Chapter 2
The Role of ICT-Based Market Information Services in Spatial Food Market Integration: The Case of Malawi Agricultural Commodity Exchange

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ABSTRACT
The government of Malawi in 2004 initiated an ICT-based Malawi Agricultural Commodity Exchange (MACE), a market information service project, to improve access by farmers to market information. MACE was intended to improve the efficiency of agricultural markets as part of the strategy to improve food security. This study uses quantitative methods to examine whether MACE has contributed to efficiency of rice markets in Malawi. It especially tests if MACE has contributed to spatial integration of rice markets. As hypothesized, the study finds that the tendency of rice prices to move together in spatially separated markets has significantly increased since the implementation of MACE. It concludes that ICT-based market information services project enhances linkages between markets and can therefore improve the efficiency with which agricultural markets perform. The study discusses implications of this finding for policy.

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1. INTRODUCTION

The government of Malawi has been pursuing policies aimed at attaining food self sufficiency for the last couple of years. The pursuit of these policies have been accelerated by the recent global food price inflation that saw food prices double in some countries, sparking off food riots (Okello, 2009; Chirwa, 2009). Some of the factors attributed to the food price inflation include poor domestic policies that penalized agricultural sectors, bad weather, poor performance of agricultural markets, and lack of market information. However, the surge in food prices in Malawi is not a new phenomenon. There have been similar food price increases in Malawi in 2001/02, 2005/06 and 2007/08 (Chirwa, 2009). Following the global, regional and national food price surge, Malawi government has strengthened its efforts to improve the performance of agricultural markets.

The Performance of agricultural markets is seen as crucial in attaining food self sufficiency and security in Malawi. However, agricultural markets often fail for smallholder farmers who form the majority of the agricultural producers (Barrett, 2009). For such farmers, the markets tend to be thin, fragmented and missing altogether (Shiferaw et al., 2006). The failure of agricultural markets for smallholder farmers often result from lack of access to information or from the endemic problem of information asymmetry between the farmers and buyers (Kydd & Doward, 1989; Poulton et al., 2006). Consequently, majority of smallholder farmers sell their produce in local poor-paying markets or at the farm-gate rather than travel to distant better-paying markets (Fafchamps & Hill, 2005). Facilitating farmer access to better-paying markets has thus been an issue of major concern to policymakers in Malawi.

Food security can also be attained when markets function efficiently and therefore facilitate trade between different regions. Trade between different regions facilitates movement of food from food-surplus areas into food-deficit areas. Thus, integration of food markets can enhance regional food security by ensuring regional balance among food-deficit, food-surplus and non-food cash crop-producing regions. When, however, food markets are not integrated, local food scarcity will persist, as localized deficient markets fail to send the right signals to the surplus markets to attract supplies of food grains.

The government of Malawi has, over the years, embarked on policies targeted at improving the performance of agricultural markets. These interventions include market liberalisation introduced in 1987 with the aim of increasing competition and hence improve returns to investment in agriculture (Tollen, 2006; Phiri, 2006). However, market liberalisation policies yielded mixed results. Chirwa (2001, 1999) and Goletti and Babu (1994) report that market liberalisation in Malawi improved spatial market integration. On the other hand, Phiri (2006), Kherallah et al. (2002), and Chilowa (1998) argue that instead of boosting production, liberalization policies resulted in output reduction in many developing and transition economies due to persistence of inefficiencies in input and output markets and poor access to markets by smallholder farmers.

One of the major contributors to poor market access by smallholder farmers is the lack of reliable and timely market information on input and output prices as well as on input and output quantity and quality. This lack of information substantially increases transaction costs and reduces market efficiency. In particular, it results in long and fragmented commodity value chains, trade in small volumes and exchange of undifferentiated products with no defined quality. Consequently, farmers often earn low returns for their produce (Mukhebi, 2004).

To solve the problem of poor access to markets by farmers, Malawi government established the Malawi Agricultural Commodity Exchange (MACE) (Goletti & Babu, 1994; Phiri, 2006). MACE, an ICT-based market information service (MIS) project, was particularly established to
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