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.

Key results (Cumulative)

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Milk production</th>
<th>Cumulative profit</th>
<th>Milk consumption</th>
<th>Improved cross breed (% total population)</th>
<th>Milk traded to dairy hub (liter)</th>
<th>Milk traded to processors (liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 vs. 1</td>
<td>18%</td>
<td>-10%</td>
<td>13%</td>
<td>42%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>3 vs. 1</td>
<td>18%</td>
<td>14%</td>
<td>13%</td>
<td>42%</td>
<td>197,404</td>
<td>157,503</td>
</tr>
</tbody>
</table>

Key results (over time)

- The results show 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 messages continued
- Opportunities to invest and scale
- We provide key results of two interventions (AI and dairy market hub) using the SD model.

Key results (Cumulative)

- Milk market hub increases market access and profit
- Profits increase over time
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