

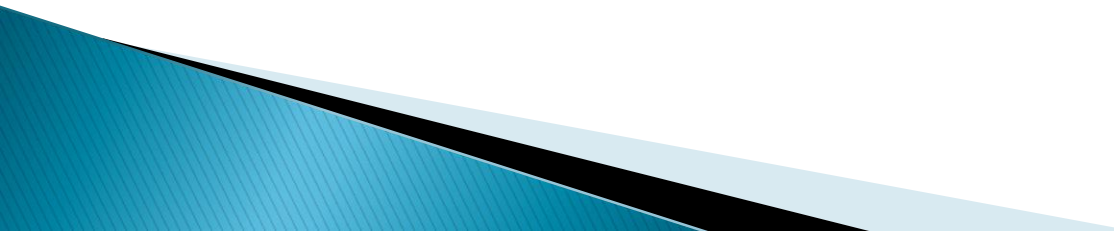
Market Development in Support of Sorghum and Millet Farmers in Tanzania and Zambia

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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
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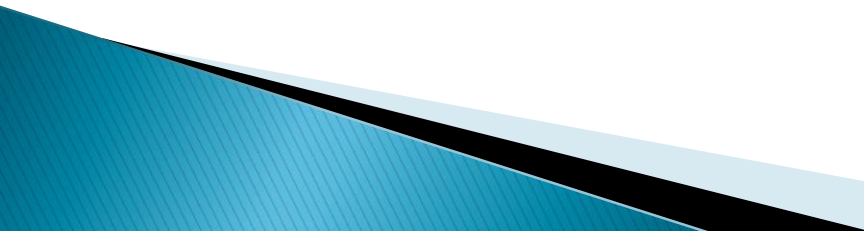
Funding Sources and Collaborators

- ▶ 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.

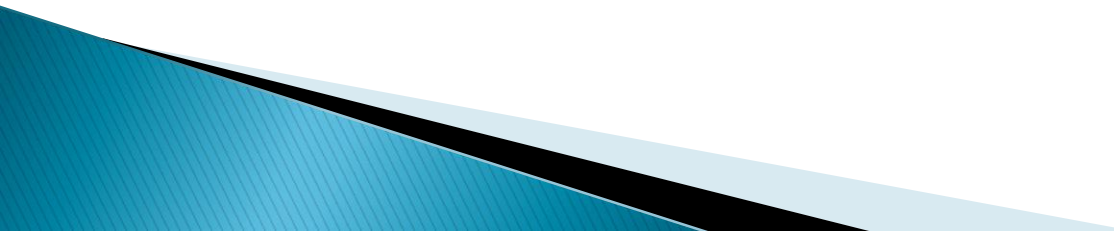
Research Collaborators

- ▶ Donald W. Larson, Professor Emeritus, Department of Agricultural, Environmental, and Development Economics (AED Economics), (OSU);
- ▶ J. Mark Erbaugh, Director, International Programs in Agriculture, College of Food, Agricultural and Environmental Sciences, (OSU) and Adjunct Associate Professor, Department of Human and Community Resource Development;
- ▶ Emmanuel R. Mbiha (PhD), Professor, (SUA) Department of Agricultural Economics and Agribusiness;
- ▶ Fredy T.M. Kilima (PhD), Senior Lecturer, (SUA) Department of Agricultural Economics and Agribusiness;
- ▶ Precious Hamukwala (M.S.), Junior Lecturer, (UNZA) Department of Agricultural Economics and Extension Education;
- ▶ Gelson Tembo (PhD), Senior lecturer, (UNZA) Department of Agricultural Economics and Extension Education.

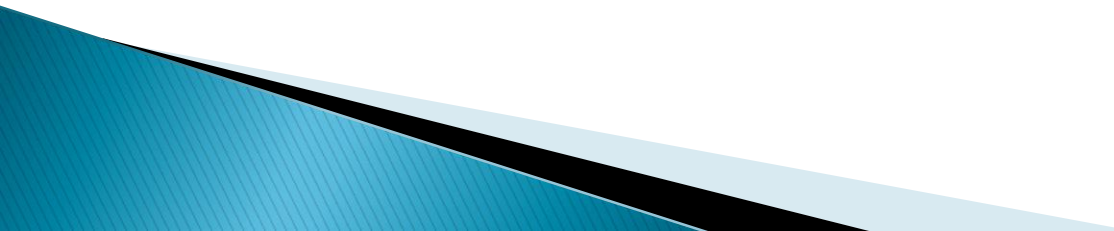
Justification

- ▶ 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.
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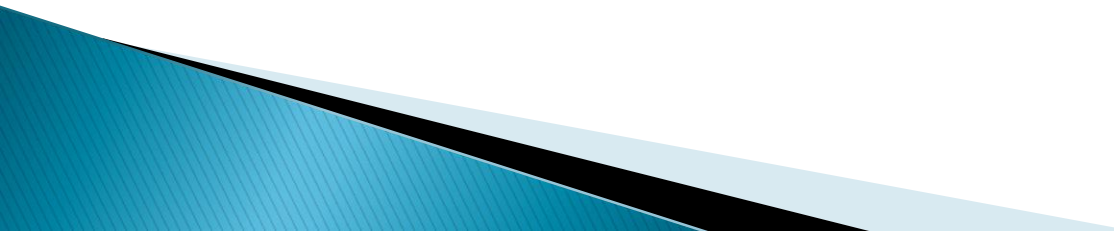
Objectives

- ▶ 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.
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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.
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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.
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Survey Areas

- ▶ Data on household characteristics, economic activities, income, assets, land and land use, sorghum/millet production and marketing, and access to services were collected.
- ▶ Completed 130 questionnaires in Dodoma region of Tanzania, January, 2006 and 107 in Singida and Manyara, Arusha region in 2008.
- ▶ Completed 116 questionnaires in Siavonga region of Zambia, January, 2006 and 170 in Luansha region in 2008.

Map of Tanzania with Dodoma and Arusha Study Areas



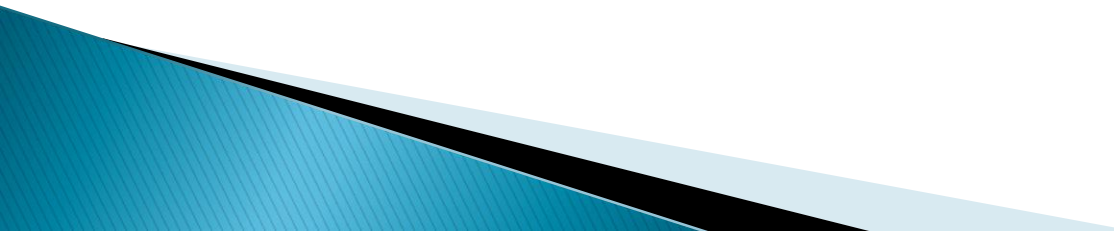
Map of Zambia with Siavonga and Luanshya Study Areas



Figure 1:Maize, Sorghum & Millet Yield Trends, Zambia, (1990-2008)



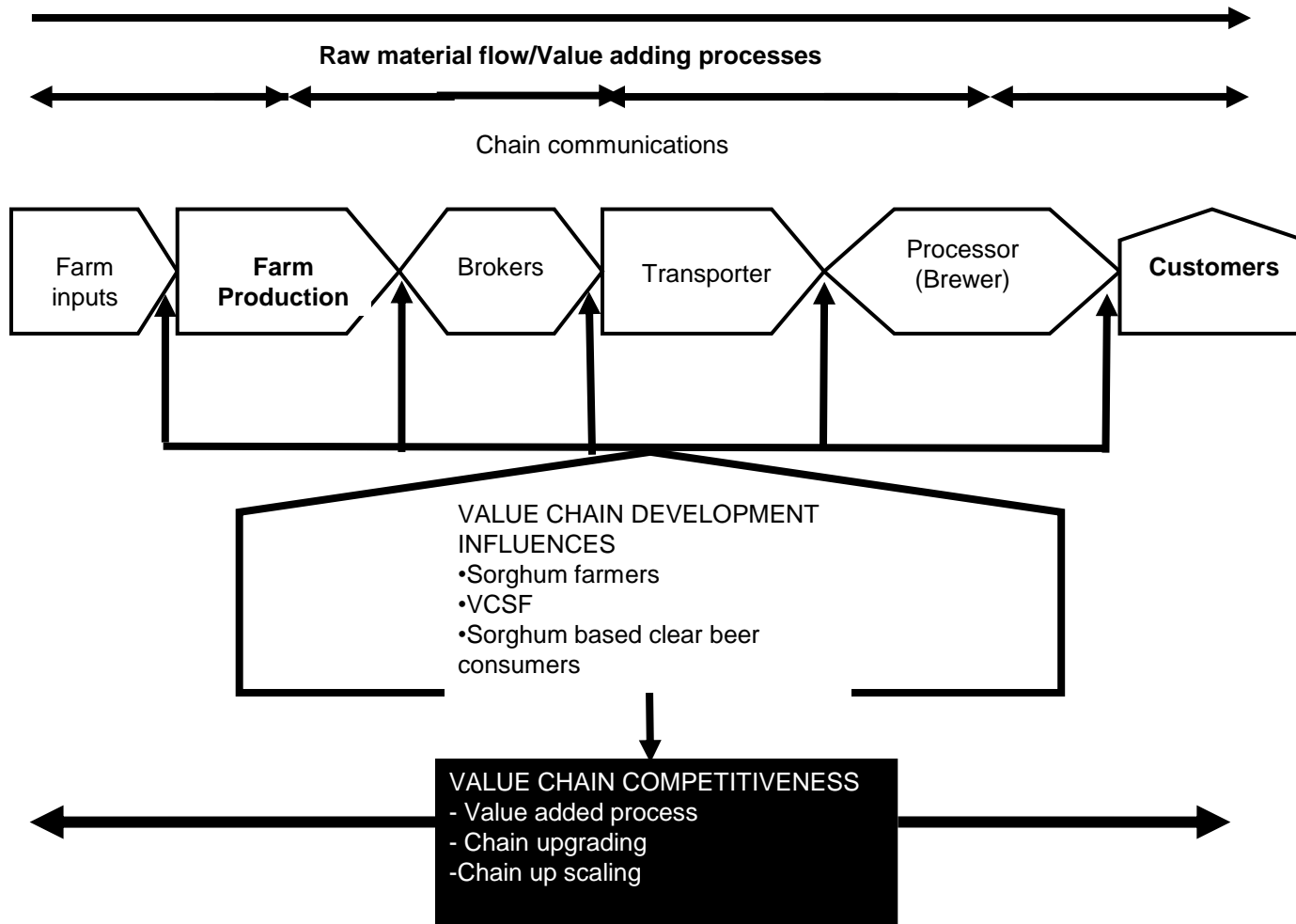
Selected Results: Smallholders

- ▶ 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.
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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



Source: Modified from Dunne, 2001

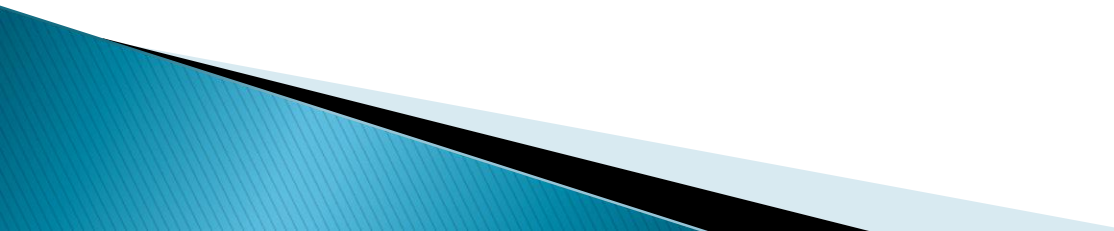
Conclusions: Value Chain

- 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.
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Future Plans & Collaboration

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

Thank You
Questions?