Maziwa Zaidi (More Milk) in Tanzania

How to upgrade the smallholder dairy value chain in Tanzania's Kilosa district

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Key messages

- This study addresses issues of low productivity of dairy cows and limited market access of smallholder producers in Tanzania's Kilosa district as means to improve the livelihood of producers.

- The combined effect of **artificial insemination** (AI) and **dairy market hub** collaborative action potentially facilitates the transition from extensive non-commercial to intensive semi-commercial/commercial dairy value chains in Kilosa district.

- It is possible to upgrade the dairy value chain in Kilosa district in Tanzania by way of technology interventions (using AI) in combination with market re-organization (implementing the market hub).

- Such value chain upgrading however requires a significant initial investment from producers. Given producers' low incomes, it is unlikely that producers are willing or able to invest, hence need for public support

Objectives and approach

- This paper presents an initial ex-ante analysis of alternative interventions to facilitate increased total milk production and amount of farm milk commercially marketed for Tanzania's Kilosa district.

- This paper provides a tool to simulate different interventions using System Dynamics (SD) modelling approach that summarizes quantitative results of policy interventions in short and long terms.

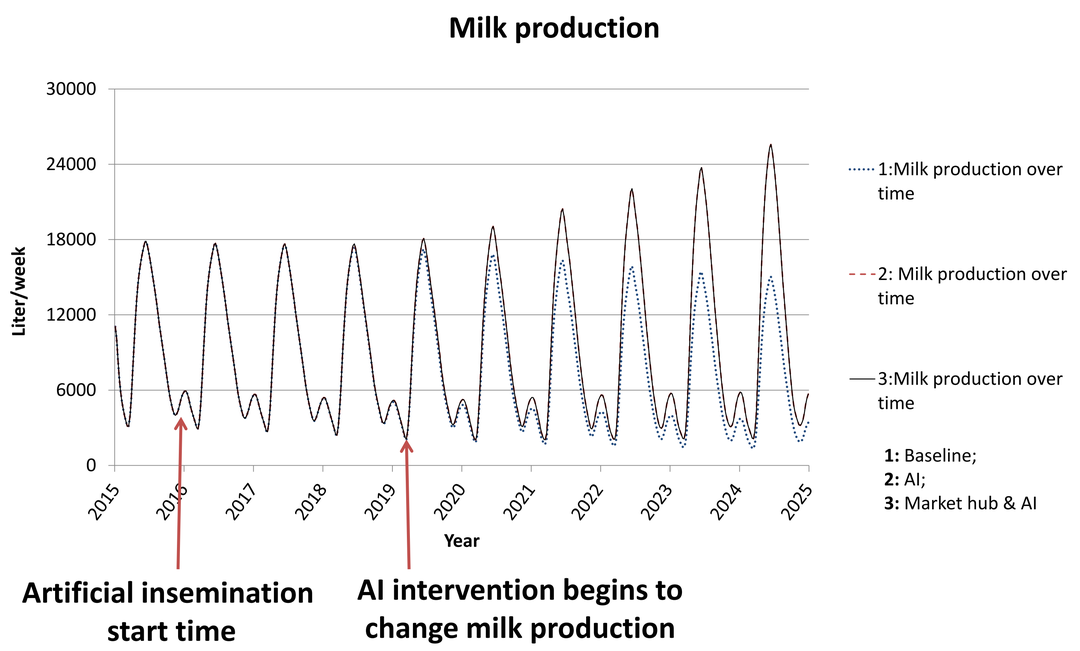
- We provide key results of two interventions (**AI** and **dairy market hub**) using the SD model.

Opportunities to invest and scale

- The results shows the potential for upgrading the smallholder dairy value chain in Kilosa, but this requires third parties (NGOs and government) to support producers in the initial stages (first 5 years) of investment to support/subsidize high costs of AI.

- Institutional aspects of dairy market hubs have substantial effects on trade-offs among performance measures (e.g. higher profit Vs. household nutrition) with gain in cumulative profit coming at the expense of a proportional and substantial reduction in home milk consumption.

Key results (over time)



Key results (Cumulative)

	Percentage change in cumulative (by the end of simulation, 2025)					
Scenarios	**Milk production**	**Cumulative profit**	**Milk consumption**	**Improved cross breed (%total population)**	**milk traded to diary hub (liter)**	**Milk traded to processors (liter)**
2 vs.1	**18%**	**-10%**	**13%**	**42%**	**NA**	**NA**
3 vs.1	**18%**	**14%**	**13%**	**42%**	**197,404**	**157,903**

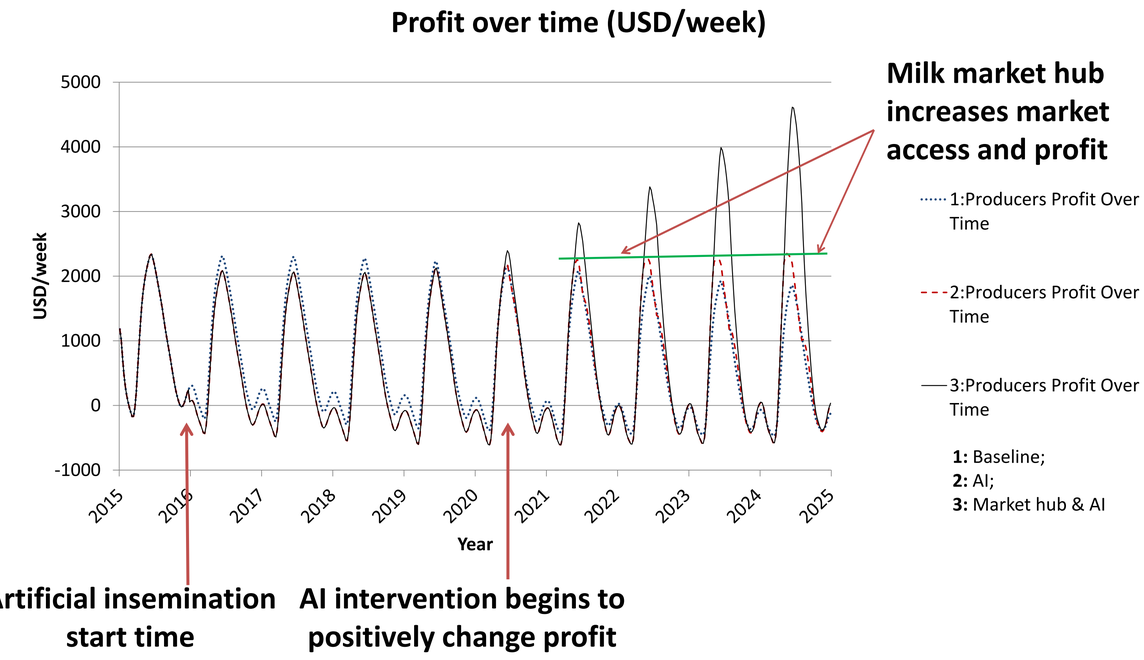
Scenario 1: Baseline;
Scenario 2: AI;
Scenario 3: Market hub & AI

Indicates that AI without improved market access does not pay off

Indicates in scenarios 2 & 3 producers consumed 13% more milk relative to baseline

Indicates in 2025, 42% of total cattle population became Improved cross breed

Indicate total volume milk traded through dairy market hub and processors



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LiveGaps

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