Market Development in Support of Sorghum and Millet Farmers in Tanzania and Zambia

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Outline

- Funding Sources and Collaborators
- Problem Statement & Justification
- Objectives
- Project Activities
- Selected Results & Conclusions
- Capacity Building
- Presentations by UNZA and SUA Collaborators
Funding Sources and Collaborators

- US Agency for International Development;
- INTSORMIL Collaborative Research Support Project (CRSP) with the University of Nebraska, Lincoln, Nebraska;
- The Ohio State University (OSU), Columbus, Ohio;
- Sokoine University of Agriculture (SUA), Morogoro, Tanzania;
- University of Zambia (UNZA), School of Agriculture, Lusaka, Zambia.
Research Collaborators

- Donald W. Larson, Professor Emeritus, Department of Agricultural, Environmental, and Development Economics (AED Economics), (OSU);

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- Precious Hamukwala (M.S.), Junior Lecturer, (UNZA) Department of Agricultural Economics and Extension Education;

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Justification

- Problem: Sorghum & millet productivity, production & consumption have been stagnant or declining for 20 years;
- Challenge: How to increase the productivity & incomes of sorghum & millet farmers to improve food security & accelerate economic growth;
- Solution: Better technology and linking producers to markets are important parts of the solution to the problem.
Objectives

- Examine the effects of new production and marketing technology on sorghum and millet producers’ income and productivity in Tanzania and Zambia.

- Identify better technologies, enhance market linkages between producers and buyers, improve quality and diversify utilization to ensure food security and increase farm-income.
Project Activities

- Examine the value chains for clear beer, feed concentrates, and fortified foods to identify constraints and possible solutions;
- Examine the value chain for improved seed to identify constraints and estimate the possible impact on small farmers;
- Study monthly price variability, storage, grain market policy, & technology adoption;
- To measure small holder performance & progress (impact) over time based on farm surveys;
- Propose changes to improve performance of these value chains to link small farmers to new markets.
Study the Value Chain for Sorghum & Millet from Producer to Consumer

- Marketing system is a chain of interrelated segments with forward and backward linkages: changes in one link will lead to changes in the other links.

- Survey farmers and interview other key players (informants) in the value chain.
Data on household characteristics, economic activities, income, assets, land and land use, sorghum/millet production and marketing, and access to services were collected.


Map of Tanzania with Dodoma and Arusha Study Areas
Map of Zambia with Siavonga and Luanshya Study Areas
Figure 1: Maize, Sorghum & Millet Yield Trends, Zambia, (1990-2008)
Selected Results: Smallholders

- Sorghum & millet are important sources of food and farm income for smallholders;
- Low farm incomes; most households have multiple sources of income;
- Low productivity & very little use of improved practices including purchased inputs;
- No productivity gains in last 25 years;
- Shelf ready technology not adopted;
- Smallholders need market incentives to adopt new technology.
Value chains offer opportunities to increase smallholder incomes:

- **Sorghum based clear beer value chain (Eagle)**
  - High potential for growth
  - Studies in progress in Zambia & Tanzania

- **Feed concentrates value chain**
  - High potential for growth
  - Tanzania results will be presented today
  - Study in progress in Zambia

- **Improved seed value chain**
  - Zambia results will be presented today
  - Study in progress in Tanzania

- **Fortified foods value chain**
  - Moderate potential for growth
  - Studies in progress in Tanzania & Zambia
Figure 2: Clear Beer Value Chain, Tanzania

<table>
<thead>
<tr>
<th>Farm inputs</th>
<th>Farm Production</th>
<th>Brokers</th>
<th>Transporter</th>
<th>Processor (Brewer)</th>
<th>Customers</th>
</tr>
</thead>
</table>

**Raw material flow/Value adding processes**

Chain communications

**VALUE CHAIN DEVELOPMENT INFLUENCES**
- Sorghum farmers
- VCSF
- Sorghum based clear beer consumers

Source: Modified from Dunne, 2001
Conclusions: Value Chain

- Processors are a most important anchor in the value chain;
- Processors need regular supplies of grain for processing; they can provide stability to the market;
- Processors can be an assured market for smallholder crops;
- Major problems in supplying sorghum and millet to commercial channels are small holder access to these markets, small amounts for sale, erratic supply, & quality problems;
- Processors can be change agents to improve value chain performance.
Conclusions: Value Chain Cont’d

- Need to build trust & improve communication among actors in value chain;
- Value chain needs a level playing field that rewards all members;
- Contracting may be a means to reduce processor risks of price, adequate supplies, quality and reliability;
- Farmer associations, NGO’s and others may be a way to increase smallholder access to markets & reduce assembly costs.
Capacity Building

- Support for M.S. degree training at OSU in AED Economics for one student from Tanzania and one from Zambia;

- PhD support for one faculty member from SUA in the SUA PhD program Support M.S. students in agricultural economics at SUA;

- Support for senior research projects at UNZA.
Future Plans & Collaboration

Collaborate with INTSORMIL, host country scientists, NGO’s, and others to advance this research.

Thank You
Questions?