Food Safety in Tanzania: Lessons from Maize and Dairy Supply Chains and Policy Recommendations

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Presentation during UNFSS food systems dialogues in Tanzania: 1 July 2021 - Mwanza (sub national dialogue); 5 July 2021 - Zanzibar (sub national dialogue); 15 July 2021 - Dar es Salaam (National dialogue)
Outline

• Introduction on food safety and why this study was conducted

• Approach used to collect the required data

• What we found and our conclusions
Introduction [1]

• Food safety is critical for better health, nutrition, and economic development

• Food safety is attained when foods are handled, processed and stored in a manner that reduces the risk of foodborne illnesses

• The burden of unsafe food is huge and is comparable to that of the “Big Three” (malaria, HIV/AIDS, and TB), and is not equally distributed (children, LMICs).
Introduction [2]

- **Informal markets** are important sources of food and provide employment.
- An enabling regulatory environment is important in ensuring these markets operate.
- Investments to improve safety of products sold in these markets are needed.

https://cgispace.cgiar.org/handle/10568/108321
Study objectives

- Analyze the national food control (safety) system in the country: *laws, regulations, policies*
- Analyze food safety in two value chains (maize, dairy): *understand the distribution channels, know what issues exist, etc.*
- Suggest interventions that could be used to address the gaps

The findings contribute to **UNFSS action track 1** which is about ensuring access to safe and nutritious food for all
What we did

1. Desk review – regulations & what has been done on food safety

2. Then organized for group meetings (in Morogoro & Dar es Salaam)

3. Interviews with key informants

4. Then did a final workshop to validate findings
What we found

• Complexity of the value chains [regulatory issues]

• Multiple handling of produce from farm to consumption

• The feed system is a useful link between the 2 value chains [aflatoxins]
• Behavioral **practices** that increase risks of food contamination
• Highlights **points** that should be targeted by interventions [*next slide*]
<table>
<thead>
<tr>
<th>Maize handling behaviour</th>
<th>Suggested CCP</th>
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</thead>
<tbody>
<tr>
<td>Produce is harvested early</td>
<td>Harvesting</td>
</tr>
<tr>
<td>Maize is stored in bags of poor quality</td>
<td>Storage</td>
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<tr>
<td>Maize is shelled by beating</td>
<td>Shelling</td>
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<tr>
<td>Maize is sold before being adequately dried</td>
<td>Drying</td>
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<tr>
<td>Farmers intentionally add soil to their produce (to cheat on weight of the maize)</td>
<td>Preparing produce for market</td>
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<tr>
<td>Produce is loaded and off-loaded multiple times during transport</td>
<td>Transport to market</td>
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<th>Maize handling behaviour</th>
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<tr>
<td>Processing of poor-quality maize</td>
<td>Receiving maize at the mill</td>
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<tr>
<td>Poor handling of by-products</td>
<td>Drying of bran</td>
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<tr>
<td>Engaging staff who are not motivated</td>
<td>Sorting of maize</td>
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<td>Flour bags being placed in direct contact with the floor</td>
<td>Storage of flour</td>
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<tr>
<td>Failing to ensure proper sealing of packaging bags</td>
<td>Packaging</td>
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<tr>
<td>Millers re-using other processors bags</td>
<td>Packaging</td>
</tr>
<tr>
<td>Selling of expired products</td>
<td>Handling of expired flour</td>
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Concerns from literature

• Several reports on mycotoxins (aflatoxins, fumonisins etc.) including in complementary foods

• Heavy metals, pesticides and agro-chemicals but data are limited

• Microbial contamination of cooked products (studies by Kungu et al 2009)
Perceptions related to safety of different products: 1=“Makande”; 2=“sembe” & 3=“dona”

In Morogoro, we witnessed a case where a family would bring the maize to the milling place, and after dehulling, would take the maize back home for washing and drying, then return later to complete the milling process.
Concerns in the dairy value chain [1]

- Use of poor-quality bran
- “treatment” of sick animals by the farmers themselves & failure to observe withdrawal periods
- Surplus milk production and lack of storage facilities;
- Adulteration (farms, vendors)
Concerns in the dairy value chain [2]

- Transport challenges & delays
- Mixing of milk by farmers (different times, also that from neighbors)
- Use of non-food grade plastic containers that cannot withstand the hot pasteurized milk
- Few dairy technologists in the country
Concerns in the dairy value chain [3]

- **Aflatoxin** (animal feeds, milk)
- Bacterial contamination—*Salmonella* spp, *E. coli*, *Stap. aureus*, etc.
• Less aware about food safety regulations

• Perception that established processors are the ones to comply

• Milk processors visited had either fully complied or were in the process
SWOT analysis for formalization

**Strengths**
- Freedom to run businesses
- Quality and safe products
- Customer trust == more sales == more profit
- There is “peace” when you formalize

**Weaknesses**
- Live in fear of being caught by authorities
- So, no drive / incentive to invest on value addition
- Cannot progress -- stuck in the same level for a long time
- Operate small — low returns --- cannot afford the fees
Opportunities

• Access to credit facilities / loans
• You are known by authorities so you can be invited to training seminars, shows etc.

Threats

• Many laws / regulations to comply with
• Risk of business being closed down
Workshop to present & validate the findings
Conclusions [1]

• **Sensitization** of stakeholders about food safety and what each can do to improve it.

• Further **research** to quantify risk and determine what should be prioritized

• **Need for a better and simpler regulatory environment** (given the large number of laws and mandated institutions)
Conclusions [2]

- Call for **increased investments** in support of access to safe and nutritious foods sold through informal markets (*as this is where majority of resource-poor people get their foods, and will continue to do so in the foreseeable future*)

- Initiatives to improve food safety should specifically **target the informal sector** (*as what is designed with the formal sector in mind may not work for the informal one*)
Acknowledgement

• Work was supported by GAIN and implemented by ILRI

• In-Kind support was received from the CGIAR Research Program on Agriculture for Nutrition and Health and the CGIAR Research Program on Livestock

• We appreciate support received from Tanzania Dairy Board, and that from stakeholders consulted in the study
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