Maziwa Zaidi (More Milk) in Tanzania

Do low-income households in Tanzania derive income and nutrition benefits from dairy innovations?

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Key messages

- The demand for livestock source food is increasing due to increasing income, population growth and urbanization
- Adoption of dairy innovations is a viable and efficient option to close the demand gap for dairy products and to provide long-term nutrition benefits
- However, poor dairy households may be locked out of these benefits (due to livelihood shocks, market access problems, inadequate skills and knowledge)

Opportunities to invest and scale

- Findings indicate greater positive effects of dairy innovations among low income households
- Public and private investment should support low income dairy producers to adopt innovations such as improved breeds, veterinary vaccines and drugs, improved animal feeds
- Private investment should package innovations in ways and in units that are accessible to low income households

Objectives and approach

- There is scanty and mixed evidence on the potential of livestock as a tool to alleviate poverty and malnutrition
- This study investigated the linkages between improved dairy production, household income and household nutrition
- LSMS data was used to categorize dairy households into 2 income groups (low and high income) using median annual expenditure per capita
- The two categories were then compared on 1) the effects of dairy innovation (improved dairy breeds, vaccine use and use of purchased fodder) on dairy income; 2) the contribution of dairy income to household food expenditure; and 3) the effects of dairy product consumption on nutrition outcomes of children.

Key results (see table)

- The effects of dairy innovation on dairy income is higher for high income households than for low income households; most likely due to differences in access to resources and services
- Dairy production is a significant contributor to household food expenditure among low income households due to their low income diversity
- Dairy is an important contributor to better nutrition outcomes in low income households, most likely due to their less diverse sources of nutrients
- Nutrition outcomes could have gender differences even in better off households

Conceptual framework

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Promoting animal production → Increased animal production → Dietary intake → Nutritional status

Caregiver income → Caregiver time
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Table 1. Summary of impact on income and nutrition

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Variable</th>
<th>Low income (n=424)</th>
<th>High income (n=425)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy income</td>
<td>Dairy innovation</td>
<td>0.69(0.38)*</td>
<td>1.95(0.55)**</td>
</tr>
<tr>
<td>Food expenditure</td>
<td>Dairy income</td>
<td>0.14(0.06)**</td>
<td>0.03(0.02)</td>
</tr>
<tr>
<td>Weight-for-age z</td>
<td>Dairy consumption</td>
<td>0.40(0.10)**</td>
<td>0.06(0.10)</td>
</tr>
<tr>
<td>Height-for-age z</td>
<td>Dairy consumption</td>
<td>0.13(0.109)**</td>
<td>0.09(0.12)</td>
</tr>
<tr>
<td>Weight-for-height z</td>
<td>Dairy consumption</td>
<td>0.15(0.06)**</td>
<td>0.02(0.05)</td>
</tr>
</tbody>
</table>

Robust Std. Err. in parentheses; ***, ** and * indicate significant at 1, 5 and 10 % significance level respectively; n refers to the sample size