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Achieving Food and Nutritional Security through Commercialized Agriculture: The Role of Transitional Systems in Kenya

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Abstract

Agricultural commercialisation has the potential of increasing access to diversified foods among households. Increased purchasing power due to market participation enables consumers to afford more nutritious food bundles. However, there is scanty empirical literature on the extent and patterns of agricultural commercialisation in remote rural food-insecure farm-households in Africa. This study provides evidence of how emerging transitions in rural infrastructure and devolved governance systems contribute to market participation by farm-households, which ultimately leads to nutritional diversity in western Kenya. Primary household survey data from a random sample of 300 smallholder maize farmers was analysed using; descriptive analysis and multiple linear regression. Results showed that, amount of purchased inputs used, household asset index, land size, total output, access to credit and trust in traders significantly influenced commercialisation patterns in transitional systems (with declining land sizes, increased market access). Further, it was noted that support services (inputs, wealth, and credit) had both positive and negative effects on the level of commercialisation in transitional systems. Areas with improved infrastructure especially improved access to all weather roads, had better access to marketed inputs and thus reported considerable increments in the amount of maize sold compared to areas with poor infrastructure. Intuitively, households with high exposure to positive transitions in infrastructure, land management systems and better inclusive localised governance systems for land and support services had higher levels of market participation which ultimately contributed to improved food and nutrition security. The study recommends the need for both County and National government to invest in infrastructure so as to increase commercialisation. More specifically, high access to all weather roads positively contributes to market participation among farmers.

Keywords: Commercialisation, food and nutrition security, Kenya, transitions

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Introduction

Agricultural commercialization is one of the strategies advocated by the Kenyan government to eradicate poverty and improve living standards. In 2008, the government launched a blue print document called the Vision 2030. It emphasizes the idea that agricultural sector is vital for economic growth. The Agricultural Sector Development Strategy (ASDS) is another key policy document that emphasizes on commercializing the agricultural sector (Republic of Kenya, 2010). Its main objectives were to improve the management of factors of production and transform agriculture into a commercial enterprise. Agricultural commercialization refers to a shift from subsistence production to market-oriented value chain activities from use of purchased inputs to generation of profit-motivated goods and services (Goletti, 2005). Most countries in the SSA have adopted agricultural commercialization as a mechanism for improving livelihoods through increasing labour productivity.

Despite the contributions of agricultural commercialization to SSA livelihoods, Commercialization of maize in Kenya is still at 40% despite the significant role it plays for agrarian dependent rural livelihoods (Olwande and Mathenge, 2012). Poor market development and missing markets in some cases are also major constraints to smallholder commercialization.

Over the past five decades, SSA has experienced major transitions in land tenure, farming systems and changes in population density. Increase in population causes changes in the ratio of persons to land hence farmers must adapt their farming mechanisms on their small farms to meet increased demand (Muyanga and Jayne, 2012). As farm sizes decline, farmers respond by changing from shifting cultivation to annual cropping, decrease in fallow lands and adoption of intensification practices to increase production on the diminishing parcels of land. These transitions highlight some of the changes experienced by smallholder farmers in SSA. Smallholder farmers in Kenya have vastly experienced changes in farming practices as well as access to support services. This has been coupled with changes in governance structure from the central to devolved governance structure. A combination of all these transitions is expected to have an influence on both agricultural production and commercialization.

Previous studies focusing on agricultural commercialization have concentrated on factors affecting rates and participation in markets, with little or no attention to the effects of transitions to commercialization rates. The current study filled this gap by analysing the effect of infrastructure (access to all weather roads) and devolution (market facilities have been established since devolution) transitions on commercialization.

Material and Methods

The study was conducted in western Kenya in Kakamega, Bungoma and Trans-nzoia counties; key maize baskets of Kenya. Respondents were selected through a multi-stage sampling procedure. Whereby in the first stage the three counties were selected for their dependence on maize. In the second stage, Bungoma Central, Kiminini and Lugari sub-counties were selected from each county. These sub counties were purposively selected due to their proximity to large markets. Wards and respondents were then randomly selected with the help of agricultural offices in the sub-counties.

Using semi-structured questionnaires, face-to-face interviews were used to interview a total 300 maize farmers. The survey questionnaire captured data on socio-economic characteristics, support services, transitions and asset ownership.

A multiple linear regression was used to analyse the effect of infrastructure and devolution transitions on commercialization patters among maize smallholder farmers in western Kenya

Results and Discussion

Effect of Devolution and Infrastructure Transitions on the Amount of Maize Sold Among Smallholder Farmers

Results in Table 1 illustrate the effect of transitions on commercialization decisions (amount of maize sold) among maize smallholder farmers.

Table 1: Regression Results on the Effect of Infrastructure and Devolution Transitions on Commercialization (Amount of Maize Sold)

Variables	Infrastructure transitions				Devolution transitions			
	Lack of improved access to all weather roads (n = 51)		Improved access to all weather roads (n = 246)		Market facilities have not been established since devolution (n=160)		Market facilities have been established since devolution (n=137)	
	Coef.	P>t	Coef.	P>t	Coef.	P>t	Coef.	P>t
Development group	0.08	0.94	0.27	0.45	0.44	0.29	0.16	0.79
Total seeds and fertilizer used	-1.17*	0.06	0.39*	0.09	-0.04	0.87	0.45	0.21
Household Asset Index	0.06	0.62	0.09**	0.05	0.00	0.98	0.14**	0.03
Total land under maize	1.69*	0.08	0.08	0.79	-0.08	0.84	0.30	0.48
Total maize harvested	2.41***	0.01	1.74***	0.00	2.63***	0.00	1.32***	0.00
Trust traders	0.31	0.77	0.39	0.22	0.22	0.57	0.82*	0.10
Years of formal schooling	-0.01	0.92	0.00	0.96	0.04	0.49	-0.04	0.53
Dependence number	0.06	0.77	-0.13**	0.03	-0.16**	0.04	-0.09	0.30
Access to credit	2.03*	0.07	0.25	0.45	0.35	0.38	0.96*	0.08
Access to extension	-0.45	0.70	0.13	0.74	0.15	0.72	-0.16	0.80
Gender of household head	-1.26	0.38	0.52	0.24	0.55	0.31	0.46	0.48
Traders known	0.08	0.90	-0.60***	0.01	-0.30	0.31	-0.69**	0.04
_cons	-8.92	0.08	-10.31	0.00	-14.28	0.00	-8.02	0.00

Notes: Notes: ***, **, * significance levels at 1, 5 and 10 percent respectively.

Source: Survey Data (2017).

Results showed that areas with improved infrastructure, access to inputs increased the amount of maize sold by 39% whereas in areas with poor infrastructure it reduced the amount of maize sold. Wealthy households in areas with improved infrastructure were more commercialized in comparison to those with poor infrastructure. Amount of maize harvested by farmers in areas with both poor and improved infrastructure had a positive effect on commercialization.

With regards to devolution transitions, household asset index had a positive and significant effect on the amount of maize sold for farmers in areas where new market facilities had been established since devolution. Amount of maize harvested had a positive and significant effect for farmers who had new market facilities established due to devolution as well as those who did not have new market facilities. Farmers who encountered devolution transitions, trusted in traders and had access to credit were more commercialized as opposed to their counterparts who did not have devolution transitions.

Conclusions and Outlook

The study assessed the effects of infrastructure and devolution transitions on the amount of maize sold. Results showed that factors such as access to inputs, wealth index, amount of maize harvested, trust in traders and access to credit had a positive and significant effect on the amount of maize sold among households that experienced infrastructure and devolution transitions.

These results call for various policy implications. It is important to reduce the radius covered by farmers while accessing markets as this will improve commercialization trends. Additionally, the County as well as the National government should work together to ensure that infrastructure such as main and feeder roads are in good condition to increase farmers access to markets.

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