



Impact of Rural to Urban Migration on Agricultural Productivity in Mitundu, Lilongwe, Malawi

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Abstract

The study was aimed at understanding the impact of rural-urban migration on agricultural productivity in Mitundu, Lilongwe Malawi. The objective was to determine the effect of rural-urban migration on labour availability, to identify the changes in expenditure resulting from rural-urban migration on agricultural productivity and lastly to identify the effects of rural-urban migration on crop yield. This study was done at Mitundu in Lilongwe district with a total respondent of 80. The study used a simple random sampling where by 399 smallholder farmers were selected for the study. The study aimed to investigate the effect of rural-urban migration on agricultural productivity Specifically, to identify changes in expenditure resulting from rural-urban migration on agricultural productivity, and to identify the effects of rural –urban migration on crop yield. Rural-urban migration has a significant implication on agricultural labour force, crop yield and agricultural productivity which resulted a shift in labour farming methods to more mechanized capital-intensive farming practices. As able-bodied workers tend to migrate to urban centres it leads to labour shortages during farming seasons and hinders skill and knowledge at the same time there is changes in land use and limited access to resources. Based on the conclusions, it was therefore recommended that policy makers should devise specific strategies to attract and retain agriculture labour in rural areas to counter labour shortages resulting from migration. Long term effects on rural communities should further be investigated on enduring consequences of migration on rural areas including economic, social and demographic changes.

Keywords:

Rural, Urban, Migration, Agricultural Productivity, Malawi

1. Introduction

Rural-urban migration is the movement of people from rural villages, towns, and farms to urban centres in search of jobs (Ge et al., 2020). The rapid growth of rural-urban labour force migration has been a common feature of developing countries which occurs in response to natural and human-induced factors (Deksiso 2017). Rural-urban migration is growing in many developing countries, including Malawi, with far-reaching implications for agricultural productivity in rural areas. A Study by Ogunniyi (2020) reported a positive impact of rural-urban migration on agricultural productivity, it was stated that people who migrated had access to better education, acquired new skills and knowledge in agriculture through training. Despite the importance of rural-urban migration, it leads to loss of labour in rural areas which results in reduced agricultural output, as there may not be enough workers to cultivate crops, harvest, or perform other essential tasks on the farm. Agricultural productivity is crucial for economic development and food security in Malawi, and any factors that negatively affect it could have severe consequences (Matemba, 2023). Several studies (Matemba and Njera, 2023., Ogunniyi, 2020., Obayelu, 2020) have reported the negative impact of Rural-Urban migration and stated that migration led to shortage of labor in rural

areas which reduced agricultural productivity. It was further stated that the loss of young skilled workers to urban areas has also had a negative impact on the adoption of modern farming technologies which reduces productivity.

Rural-urban migration has become a significant phenomenon in many developing countries including Malawi, resulting in a shift in the labour force from agriculture to other sectors (Mercandalli et al., 2019). This migration trend has implications for agricultural productivity, which remains crucial for many developing economies. However, the specific impact of rural-urban migration on agricultural productivity is still not well understood. Therefore, this study aimed to investigate the effect of rural-urban migration on agricultural productivity in Mitundu Lilongwe Malawi. Specifically, to assess the extent to which rural-urban migration affects labour availability for agriculture productivity, analyse the changes in expenditure and resource allocation resulting from migration on agriculture productivity, and investigate factors that contribute to increases or decreases in crop yield. The study findings provide insights into the mechanisms through which rural-urban migration affects agricultural productivity and inform policy decisions aimed at mitigating the negative impact of migration on agricultural productivity. The main objective of this study was to investigate the impact of rural-urban migration on agricultural productivity. Specifically, to determine the effect of rural-urban migration on labour availability. To identify the changes in expenditure resulting from rural-urban migration on agriculture productivity. And to identify factors that affect rural-urban migration on crop yield.

2. Materials and Methods

The study utilized a mixed methods research design. Quantitative data was collected through surveys from sampled households using a questionnaire. Qualitative data was collected through focus group discussions (FGD) which were held following the FGD guide already designed and from the open-ended question from the questionnaires. The target population for the study were smallholder farmers from Mitundu Lilongwe Malawi. According to Chiseka EPA the study location was estimated to have 125,342 as the population of smallholder. The study area was chosen because it is close to Lilongwe township and cases of rural-urban migration are on the rise due to searching for greener pasture (NSO, 2018). The study used simple random sampling method to select the respondents, in this case each individual was chosen entirely by chance and each member of the population had an equal chance or probability of being selected (Saunders et al, 2018). The sample size was determined by using Brewer and Miller (2003) formular as follows;

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = is the sample size

N= is the sample frame

e= is the margin of error (at 0.05)

$$n = \frac{125342}{1 + 125342(0.05)^2} \quad n=398.727$$

According to records from Chiseka EPA, the EPA was estimated to have 125,342 smallholder farmers. Therefore, using the Brewer and Miller (2003) formula 399 smallholder farmers were selected. Cochran (1977) States that, when n/N is more than 0.1 of the sample size, then sample size above 10% can be used. In this case the researcher used 20% from the expected sample size which is 80 small holder farmers.

Questionnaire and checklist for focus group discussion was used for data collection. In depth interviews using a questionnaire were done to collect data. To ensure that all the research instruments and data collection tools are fit and without fault and errors, the researcher conducted a pilot survey to test the instruments and where the instruments were found with fault, the researcher made necessary amends before the actual study was conducted. This helped to ensure that the collected data was reliable and correct as well as fit to be used in decision making. Quantitative data collected was analysed using a computerized package called Statistical Package for Social Science (SPSS) whereby a descriptive statistic and the generation of frequencies and percentages were conducted. While on qualitative data, the researcher read all responses and group them into categories in the answers and then coding and defining of variables were done.

3. Results and Discussion

3.1 Characteristics of respondents

The table 1 summarizes the characteristics of respondents, presenting data on age, gender, education level, and marital status. In terms of age distribution, the majority of respondents (50%) fall within the 18-35 age range, with decreasing percentages in older categories. The chi-square test was conducted, revealing a statistically significant association between age groups and responses ($X^2 = 8.667, p = 0.034$). Regarding gender, there is an uneven distribution with 56% male and 44% female respondents. The chi-square test for gender demonstrates a significant association with responses ($X^2 = 8.533, p = 0.003$). In terms of education, a majority (63%) have completed primary education, with the chi-square test indicating a significant association between education levels and responses ($X^2 = 10.000, p = 0.019$). Marital status also shows significant variation, with 50% of respondents being married, 31% widowed, and 19% single. The chi-square test for marital status indicates a highly significant association with responses ($X^2 = 19.200, p = 0.000$).

Table 1. Characteristics of respondents

Characteristics of respondents	N	% age	Df	X ²	p-value	
Age	18 – 35	40	50	3	8.667	.034
	36 – 45	25	31			
	46 – 55	5	6			
	56 – 65	8	10			
	≥65	2	3			
Gender	Total	80	100	1	8.533	.003
	Male	45	56			
	Female	35	44			
Education level	Total	80	100	4	10.000	.019
	Never	0				
	Primary	50	63			
	Secondary	20	25			
	Tertiary	5	6			
Marital status	Total	80	100	3	19.200	.000
	Single	15	19			
	Married	40	50			
	Widow(er)	25	31			
	Divorced	0				
Total	80	100				

3.2 Rural – Urban migration and labour availability

The study revealed that Rural-urban migration, had a significant implication on agricultural labour force, and the extent of agricultural productivity.

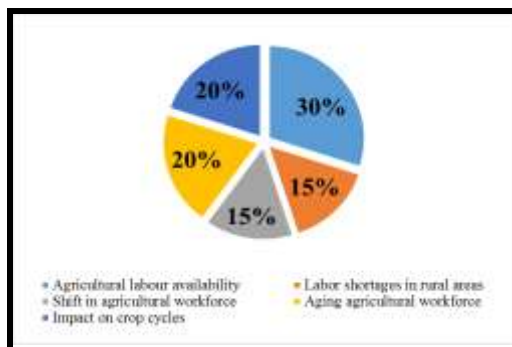


Figure 1. The extent to which rural-urban migration affects the availability of labour for agriculture productivity

Figure 1 shows that 30% of the respondents reported on the decreased agricultural labour availability. Rural-urban migration can lead to a reduction in available labour for agriculture, as young and able-bodied workers leave

rural areas in search of better economic opportunities in urban centres and the results agree with Obayelu (2020). Labour shortage was also reported by 15% with fewer people staying in rural regions, there may be a shortage of skilled and experienced labour for agricultural activities, which can negatively impact productivity.

The study further reviewed that shift in agricultural workforce was reported by 15%, and this means that the migration of rural labourers resulted in a shift from labour-intensive traditional farming methods to more mechanized and capital-intensive farming practices as also discussed by Singh and Kumar (2023). Aging agricultural workforce was reported by 20%, as younger individuals leave for cities, the agricultural workforce in rural areas may consist predominantly of older individuals, which could potentially affect productivity due to physical limitations and a reduced willingness to engage in strenuous farming activities and the study agrees with Lindsjö *et al.* (2020) Impact on crop cycles was reported by 20% of the respondents and this means that insufficient labour during critical periods, such as planting or harvesting seasons, can lead to delays and lower crop yields, affecting overall agricultural productivity.

3.3 Changes in expenditure and resource allocation resulting from rural- urban migration on agriculture productivity

3.3.1 Rural –urban migration and changes in expenditure

According to the responses from different respondents from the group discussions, it was evident that there has been a notable increase in labour costs for agriculture over time. Respondents from group 1 and Respondent from group 2 both highlight a significant rise in labour expenses, where the expenditure for cultivating one acre of land doubled from 40,000 MWK in the past to 80,000 MWK presently. Respondent from group 3 also emphasized an upward trend in labour costs, with a previous expenditure of 25,000 MWK rising to 40,000 MWK.

Similarly, Respondent from group 4 notes an increase in labour expenses from 35,000 MWK to 50,000 MWK. The consistent observation across all respondents indicates that labour cost escalation is a prevailing issue, potentially impacting agricultural productivity and profitability. Understanding the reasons behind these cost increases and developing strategies to address them will be essential for sustaining the agriculture sector in the face of evolving economic and social factors and the results are similar to Rockström (2017).

3.3.2 Agriculture expenditure that affect productivity

Agricultural productivity is intricately linked to various expenditure that farmers and stakeholders experience. Investments in technology, irrigation, fertilizers, and research can significantly impact output. Understanding these expenditure is crucial for enhancing efficiency and sustainability in agriculture

All the respondents unanimously emphasize the adverse impact of expensive fertilizers on crop yield in modern agricultural practices. Respondent 1, Respondent 2, and Respondent 3 all point out the significant increase in fertilizer costs, with one bag currently priced at 70,000 MWK compared to the past cost of 25,000 MWK. This price surge resulted in farmers facing challenges in sustaining the same level of crop production as in the past. Respondent 4 also acknowledges the negative effects of expensive fertilizers on crop yield, even though they do not provide a specific current cost. The rising cost of fertilizers presents a critical barrier to achieving optimal crop yields and overall agricultural productivity. With fertilizers being an essential input for enhancing soil fertility and promoting plant growth, their increased expenses directly affect farmers' abilities to invest in their crops adequately as also noted by Asrat *et al.* (2020). This situation calls for further examination of the factors contributing to the escalating fertilizer prices and the development of strategies to ensure affordable and sustainable access to this vital agricultural resource. Finding solutions to alleviate the burden of fertilizer costs can play a pivotal role in securing food production and supporting farming communities in the face of economic challenges.

3.4 Factors that contribute to increase or decrease in crop yield

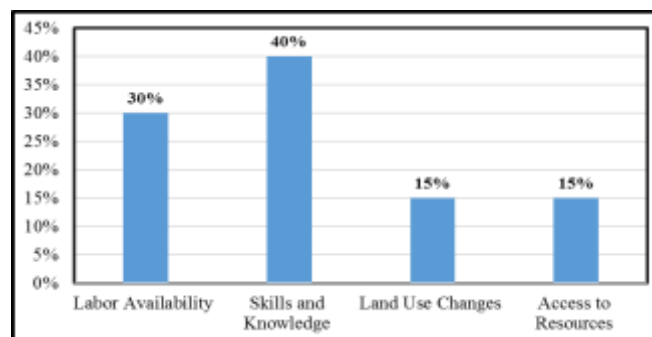


Figure 2. Factors that contribute to increases or decreases in crop yield

As shown in Figure 2, Skill and Knowledge Transfer, 40% of the respondents reported Skill and Knowledge Transfer as a factor that contributes to an increase or a decrease in crop yield, and this means that migration can result in the loss of experienced and skilled agricultural workers in rural areas, as they seek better prospects in urban settings. The departure of knowledgeable farmers and agricultural experts may reduce the dissemination of best practices and innovative techniques in farming, affecting crop productivity in the region as also discussed by Eisenack *et al.* (2019).

The study reviewed that 30% of the respondent reported Labour Availability as a factor that contributes to an increase or a decrease in crop yield, Rural-urban migration can impact the availability of labour for agriculture. As more individuals migrate from rural areas to urban centres in search of better opportunities, there might be a decline in the agricultural workforce, leading to labour shortages during critical farming periods as noted by Lomba *et al.* (2017) In turn, this can affect timely planting, harvesting, and other essential farm management practices, potentially leading to variations in crop yield.

Land Use Changes was reported by 15% and this means that rural-urban migration can also influence land use patterns. As rural communities experience population decline, some agricultural land might be left uncultivated or converted for other purposes (Wolff *et al.*, 2021). Changes in land use can disrupt traditional farming practices and further impact crop yield due to alterations in soil management, irrigation, and other agricultural practices.

The study also reviewed that Access to Resources was reported by 15% and this means that Migration can exacerbate disparities in resource distribution between rural and urban areas. In some cases, rural regions may face reduced access to essential resources like fertilizers, seeds, and modern farming machinery, which can hinder agricultural productivity and lead to variations in crop yield compared to urban areas with better access to resources (Das *et al.*, 2022).

4. Conclusion and Recommendations

The findings underscore the substantial impact of rural-urban migration on agriculture productivity. Migration-induced labour shortages, reduced skill transfer, changes in land use, and limited access to resources emerged as key factors contributing to variations in crop yield. These challenges call for proactive measures to address the adverse effects of migration on agricultural activities. Policymakers should implement targeted strategies by creating incentive programs such as, financial support, housing facilities, and skill development opportunities for agricultural workers in rural areas. Policy makers should also implement equitable allocation of agricultural resources, encompassing fertilizers. Provision of support on infrastructure development and training programs helps to empower rural communities, fostering resilience and optimizing resource utilization in the face of demographic shifts.

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