

Research Application Summary

**Transaction costs and food security: A case of maize in southern highlands of Tanzania**

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**Abstract**

The study will assess transaction costs in the maize marketing channels in Southern Highlands of Tanzania (Iringa, Mbeya and Ruvuma). This is a major maize producing zone. Linking this zone with food deficit regions like coastal areas and Dar es Saalaam regions is important for food security in Tanzania. This requires a well functioning market which lowers transaction costs hence stimulates maize production and distribution to deficit areas at affordable prices. Therefore, understanding nature and magnitude of transaction costs especially non-transportation costs in the maize marketing channels will be studied to provide information to guide formulating appropriate policies for food security in Tanzania.

Key words: Maize marketing, Tanzania, transaction costs

**Résumé**

L'étude évaluera des coûts de transaction dans les circuits de vente de maïs dans les montagnes méridionales de la Tanzanie (Iringa, Mbeya et Ruvuma). C'est une zone importante de production de maïs. La liaison de cette zone avec des régions de carence alimentaire comme des régions côtières et celles de Dar es Saalaam est importante pour la sécurité alimentaire en Tanzanie. Ceci exige un marché fiable qui abaisse des coûts de transaction, par conséquent stimule la production et la distribution de maïs aux zones de déficit aux prix accessibles. Par conséquent, la nature comprehensive et l'ampleur des coûts de transaction, particulièrement les coûts de non-transport dans les circuits de vente de maïs seront étudiées pour fournir des informations pouvant guider la formulation des politiques appropriées pour la sécurité alimentaire en Tanzanie.

Mots clés: Marché de maïs, Tanzanie, coûts de transaction

**Background**

The agricultural sector is at the heart of several economies of the least developed countries (LDCs). In the case of Tanzania, its economy is heavily dependent on agricultural production and in 2003 agriculture accounted for half of the country's GDP,

provided 51 percent of foreign exchange and employed 80 percent of the labour force (Eskola, 2005). In several sub-Saharan Africa countries including Tanzania you cannot separate food security and agriculture. And, in several of these countries, maize is a key staple food. In this regard, the development of agriculture is critical to solve the problem of food insecurity. However, development of agriculture depends on other supporting services. As reported by FAO (2006) the agriculture development support service includes; markets, rural financial services, availability of farm inputs, agricultural research and extension, and socio-political factors. In this study, maize marketing in the southern highlands of Tanzania as one of agricultural development support services will be examined. Southern highlands of Tanzania are famous for maize production and therefore market as one of agricultural development support service is important because it will link the zone with deficit areas. Efficient market acts as an incentive to both producers and distributors. To justify the importance of market, Bothe and Machado (2000) revealed that even if technical conditions for increasing production have all been met, the increase may not take place because of post-production constraints (e.g transaction costs etc) and food losses. Thus, this study will assess the factors associated with maize grain distribution paying attention on effect of informal barriers (especially transaction costs).

## Literature Summary

**Situation of food security in Tanzania.** Tanzania is a politically stable country. The biggest and constant threat to the country is the widespread poverty and food insecurity that exist throughout the country. Re-occurring droughts (and flooding in certain locations) add to the vulnerability (Easterly and Pfitze, 2008). According to URT (2006) the major source of food supply in Tanzania is from local production. On average Tanzania produces about 95 percent of its food requirements. In some years the country's food self sufficiency measured by the Self Sufficiency Ratio (SSR) is over 100. But there are pockets of food shortage in some regions and districts even when SSR is over 100. In such years, the problem is mainly poor distribution within the country.

The analysis of food availability in many African countries is based mainly on maize. According to Njuki (2006), in many African countries, maize is associated with food security: "Where there's NO Maize there is NO Food." Apart from distribution problem explained above, in some areas traditionally considered

food secure. Njukia (2006) reported that a large proportion of the population was food insecure, specifically in Ruvuma and Iringa where 15 % of households were classified as food insecure. If the producing areas also experience food shortage, this indicates that marketing problems hamper production. Thus, it is important to quantify the effects of transaction costs on maize distribution as well as marketing.

**Transaction costs in marketing.** Nkhori (2004) indicated that in general, transaction costs are ubiquitous in market economies and can arise from the transfer of any property right because parties to exchanges must find one another, communicate and exchange information. There may be a necessity to inspect and measure goods to be transferred, draw up contracts, consult with lawyers or other experts and transfer title. Depending upon who provides these services, transaction costs can take one of two forms, inputs or resources – including time - by a buyer and/or a seller or a margin between the buying and selling price of a commodity in a given market. According to Eskola (2005) transaction costs are often actor specific, and all producers, traders and buyers make their decisions based on the price and transactions cost that are specific for them instead of reacting to a uniform market price. Issues such as road blocks, bribery, local government levies etc. are contributors of transaction costs. Furthermore, Makhura (2001) revealed that transaction costs, that is, observable and non-observable costs associated with exchange, are the embodiment of access barriers to market participation by resource poor smallholders. Thus, this study will analyze the effects of transaction costs on production and marketing in the study area.

## **Study Description**

The study area is southern highlands of Tanzania. This area is a major maize production zone in Tanzania. Linking this zone with food deficit regions like coastal regions is important for food security. Cross sectional data will be collected from households in Ludewa district of Iringa region and from traders at urban markets of Iringa, Mbeya and Ruvuma regions. The key information that will be gathered is about transaction costs and its impacts on production and distribution of maize. Government officials and key informants will also be interviewed. Qualitative and quantitative analysis will be undertaken. For quantitative analysis econometric models will be used. First, analysis will be done to assess the contribution of various aspects to total transaction costs and its impact on maize marketed. Analysis will be done to quantify the effect of

transaction costs on spatial price differences. The Cobb Douglas model will be modified to take into account the exogenous variable like farm-gate price and transaction costs. The intention is to quantify the effect of farm-gate price and transaction costs on maize production.

### **Expected Outputs**

The expected outputs and outcomes from this study are (i) identified maize marketing functions along the marketing channels, (ii) identified main actors in the maize marketing, (iii) main aspects of transaction costs, (iv) quantified effects of transaction costs on consumer price, (v) quantified effect of transaction costs on spatial price differences, and (vi) quantified effects of transaction costs and farm-gate price on maize production.

### **Research Application**

The findings from this study will be used to inform policy.

### **Acknowledgement**

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