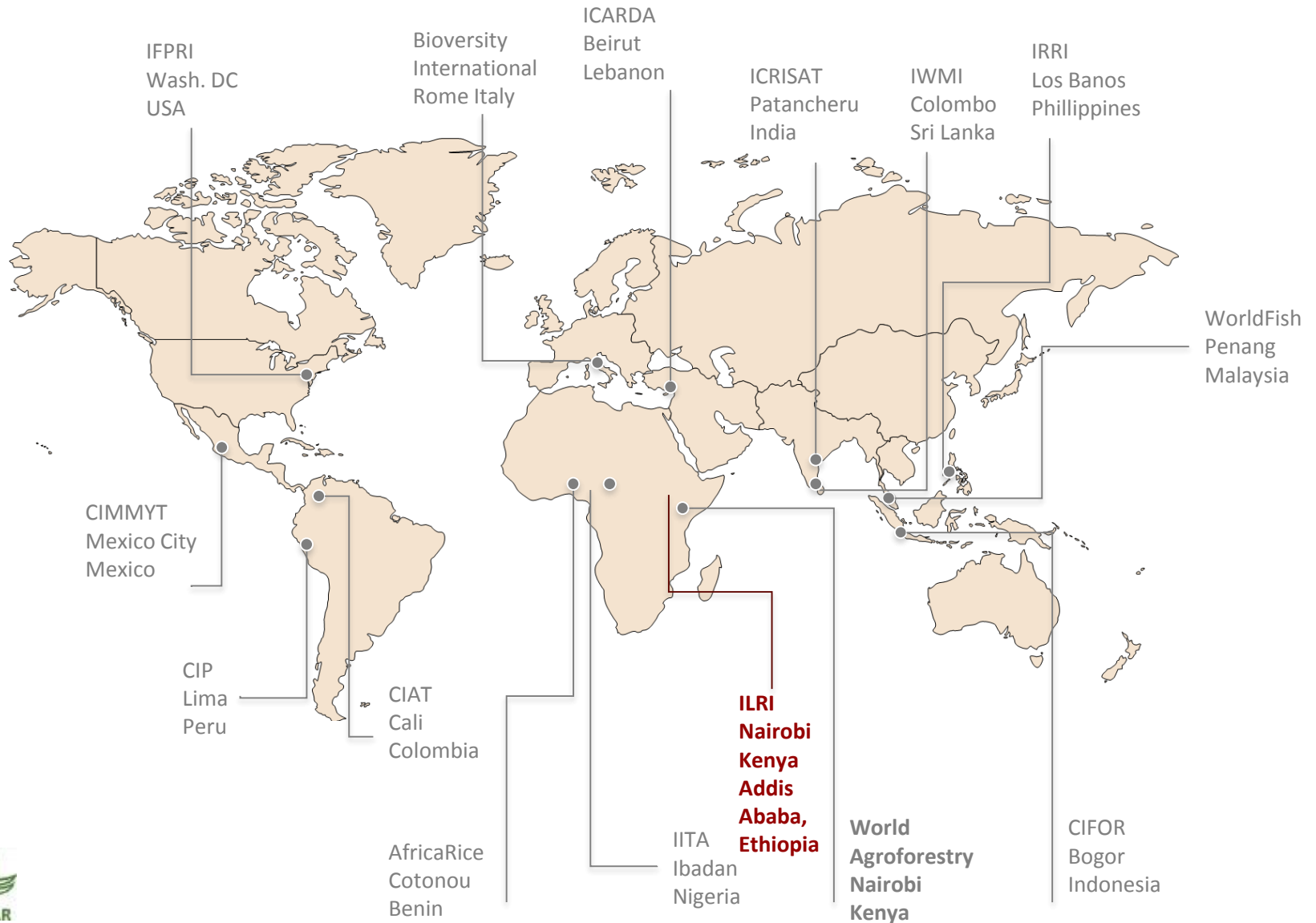
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*International Livestock Research Institute*

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# CGIAR Research Centres



# ILRI's mandate



Reduced poverty

Improved food and  
nutrition security for  
health

Improved natural  
resource systems and  
ecosystem services

ILRI's mission is  
to improve food and nutritional security  
and to reduce poverty in developing countries  
through research for  
efficient, safe and sustainable  
use of livestock —  
ensuring *better lives through livestock*.

# Global Agenda for Sustainable Livestock: Livestock and the SDGs



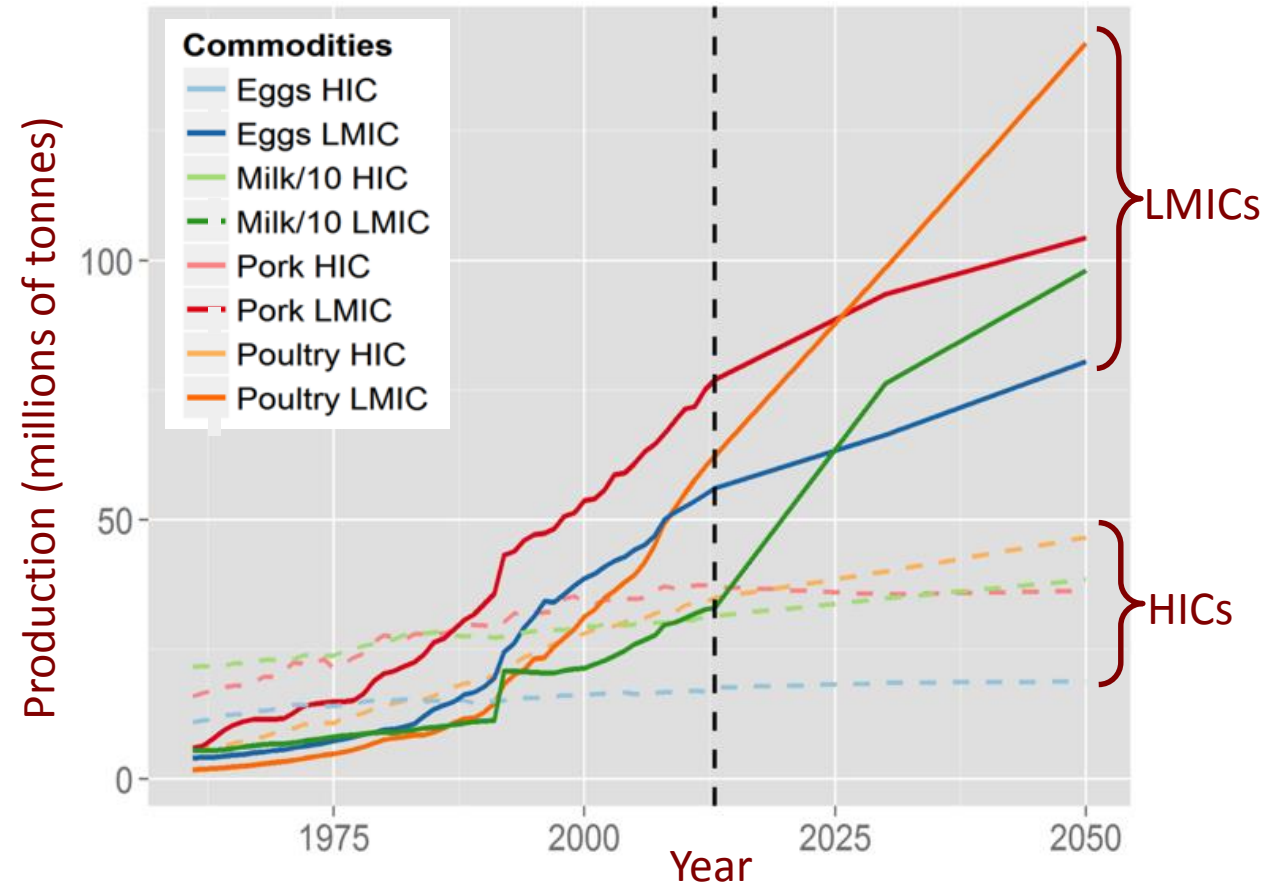


# Increase in demand for livestock products (including milk)

- Three of the five highest-valued agricultural products in the world are livestock products
- The 'Livestock Revolution': demand for livestock products is on a rapid rise, following globalization, population and income growth, urbanization
- Sector growth to continue, backed by demand for animal-sourced foods.



# Projections of Livestock Production to 2050



- Sector growth is huge in the LMICs- including demand for grains
- How, where and who will produce such amounts of livestock produce?

# Demand for livestock commodities in developing economies will be met

## Scenario #1

Meeting livestock demand by  
*importing livestock products*



## Scenario #2

Meeting livestock demand by  
*importing livestock industrial production know-how*



## Scenario #3

Meeting livestock demand by  
*transforming smallholder livestock systems*



# Characteristics of dairy value chains in Developing Countries

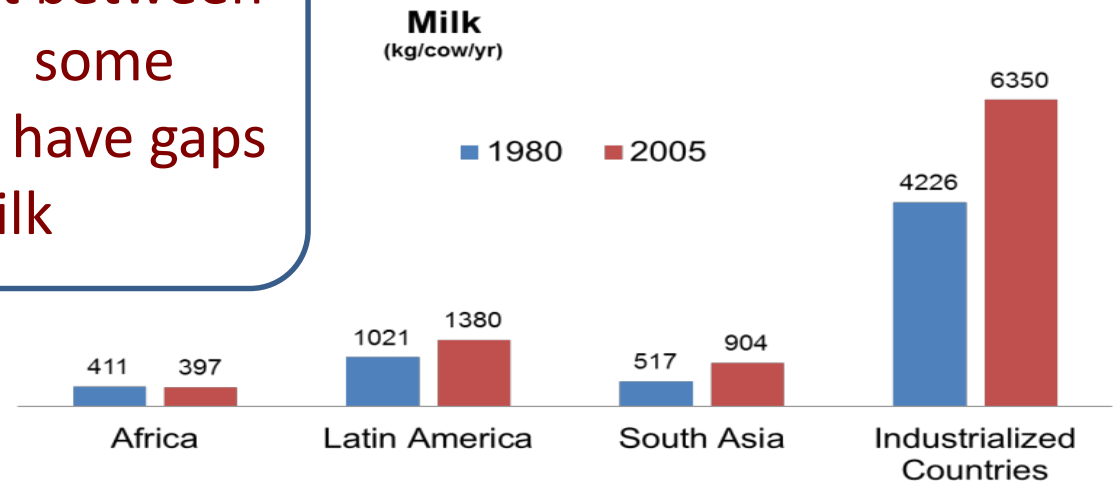
Big productivity gaps persist between rich and poor countries: some developing country regions have gaps of up to 430% in milk

Most of the milk is traded outside formal channels

Women dominate short/informal value chains; men dominate formal and more lucrative chains

Inadequate access to inputs and services, including extension

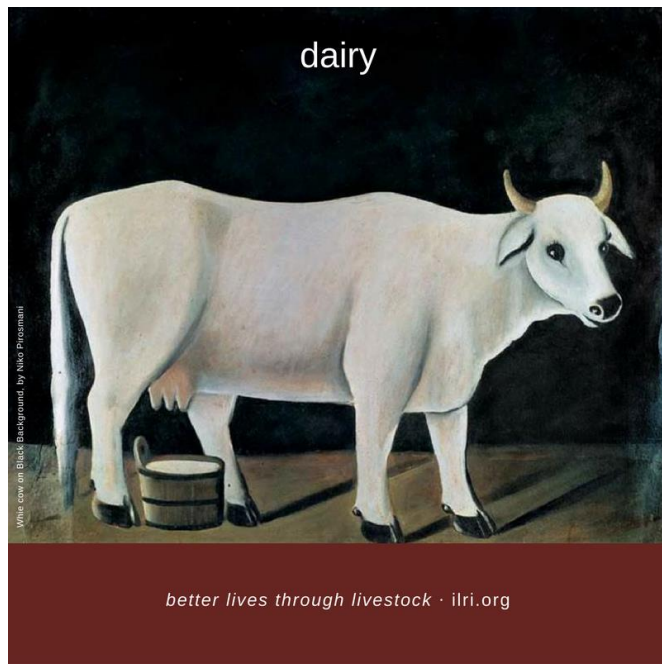
Most of the milk comes from smallholders farms (60-90% in Kenya, 69% in India)



*Steinfeld et al. 2006*



# Milk matters: For income



- In India, more than 70 million farm families rely directly on micro level dairying for income and employment
- In Kenya, more than 30 percent of household income among smallholders comes from milk
- Over 70% of livestock products are sold 'informally'

## ILRI work:

- How to improve farmers' access to market, or the 'last mile delivery' challenge?

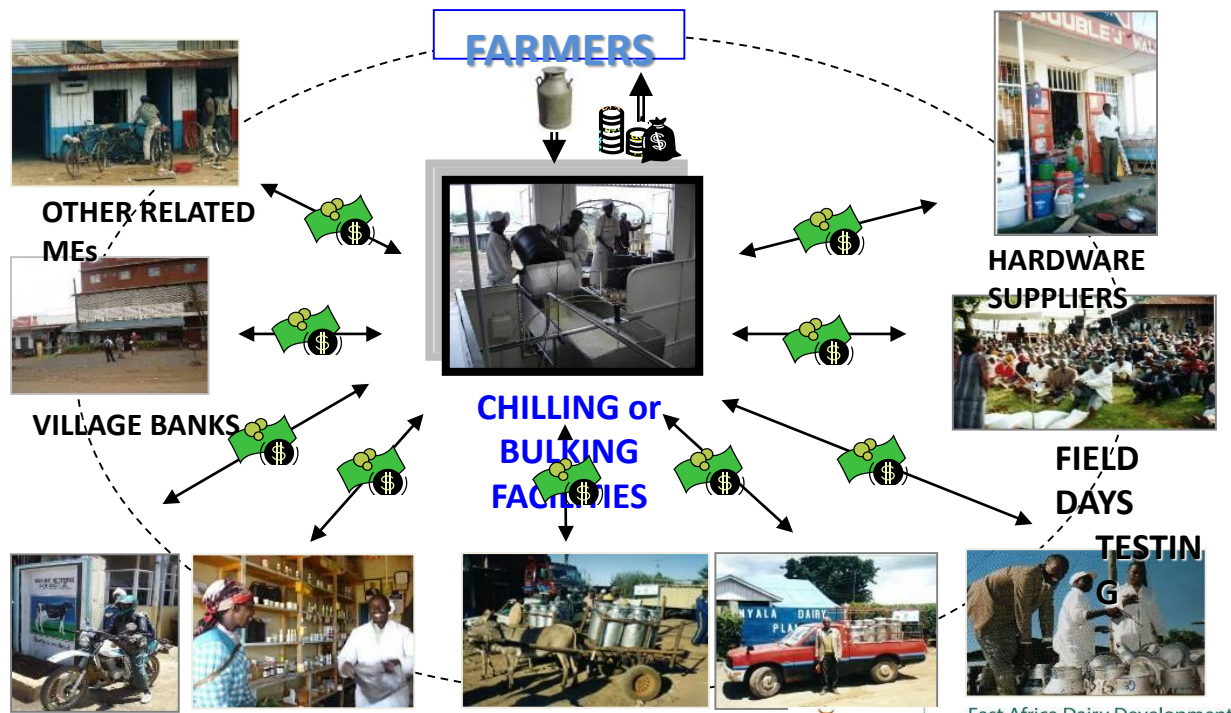
# Milk matters for income- ILRI work

- The **dairy business hub approach** supported by the East Africa Dairy Development (EADD) project, led by Heifer International, ILRI as ‘knowledge partner’
- Kenya, Uganda, Rwanda (till 2014), Tanzania (from 2014)

• 2 possible output linkages: “pure processor” or “mixed-linkage”

Does the difference in linkages:

- influence revenues and access to inputs
- impact income and farm performance?



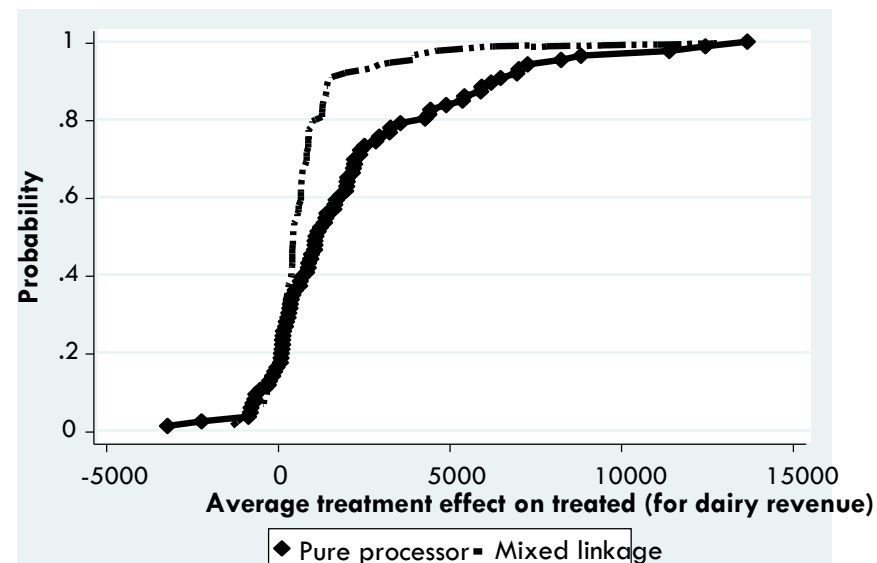
# Milk matters for income- ILRI work

Results from studies in Kenya and Uganda reveal that:

- Participation in hubs leads to higher dairy revenues and total household income, *ceteris paribus*
- Higher effects for households participating in “pure processor” hubs
- But no significant influence on productivity from processor linkages

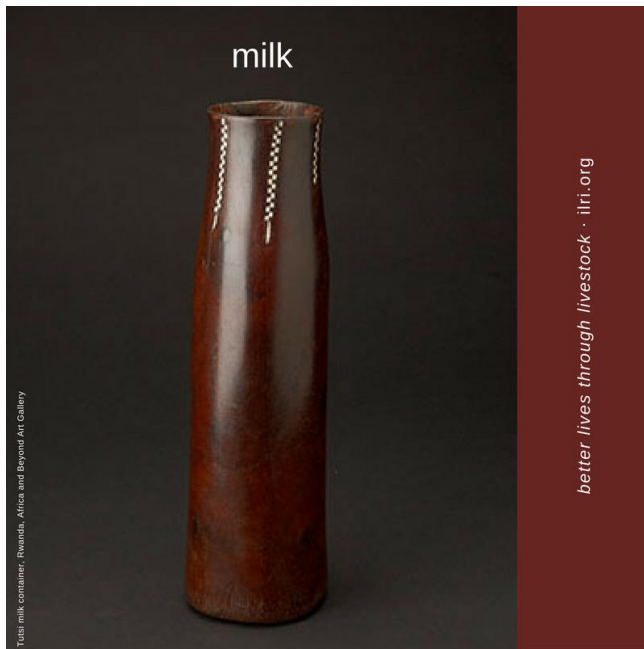
Implication: Linking farmers to processors produces positive impact on income

- But it's not translated to increased productivity and input use
- Hence other interventions are necessary to spur growth in productivity



Sources: Rao et al, 2016

# Milk matters: For food and nutrition

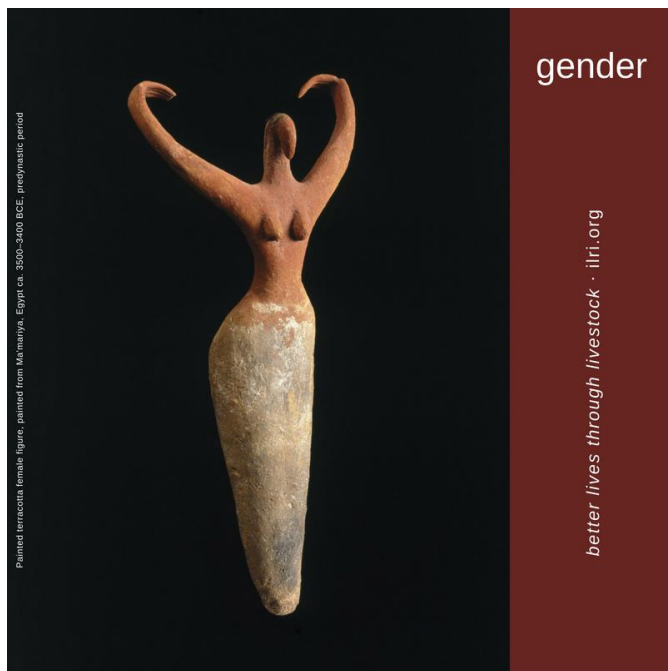


- Despite progress in recent years, **malnutrition continues to be a significant concern** in many developing countries, particularly for young children and women of reproductive age
- The inclusion of milk in the diet has been shown to promote **growth in children**
- Livestock raised by pastoralists on rangelands produce **meat and milk** from land that cannot directly grow crops

## ILRI work:

- What value chains and system modalities to promote **cost-effective nutrition-sensitive** livestock-related interventions ?

# Milk matters: For gender equity



- Women account for two-thirds of the world's 600 million poor livestock keepers
- Although the role of women in livestock production is at least equal to that of men, their contribution has remained underestimated
- Women tend to dominate the daily, homestead-based labour with limited control over benefits
- Women are better able to control income from milk sale in short, informal, markets but less so in organized/ formal value chains
- Gender norms play a key role in reducing women's involvement in the revenue-generating nodes of the milk value chain

## ILRI work:

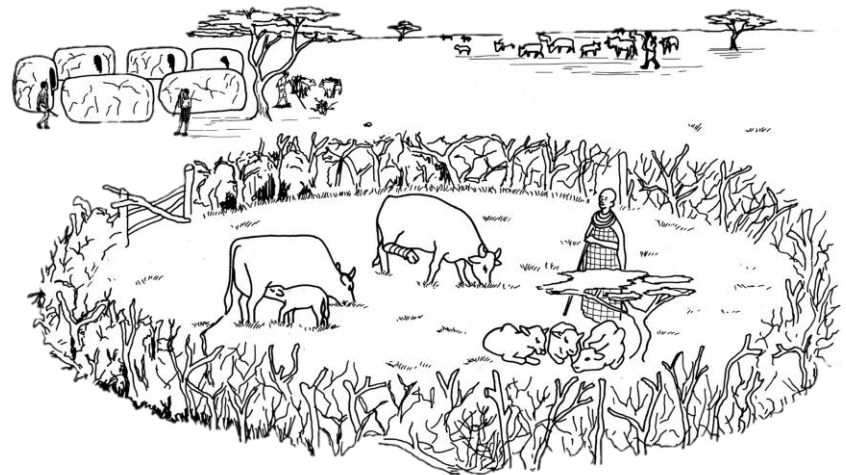
- Integrating gender in livestock 'technical' work



# Milk matters for gender- ILRI work

**Ololili** is a traditional Maasai forage conservation system used by families to feed their cows during the dry months

- In these months, men take the herd on transhumance and women stay at the homestead to manage and feed the family, including on cow milk
- It is a viable option for enhancing dairy productivity by improving forage availability
- The gender dimensions of ololili have not been studied



# Milk matters for gender: Ololili study

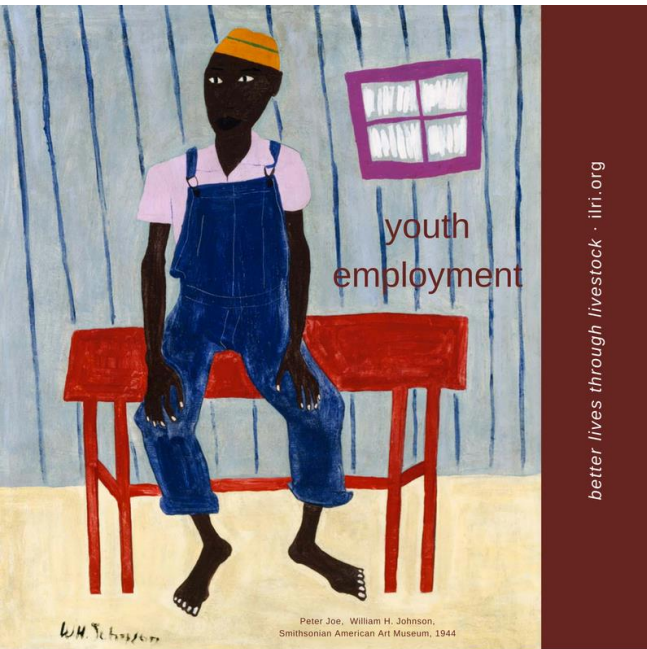
## Findings:

- Ololili are key for women to feed the family during the dry season
- Men take decisions about ololili management and women use ololili based on these decisions
- Collapse of an ololili leads households into a spiral of poverty
- Building or restoration of ololili are hindered by community power and gender dynamics, particularly for those with low social status and poorer women and widows

## Therefore:

- Gender-responsive forage improvement initiatives through ololili can help women secure food for their families
- The introduction on a forage technology may only be successful if there's equitable governance of ololili

# Milk matters: For employment, including for youth



Over 2 million people supported by milk-based enterprises in Kenya (12% of adult workforce)- farm, input and service provision including milk traders



# Milk (cattle) matters: For non-monetary benefits

*non-monetary benefits*



- Cattle for manure and traction- to improve overall farm productivity
  - In the poorest countries, livestock manure comprises over 70% of soil fertility amendments
- Cattle fed using crop residues- including for feed conservation
- Prestige
- Cattle as assets (store of wealth)

## ILRI work:

- Estimation of non monetary benefits in Kenya: about 20% of the animals total value across different livestock systems

Source: Ouma et al, 2003

# Opportunities and challenges in dairy development: concluding remarks

- Last mile delivery: what are effective and efficient mechanisms for farmers to access inputs and services?
  - Cooperatives, hubs, contract farming, traders
- Gender and dairy value chain: moving from value chain transformation to gender transformative approaches, or how to promote gender inclusive value chains?
- Dual path towards transformation of milk markets, given current importance of raw milk marketing in Developing Countries
  - Gradual transition, through e.g. training and certification of milk traders- serving poorer consumers and providing employment (milk traders)
  - Direct move to processed/ capital intensive systems- serving better off consumers



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