


Research Article

# Effects of Food Crops Commercialization on Smallholders' Food Security in Southern Tanzania

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## Abstract

Commercialization of smallholders farming is fronted as a panacea for both rural poverty and food insecurity. Through the use various policies and strategies such as the National Trade Policy (2003); National Strategy for Growth and Reduction of Poverty (2010); Agricultural Marketing Policy (2008); National Agriculture Policy (2013); and the National Five-Year Development Plan (2021/22 to 2025/26, the government of Tanzania have consistently promoted commercialization of agriculture. This has led to increasing commercialization of food crops for over two decades now. However, emerging evidences show that commercialization of foods crops has negative effect on smallholder's food security. This paper assessed circumstances under which commercialization of food crops could lead to household food insecurity among smallholders. Purposive sampling was used to obtain 120 households from a highly food crop commercialized district of Iringa in Southern Tanzania. Results shows that three scenarios could lead to food insecurity among smallholders namely; low productivity of commercialized food crops, shifting away from traditional food crops such as cassava, wheat and sorghum, sweet and round potatoes that used to enhance food security, and specialization which exposes smallholders to shocks and uncertainties. It recommends that commercialization of food crops should go hand in hand with enhanced productivity and diversification.

## Keywords

Food Crop, Commercialization, Food Security, Smallholders' Farmers

## 1. Introduction

Commercialization of smallholder production is a process which involves a transformation from production for household subsistence to production for the market. Commercialization can be from the input side (increased use of purchased inputs), as well as from the output side (increased marketed outputs) [1, 2]. This paper defined commercialization of agriculture from both from inputs as well as output perspectives.

Tanzania aspires to have a diversified and

semi-industrialized economy that is comparable to typical middle-income countries by the year 2025 [3]. One way of achieving the goal is transforming the economy from subsistence to commercial agriculture with high productivity which generates high incomes and ensures food security. Several policies, strategies and plans such as the National Trade Policy (2003); National Strategy for Growth and Reduction of Poverty (2010); Agricultural Marketing Policy

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(2008); National Agriculture Policy (2013); and the National Five-Year Development Plan (2021/22 to 2025/26 have been developed and implemented [4-8]. This has led to increasing commercialization of food crops for over two decades now [9]. Commercialization of food crops is mainly manifested in a shift from staple food crops production to market (trade) purposes [10]. However, despite its role on industrial development, commercialization of agriculture remains to be a challenge [11].

Literature show that commercialization of subsistence agriculture is an indispensable pathway towards economic growth and development for agriculture dependent developing countries [12-14]. Also, there are growing evidences that commercialization of smallholder agriculture has positive influence on income levels of rural population [14-17].

The driving forces behind commercialization globally include population growth and demographic change, urbanization, development of infrastructure and market institutions, development of the non-farm sector and broader economy, rising labor opportunity costs, and macroeconomic, trade, and sector policies. In Africa, food crops commercialization has been enhanced in various ways by colonial and post-independence development policies and strategies [10]. Much hope is put on the process of commercialization of smallholder producers for achieving higher agricultural productivity, higher incomes, reduction of poverty and improving food security.

A review of case studies conducted in 10 countries in Africa, Asia, and Latin America found that commercialization increased household incomes in most cases, as a result of increased labor and land productivity on farms as well as increased employment opportunities for hired labor. In most cases, increased incomes resulting from commercialization led to increased food consumption [18, 19]. Hence there is a strong case for promoting food crops commercialization while seeking to ensure that the benefits and costs of the process are equitably distributed [20].

In Tanzania, commercialization has opened up means for increasing greater agricultural output and farmers' income [21]. Unfortunately, not all rural dwellers have benefited equally from greater economic opportunities brought about through the commercialization process. An interview conducted with the smallholders' farmers group in Iringa District, Southern Tanzania showed that commercializing food crops benefit farmers, and it may instantly move on to high value crops. Often times, increased market orientation of staple crop production offers a more pertinent option to small holders in the short terms until infrastructural facilities are developed to accompany the production, processing, transportation and marketing of high value crops. Commercializing food crops is an indispensable pathway towards economic growth and development for most developing countries relying on the agricultural sector [22], while food crops commercialization may not be a viable activity to ensure sustainable food security and welfare [23].

Despite the increasing food crops commercialization, the agricultural sector in Tanzania has been experiencing various weaknesses, including low productivity and erosion of the natural resource base [24]. This growing concern on declining agricultural production in Tanzania seems to suggest that the process of food crops commercialization has not enhanced agricultural production [20, 25].

The government of Tanzania views the increased commercialization of food crops as an important element and effective to increase income and improve the living standards in rural areas [9]. However, scant evidences suggest that commercialization of food crops create a dilemma for smallholders whether to sustain their households with food or focus on production for the market. Using a case study of a highly commercialized smallholders farming district of Iringa in southern highlands of Tanzania, this paper assessed circumstances under which commercialization of food crops could lead to household food insecurity among smallholders. Specifically, it investigated effects of low productivity of commercialized food crops, affordability of food at the market prices for households with income from selling own food produces, shifting away from traditional crops, and specialization and its effects on food security among smallholders.

## 2. Materials and Methods

The study employed cross sectional design which allowed collection of large amounts of data at one point in time. A purposive sample of 120 households participated in the study. In order to corroborate findings from the households, three focused group discussion comprised of 5-10 persons were held. Descriptive statistics were used to analyze data.

## 3. Results and Discussion

### 3.1. Low Farm Productivity, Low Acreage Under Cultivation and Large Families

The study investigated low productivity of commercialized food crops and its effect on food security among smallholder farmers in Iringa District of Tanzania. Results show that low productivity begins with the size of cultivated plots where 79.4% of the respondents reported cultivating average of an 1-3 acres per year. Under favorable conditions, each acre yields 16 bags of rice which translates into 48 bags in a good year. However, field observations show that majority of the smallholders in the surveyed are harvest half (24 bags per planting season). The Tanzania Ministry of Agriculture estimates annual food requirement for an adult is 2.5 bags (of 100kg). This means that for a family of 5 (assuming there are three adults and two children) would require an average of 10 bags for food. If an average harvest is 24 bags, they only remain with 14 for the market. However, due to lack of alternatives incomes as well as other food crops, households'

resorts to selling almost all the food crops to meet other pressing needs such as medical bills, school fees and clothing. As a result, 64.9% of the respondents reported run out of food supply four month after harvesting.

These findings indicate that food crop commercialization for smallholders with low productivity, large families and few alternatives foods works negatively on household's food security. These findings are contrary to other researchers who found that in Zimbabwe, commercialization of food crops had positive impact on household food security [26].

### 3.2. Affordability of Food at the Market Prices for Households with Income from Selling Own Food Produces

An investigation was done whether smallholders farmers who have sold their produces could access food at market prices. Results show that 81.4% of the respondents admitted that the money earned from crops sells was not enough to ensure their food security until the next harvesting season. These findings are similar to a researcher who suggested that food prices do not only affect consumers welfare but also producers such as smallholder farmers who could not have other means of income apart from agriculture [27]. In order to reap commercialization of smallholders' crop production, credit markets have to be easily accessible or semi-commercial households have to put some of their good-year income in a form of quasi-liquid assets for consumption smoothing in a bad year. However, unless rural markets are well-integrated and risks are low to influence household decision behavior, commercial crop production may have an adverse consequence on food security by exposing households to volatile food crops to market prices that could lead to food insecurity.

In order to mitigate household food shortage, it was revealed that 64.9% of the respondents opted for loan in the form of hard cash from informal lenders, sharecropping or crop mortgage whereby the borrower sells in advance a certain part of the future crop in exchange for a loan, or sell part of the land. In absence of strict regulation and presence of opportunist lenders who are more interested in supernormal profit and access to land, this option may plunge stallholders deep into poverty.

### 3.3. Shifting Away from Traditional Crops

In investigation was done to determine whether farmer's crops preference as a result of learning toward producing for market could lead to food insecurity. Results show that 63.9% of the respondents preferred crops with commercial value such as maize, beans and rice. Focus group discussions corroborated these findings as majority noted a sharp decline in traditional food crops such as cassava, round potatoes and sweet potatoes which were used to supplement household food security. Further, 71.1% of the respondents

reported grew crops for both food consumption and cash generation.

In the above these circumstances, crops commercialization could be a threat to food security since smallholder farmers prefers certain varieties of crops that they think they are in high demand and can be sold out easily. Other researchers observed that most of the changes associated with agricultural commercialization in Sub Saharan Africa and Tanzania in particular started from the mid-1980s [28]. It was at this period that market-oriented crops including, maize, rice, beans and horticultural crops become more prominent due to trade liberalization.

### 3.4. Specialization in Commercial Crops and Its Effects on Food Security Among Smallholders

The study found that 91.6% of the respondents specialized in rice production for commercialization and household consumption, ignoring other traditional varieties such as cassava, sweet potatoes, and round potatoes. A specialized production by its nature is highly susceptible to the risks of fluctuating prices and yields which results in fluctuating household income and food insecurity. Agricultural commercialization leads to a more specialized pattern of production at a household level [29]. While specialization is a desired development, it works against smallholders by exposing them to local and global shocks with that they have little control. For example, they rely on the market to supply them with inputs (seeds, fertilizers, chemicals, etc.) as well as outlets for their produce. Majority of the inputs are imported and thus susceptible to global disruptions caused by diplomatic tiff, wars, shipping disruption and the like. Resource rich farmers, can use alternative income to survive the shocks but such opportunities are not available to subsistence smallholders, hence leading to food insecurity.

## 4. Conclusion and Recommendations

Although commercialization of farming has opened up means for increasing greater agricultural output and farmers' income in different parts of Africa, the efforts should go hand in hand with building capacities of smallholders to enhance productivity and diversification [9]. Enhanced productivity would ensure that households have enough for consumption as well as surplus for the market. Diversification would enable smallholders spread risks and mitigate the effects of global and local shocks.

## Abbreviations

URT      United Republic of Tanzania

## Author Contributions

**Gasper Mpehongwa:** Conceptualization, Resources, Supervision, Writing – original draft, Writing – review & editing

**Devota Cassian:** Data curation, Formal Analysis, Investigation, Methodology

## Conflicts of Interest

The authors declare no conflicts of interest.

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