

Commercialization, market integration and trade of food crops in Tanzania: policy implications for food security

Policy Brief

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Kibaigwa Maize Market in Dodoma Region

Courtesy: Nikson, E.

Executive Summary

Fighting rural poverty in Tanzania requires a policy shift to ensure the commercialization of smallholder farming. This emanates from the fact that agriculture is the mainstay of 75–80% of livelihoods in the country. Furthermore, 80 percent or about 10 million of Tanzania's poor of the poorest are employed in the agricultural sector.

Furthermore, continued urbanization of Tanzania means more mouths to feed hence the need for smallholder farmers to intensify their production to allow Tanzania be food secure, and save on food imports which could drain the country's foreign exchanges unnecessarily. However, despite the continued urbanization, food crops commercialization by farmers and market integrations continue to lag behind. Therefore, there is need for concerted efforts to ensure the above move away from subsistent farming to semi or full commercial farming if

they are to move out of poverty and make Tanzania self-sufficient in relation to food.

Nonetheless, commercialization will only work if improved regional road networks are available. Generally, deprived transport and communication infrastructure has led to incomplete price transmission due to poor market information available to economic agents resulting in market inefficiency; this may consequently discourage smallholder farmers' commercialization of their farming.

Generally, commercialization of smallholders farming and market integration will not only benefit the farmers but all those involved in the crop/food value chains. However, for the above to be realized there is need for good quality road networks particular rural roads, functional market information exchange systems that ensure lowered transaction costs along the value chain. Moreover, functioning market

institutions are critical to curb all trading odds such as arbitrations of conflicts among trading parties.

Introduction

Agriculture is important for poverty reduction as it is responsible for 25% of Tanzania's GDP and is the mainstay of 75–80% of livelihoods in the country (URT, 2016: 197). Generally, Tanzania's agriculture is dominated by smallholder farmers. The sector also contributes significantly to non-farm sectors through forward linkages in agro-processing and consumption. According to the Hon. Dr Charles Tizeba's Ministry of agriculture, Food Security and Cooperatives budget speech for 2018/19, 80 percent of Tanzania's poor of the poorest are employed in the agricultural sector. In total, they account for about 10 million (Kasumuni 2018).

The above could be due to most farmers producing at the subsistence level (URT et al. 2012). However, despite increasing urbanization and the increasing importance of non-farm sectors, agriculture remains crucial given the concentration of poverty in rural areas. Furthermore, food insecurity is an immediate outcome of extreme poverty and has been a major source of malnutrition which is the single most serious threat to labour productivity and economic growth in Tanzania (Fenton et al. 2012; Doward, 2013).

According to URT (2011) fighting rural poverty in Tanzania requires a policy shift that among other things involves agricultural commercialization. Generally, agricultural commercialization refers to the degree of participation in the input and output markets, with a main focus on cash incomes (Leavy and Poulton, 2008). Therefore, smallholder farmers need to fully participate in cash transactions all the way from local up to the regional and international markets.

Apart from improved regional road networks, most of rural roads are still overly poor. Deprived transport and communication infrastructure has led to incomplete price transmission due to poor market information

available to economic agents resulting in market inefficiency (FAO 2003). Market inefficiency undermines profitable commercialization, trade and market integration.

This policy brief presents policy-relevant findings and implications of the same in relation to drivers of commercialization of food crops, the state of food market integration and factors underlying maize trade in food market places. These findings inform policy makers on the areas that can be addressed to improve the efficiency of the food system.

Research approach and methods

The study on which the policy brief is based focused on maize, a primary staple crop grown in nearly all agro-ecological zones of Tanzania.

Specifically, the study:

- investigated smallholder farmers' crop commercialization levels
- determined the factors (pathways) explaining these levels.
- determined extent to which maize markets are integrated in maize surplus and deficit regions and
- identified factors underlying traders' decision to engage in the maize markets.

To attain the above, the study used three datasets to analyze commercialization, trade and market integration.

- First, a household questionnaire survey involving 900 farming households in four villages in two districts of Kilosa (Morogoro region) and Chamwino (Dodoma region) was conducted in February 2014.
- Second, a survey of 260 traders was done in villages and nearby trading centers.
- Lastly, the secondary time series maize price data for ten years (2004 – 2014) period was obtained from the Ministry of Industry, Trade and Investment (MITI) database.

Commercialization was measured as the percentage value of total marketed food crops over the value of overall food crop production. The spatial regression was applied to estimate

the level of market integration through price transmission between Dodoma as a food deficit region and Iringa as a food surplus region.

Specific regressions were also used to estimate causal effects of different factors on smallholder commercialization and traders' decision to engage in the maize trade.

Some policy-relevant results

- The commercialization level for the food crop sub-sector average at around 50% - with typical staple crops such as millet and maize commercialized at around 15%.
- Increased maize production at household level did not significantly translate into increased sales as farmers tended to reserve it for their food needs.
- The price of maize in Dodoma was higher than in all three maize surplus markets of Babati, Morogoro and Iringa. Apparently, the price of maize in Dodoma was three times higher than the price in the Iringa market. However, the analysis indicated that the maize trade linkage between Iringa and Dodoma was weak. This is because; the data used in analysis reflected the situation before the tarmac road between the two regions was built.
- Factors that influenced the trader to handle increased amount of maize grain included:
 - undertaking grading,
 - access to information about quantity availability at procurement sources,
 - being informed on market available opportunities and
 - ownership of a mobile phone.
- The negative drivers that hindered increased amount of maize grain handled by traders included:
 - lack of own vehicle with increasing reliance on hired transport,
 - selling on credit and
 - encountering trading conflicts with parties in the exchange process.

Policy implications

- Improved commercialization for improved rural farm incomes while safeguarding household food security requires production of surplus beyond the subsistence food needs. Therefore, promotion of productivity-enhancing technologies such as soil and water conservation and improved seeds is critical.
- Improved road infrastructure network is critical for ensuring efficient flows of food from major producing regions to deficit regions over space and through time. Such physical infrastructure "hardware" should go hand in hand with the "software" part entailing improved market information systems and functional market institutions.
- Improving quality of the roads networks particular rural roads and market information exchange system would lower transaction costs incurred by agricultural traders.
 - This will improve margins, growth and competitiveness hence, making their business sustainable which is critical for an efficient food system.
- Functioning market institutions are critical to curb all trading odds like arbitrations of conflicts among trading parties particularly when it comes to primary lower-level markets.

References

- Dorward, A. (2013). Agricultural Labour Productivity, Food Prices and Sustainable Development Impacts and Indicators. *Food Policy* 39 (April): 40-50.
- Fenton, C., Hatfield, J., and Lynn, M. (2012). A Qualitative Pilot Study of Food Insecurity among Maasai Women in Tanzania. *The Pan African Medical Journal* 12: 81.
- URT – United Republic of Tanzania (2011). Tanzania Agriculture and Food Security Investment Plan (TAFSIP). Dar es salaam.
- Leavy, J, and Poulton, C. (2008). Commercialisations In Agriculture. *Ethiopian Journal of Economics* XVI (1): 41.
- FAO (2003). Commodity Market Review 2003-2004. Edited by Commodities and Trade

Division. Security. Commodity Market Review 2003-2004. FAO, Rome.

Kasumuni, L. (2018). Tanzania's 10m are engaged in farming, Tizeba says. <https://www.thecitizen.co.tz/magazine/Tanzania-s-10m-poorest-are-engaged-in/1840564-4612932-l5wf4gz/index.html> [18/11/2018]

URT (United Republic of Tanzania) (2016). Agricultural Sector Development Programme Phase Two (ASDP II), Government Programme Document. pp 205.

URT (United Republic of Tanzania), Ministry of Agriculture, Food Security and Cooperatives,

Ministry of Livestock Development and Fisheries, Ministry of Water and Irrigation, Ministry of Agriculture, Livestock and Environment, Zanzibar, Prime Minister's Office, Regional Administration and Local Governments, Ministry of Industries, Trade and Marketing, The National Bureau of Statistics and the Office of the Chief Government Statistician, Zanzibar (2012). Tanzania National Sample Census of Agriculture 2007/2008: Small Holder Agriculture, Volume II: Crop Sector - National Report.