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# ESRF POLICY BRIEF

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## Food Price Transmission Analysis: Evidence for Strengthening Food Security Policy Measures in Tanzania

*Policy Brief, By Festo Maro and Dr. Francis Mwijande*

### Summary

*Despite the declining world food prices for maize and rice, food prices in Tanzania have persistently remained high and volatile since 2008 global food crisis. High food prices and volatility call for radical government policy measures towards enhancing food security going beyond lifting up of export ban and producers' subsidy programme. Significant efforts are required toward investment in storage facilities and infrastructure that support market integration such as construction and improvement of primary and secondary markets, market information system, strengthening institutions for correct food price data as well as sustaining road infrastructure improvement to be passable all year around.*

### Introduction

The uncertainty in food price volatility for maize and rice which are predominant food crops in the country continue to dominate food policy discussions. Maize and rice are very important crops for food and as well as source of income to many households in Tanzania. Both crops are grown by more than 65 percent of approximately 3 million households who rely on traditional cultivation methods and rain fed (USAID, 2010; Nazir, et al., 2010). According to the 2009 National Panel Survey, approximately 30 percent of all households sold surplus of their produces to local markets. Maize is widely grown in southern regions of Iringa, Rukwa, Ruvuma, and Mbeya; rice production is concentrated in Mbeya, Morogoro, Arusha, Iringa; beans are cultivated in small quantities in diverse farming systems and

agro-climatic conditions. Tanzania has bi-modal and uni-modal production areas for maize, rice and beans. Despite the production potential, Tanzania government has significant challenges for ensuring its people are having food supplies for all people all time (SIPA, 2010).

In 2007/08 food prices reached high record, subsequently the Government of Tanzania made policy of imposed export ban and removed import duty for maize and rice. However the government lifted up the export ban in October 2012 and import duty waiver early in 2013. However, food prices continue to increase thus affecting majority of net buyers in urban areas. For example, the local price of maize is 60 percent higher than in Brazil and South Africa, while one kilogram of rice is 40 percent more expensive than in Thailand (WB, 2013).

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It is estimated that 45 percent of net food buyer's income is spent on buying food. Many studies (Greb et al 2012; Minot, 2010; Campenhout, 2008; Ulimwengu and Ramandan, 2009). assess food price movement concentrated on price transmission from world market to domestic markets. This policy brief summarizes the findings on price transmission within the domestic market in order to pin point areas for strengthening food policies for ensuring availability and affordability of food crops.

## Key Findings

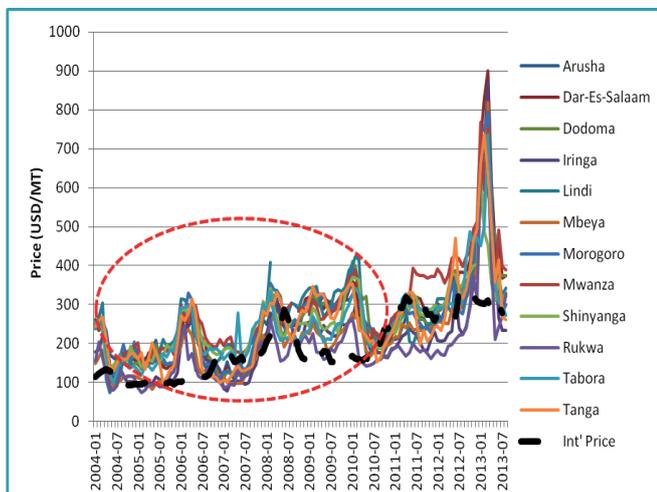
### Local prices are higher and volatile than international prices

The recent surge prices (except in 2007/08) for rice and maize at the beginning of 2012 when the international prices were low (see fig 1) suggests a

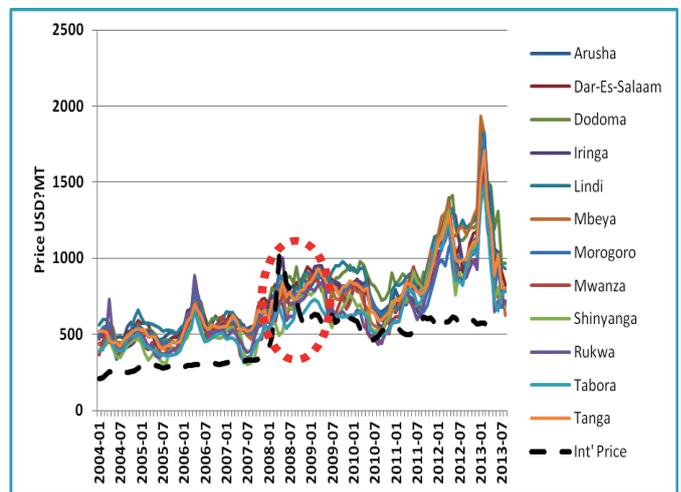
closer look on domestic price movement and other drivers particularly at national level. For example, the margins between local and international prices for rice prices increased from 26 percent to 52 percent with local market having higher prices from 2010 to August 2013. On the other hand maize price difference between domestic and international prices doubled from 15 percent to 39 percent with domestic price being higher. The fluctuation of the supply between the harvest seasons as a result of unbalanced trade flows led to even wide variation in prices as well as food insecurity, because farmers were unable to store their own production. This indicates the urgency need for investment in storage facilities to allow farmers to store crops immediately after harvest to reduce price volatility.

**Figure1: Maize and rice price trend**

#### Maize



#### Rice



Source: Ministry of Industry and Trade (MIT) various years

### Limited integration of between markets

Rice markets co-integration is concentrated in regions which are close to each other than those which are at distant. For example Dar es Salaam – Shinyanga, Rukwa – Morogoro, Rukwa – Mbeya,

and Rukwa – Iringa regional markets are not co-integrated despite that Mbeya region is among the high rice producing regions in the country. In regions such as Lindi which is not major rice producer show to have co-integration with Morogoro, Mbeya and

Iringa where rice is highly produced. Despite of Lindi co-integration with many suppliers, rice prices are very high than in many other regions. The limited road connectivity is certainly the major factor affecting food prices in southern regions of Tanzania.

### ***Price transmission between markets***

Results indicate follower markets (maize surplus regions) transmitting more than 65 percent of prices to leading markets (maize deficit region). However Dodoma (maize surplus region) transmitted relatively small percentages about 60 to Dar es Salaam market (maize deficit region). This is because Dodoma region is also a major maize auction center in East and Southern Africa which makes price margin to those of Dar es Salaam very small. Rice markets which are in surplus regions transmitted more than 60 percent of the prices to markets in deficit regions except for Morogoro (which is rice surplus region) transmitted 57 percent of prices in Dar es Salaam market (rice deficit region). Dar es Salaam and Morogoro are very close than other major rice producing regions but it takes more than 6 months for the prices to be transmitted in Dar es Salaam.

However regions like Mbeya, Shinyanga which are rice surplus producer regions take less than 4 months to transmit prices to Dar es Salaam. Arusha (rice deficit region) on the other hand is very far but it takes 3 months to respond to prices from rice surplus regions of Shinyanga, Iringa and Mbeya due to being close to export market of Nairobi. Therefore, food demand in Nairobi markets pushes higher prices for rice in Arusha markets consequently affecting net buyers. However, it is not clear if farmers benefit from the premium prices traders get by food exporting to Nairobi markets.

### ***Price causality***

Many domestic markets for rice and maize have high dependency on price situation in Dar es Salaam. It was also found that regions which are closer share price information easily, hence prices depend on what is happening in both markets. The market interdependence which were previously not connected by road has increased price information flow due to mobile phone connectivity and penetration in regions such as Lindi-Arusha and Rukwa-Mbeya. The regions which are closer to borders such as Arusha, but with relatively small production capacity do depend price information from local markets before exporting to neighboring countries.

### ***Policy options and recommendations for enhancing food security***

The Government and private sector are need to invest on the following in order to make markets function efficiently in distributing food at affordable prices;

1. Strengthen warehouses at village, ward and district levels to reduce price volatility
2. Improve market information system by enhancing the construction of primary and secondary markets
3. Enhancing market performance through price data collection and dissemination from farm gate, wholesale and retail using information communication Technology (ICT).
4. Strengthening institutions that collect, store and disseminate food market prices
5. Continuous roads network infrastructure improvement to enhance regional market connectivity and interdependence of local markets.

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