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Agricultural Diversification Challenges and Opportunities in the Malawian Groundnut Value Chain

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Key Messages

- Based on production and export data, groundnut has the potential to contribute to Malawi's agricultural diversification agenda, for both food and export purposes.
- According to key informants interviewed, the main challenges faced in the groundnut value chain are high aflatoxin contamination, limited access to improved seed, and limited access to structured markets.
- Policy options should focus on addressing issues that limit productivity and strategies for mitigating aflatoxin contamination considering their threat to food and nutrition security, public health, and access to higher-value markets.
- Future research should focus on how to best alleviate the identified constraints and harness opportunities for contributing to the country's agricultural diversification agenda not only in the groundnut value chain but also for other crops.

Introduction

Groundnut is one of the crops considered important for Malawian agriculture. Its production promotes crop diversification beyond maize as the main food crop and tobacco as the main commercial crop to reduce exposure to external shocks such as shifts in global demand.[1] The crop is a source of food and nutrition, it improves soil health through nitrogen fixation, and has the potential to improve trade balance through increased exports to markets in the region, Asia and Europe.[2]

Maximizing the potential and unlocking sustainable growth requires an understanding of the main constraints in the groundnut value chain that must be overcome. Thus, in this Policy Brief, we report and discuss the key challenges and opportunities for the development of Malawi's groundnut value chain.

Methodology

We conduct a descriptive analysis of Malawi's groundnut value chain using various secondary data sources, namely the Annual Production Estimates (APES) data collected by the Ministry of Agriculture, export data from FAOSTAT, and the nationally representative Malawi Integrated Household Panel (MIHSP) data collected by the National Statistics Office (NSO) in collaboration with the World Bank under the Living Standards Measurement Study - Integrated Surveys on Agriculture (LSMS-ISA). Further, to understand the challenges and opportunities in the groundnut value chain, we conducted interviews with key informants between May and July 2022 (Table 1).

Table 1: Key informant interviews by the level of the groundnut value chain

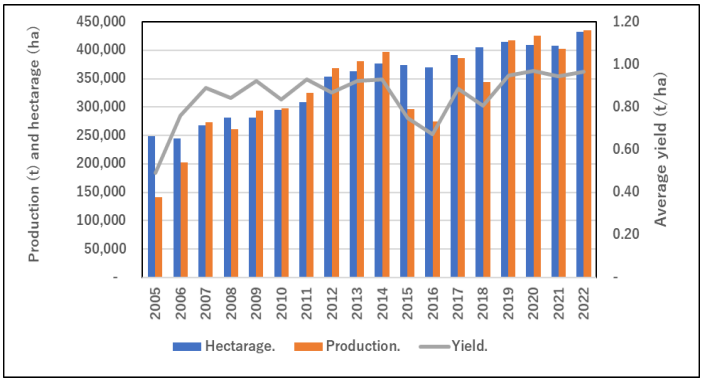
Value chain level	No of interviews	Notes
Input	2	Input retail and seed developer
Farm	6	1 group interview (with 6 members) and 5 individual farmers
Trade	3	Multiple traders at 2 markets and private sector representative
Processing	3	Three processing firms with varying levels of vertical integration
Research	2	Two separate research institutes
Total	**16**	

Source: The authors

Trends in Malawi groundnut production, exports, and prices

Overall, Malawi's groundnut value chain has shown strong growth in recent years. Groundnut production and areas planted have steadily increased over the past 16 seasons, and the 2021/22 growing season has the highest estimated production and area planted since 2005 (Figure 1).

Figure 1: Trends in groundnut production, hectarage, and average yield

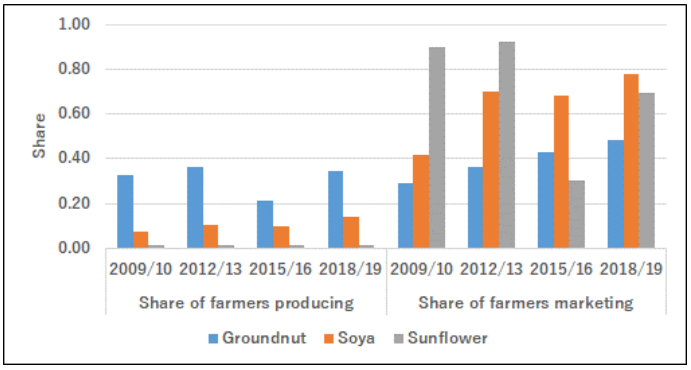


Source: APES data

However, yields have fluctuated and lie well below the potential of between 1.5 tonnes/ha and 2.5 tonnes/ha according to estimates by the Ministry of Agriculture. Adverse weather shocks, low and fluctuating prices, inadequate high-quality seed supplies, and poor crop production practices contribute to low yields.[2]

Figure 2 shows that about 1 in 3 farming households in Malawi produced groundnuts in the 2018/19 cropping season, a rebound after a decline in the 2015/16 cropping. Producers' market participation increased steadily from 32% in the 2009/10 cropping season to 48% in 2018/19.

Figure 2: Share of farming households growing and marketing groundnuts



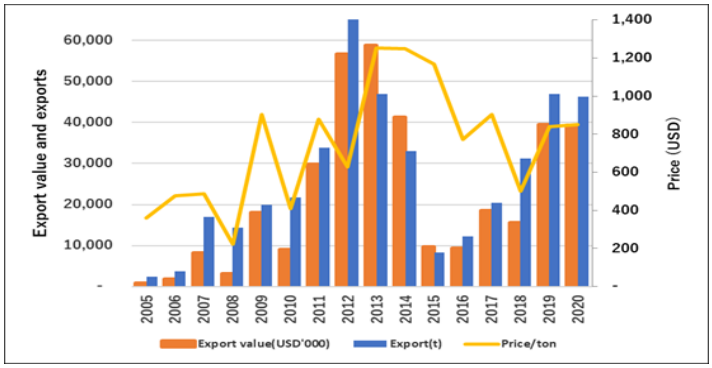
Source: The authors

When compared with other value chains, such as soya and sunflower, groundnuts have the highest share of farmers producing from 2009/10 to 2018/19 suggesting the importance of the crop to Malawians. However, producers' groundnut marketed share is lower compared to soya and sunflower most likely because a portion of the groundnut harvest is used for food purposes.

Figure 3 shows that Malawi's groundnut exports have been volatile, with strong growth until a peak in 2013 of nearly USD60 million, followed by a sharp decline to USD10 million in 2015 related to the enforcement of aflatoxin standards,[3] before strong growth between 2019 and 2020.

Groundnut has the potential to partially replace export earnings from tobacco which have been declining. The National Export Strategy (NES) and Malawi Investment and Trade Centre (MITC) identify countries in Africa, Asia and Europe as potential markets for groundnuts, with untapped potential of about USD25 million.[2]

Figure 3: Malawi groundnut gross export value, volumes and average prices



Source: FAOSTAT

Challenges to groundnut value chain growth

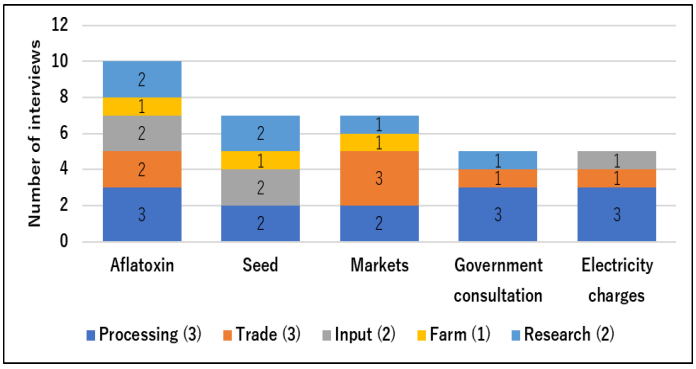
Key Informants were quick to note the growth in the groundnut value chain. However, they were also clear about several challenges constraining sustainable expansion.

The challenges vary by level of the value chain (Figure 4). Processors, being large vertically integrated firms, and researchers mentioned several challenges, while farmers and traders were more focused on their specific activities.

High rates of aflatoxin

Aflatoxins were mentioned as a key challenge in ten out of the eleven interviews conducted. Groundnut produced in Malawi has high rates of aflatoxin, affecting the safety of humans, the quality of raw and processed foods from groundnuts, and cross-border trade. Aflatoxin contamination begins in the field and worsens after harvest due to poor handling, high temperatures, and long storage periods. At the same time, there is limited awareness of technologies to mitigate aflatoxins such as biological control (Aflasafe), timely harvesting, proper drying and handling, sorting, avoiding wetting groundnuts before shelling, and proper storage.[3]

Figure 4: Key challenges by type of respondent in the groundnut value chain



Note: Number of interviews conducted in parentheses.

Source: Key Informants

Lack of access to improved seed

Quality seed was highlighted by the key informants as being critical to achieving and sustaining high productivity levels. Malawi's groundnut seed system is complex, and the model is not yet working for smallholder farmers.[4] The challenges mentioned by the key informants relate to inadequate supplies of high-quality seeds, low seed multiplication rates, and the practice of using recycled seeds. Farmers continue to recycle the seed because buying new and improved seed is

Table 2: Stylized models of Malawi's groundnut value chains

	Model	End consumers	Value chain nodes	Market structure	Farmer groundnut seed	Aflatoxin
1	Autarkic	Own household	Farmers	N/A	Recycled	No grading; no testing
2	Domestic processing	Malawi	Farmers, Traders, Processors	Unstructured/ informal	Recycled, some purchased	Hand sorting and grading; limited testing
3	Informal export	East Africa	Farmers, Traders, Exporters	Unstructured/ informal	Recycled, some purchased	Hand sorting and grading; no testing
4	Transitional export	East and Southern Africa	Vertically integrated, Traders, Exporters	Mixed structure	Purchased and some recycled	Hand and machine sorting and grading; some testing
5	Formal export	South Africa, Middle East, Asia, Europe	Vertically integrated, farmers to processors	Contracts/ out-grower	Purchased, higher quality developed by firms	Machine sorting and grading; daily testing

Source: The authors. Note: Traders is a broad term including agents, wholesalers, and aggregators

expensive though it is advisable not to recycle the seed more than 3 times.[4]

Limited access to lucrative and structured markets

Limited access to lucrative and structured markets is another problem cited by respondents, including farmers and traders. To demonstrate the importance of markets and their interlinkages with the other challenges in the value chain, we present five stylized value chain models stemming from our key informant interviews (Table 2).

In the autarkic model which constitutes about half of Malawi's groundnut growing households, farmers are not growing for the market, use recycled seed without additional inputs (e.g., fertilizers and pesticides), and pay little attention to aflatoxin risk.

Models 2 and 3 outline the value chains leading to domestic processing and informal exports, which account for most of Malawi's marketed groundnuts. These models are most similar and utilize the same farm and midstream value chain structures, and they are established but are still developing. Production is still characterized by low input use, though some market-oriented producers purchase certified seeds. The markets are unstructured and feature aggregators who hand-sort and grade groundnuts into different quality groups. Aflatoxin testing is required for domestic processing, though the process is slow and infrequent (only a few samples per month). All the end users accept some variance in quality.

In contrast, quality control is essential to firms targeting formal export markets (Models 4 and 5). Groundnut importing countries have stringent standards for aflatoxin levels in groundnuts and processed products.

Due to high aflatoxin risks throughout the value chain – from farms to shelling to storage – firms in models 4 and 5 find it more cost-effective to vertically integrate, taking on added management

costs in exchange for greater control of groundnut quality.

The control extends from aflatoxin testing on the output side back to farm inputs through investment in testing, selecting, and multiplying suitable groundnut seed varieties, and inputs are provided to farmers through contract farming agreements.

Limited private sector consultations

Five interviews identified the lack of private sector consultations when formulating and implementing acts and regulations related to agriculture production, processing, and marketing value chains. Informants feel that the private sector is sidelined when contributing ideas and experiences that can improve sector growth. For example, lack of transparency and consultation with stakeholders, including the private sector has resulted in an unpredictable policy environment, including the introduction of legislation that the private sector found potentially detrimental to business. It has also resulted in a lack of development of legislation aimed at issues of concern to private sector actors.

High cost of electricity

Five respondents indicated that high electricity costs and frequent blackouts impede business operations. Electricity is billed at the maximum demand, and there are no cost reductions for using less than the pre-determined amount of electricity. Processing involves high electricity use, and inefficiencies can develop if the electricity supply is distorted. Furthermore, investments in alternative sources of electricity are expensive and less efficient. The unpredictable and costly electricity deter investments and makes Malawian products less competitive.

Policy recommendations

Three main areas for policy consideration in the groundnut value chain emerge from the study findings. First, there is a need to disseminate and scale up strategies for mitigating aflatoxin contamination considering their threat to food and nutrition security, public health, and implications for access to higher-value markets. Market structure innovations such as structured markets with regular testing and quality grading should be considered, along with farm-level production innovations and investments in extension capacity. Second, the government, private sector, and other stakeholders should work collaboratively to address enabling barriers to both production and value addition, including lack of high-quality seed, high costs of electricity, and agricultural policy and regulation. Finally, there is a need to improve communication channels with businesses, including consultation with stakeholders in the agri-food system, and streamline public-private policy engagement. This should include providing technical assistance supporting processes that enable the private sector and other stakeholders to be proactive in identifying solutions and assist with drafting high quality, clear legislation.

While groundnut is the main oilseed that is exported, its value chain in Malawi faces challenges. In particular, challenges in marketing, seed systems, and public-private communications are likely widespread. There is a clear need for future research to understand how to best alleviate these constraints– specifically in the groundnut value chain and other crops – to help unlock agricultural diversification in Malawi.

For additional resources and to cite this work, please refer to:

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