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Policy Brief No. 22
November 2022

An assessment of the potential for scaling Malawi's wheat production for domestic consumption and export

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Key Messages

- Despite having potential, Malawi's wheat production has been characterized by low production and productivity.
- The prospects for scaling up wheat production in Malawi are based on the suitability of different areas for wheat production, increase in global prices and existence of large and growing domestic and regional export markets.
- Scaling production of wheat in Malawi will fail unless challenges are addressed. These include overreliance on rainfed production, limited access to improved varieties for wheat, fertilizers, capacity building in best agronomic practices, and lack of access to existing lucrative markets.
- There is need to conduct a value chain analysis with key stakeholders to assist in developing the value chain.

Introduction

Agriculture is the cornerstone of Malawi's economy, contributing about 23% to gross domestic product, 85% to foreign export earnings, and the main employer of the labor force.[1] Despite being pivotal to the economy, the sector faces numerous challenges, including low productivity due to declining soil fertility, shrinking farm sizes due to increasing population densities, and low levels of commercialization.[2] Wheat production has been particularly affected evidenced by declining trends in both production and yields based on Annual Production Estimates (APES) data by the Ministry of Agriculture.

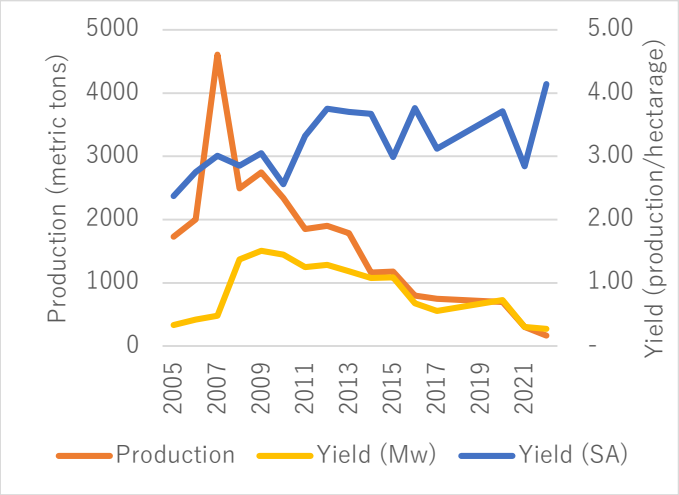
Recently, there has been renewed policy emphasis by the Government to transform Malawian agriculture through mega-farms. Improving efficiency, productivity and coordination along the value chain for wheat and wheat products has been identified as a key potential source of economic growth.[3,4] Furthermore, the ongoing Russia-Ukraine conflict presents opportunities for scaling up wheat production in Malawi following supply disruptions and subsequent price increases in the global markets.[5] It is against this backdrop this paper seeks to analyze the prospects and challenges for scaling up wheat production in Malawi.

Opportunities for wheat production in Malawi

Wheat production for Malawi has been characterized by declining levels of production and yields since at least 2007 (Figure 1). The

improvement between 2005 and 2007 can be attributed to the Clinton Hunter Development Initiative project in Neno Hills in the Blantyre Agricultural Development Division (ADD). The Initiative facilitated farmer access to a USD65,000 loan from the Malawi Rural Finance Company to purchase improved wheat seed and fertilizer, develop capacity building in best agronomic practices, and linkage to lucrative markets.[6] Following the project expiration, production and yield levels gradually declined to very low recent levels due to a number of factors such as lack of access to improved varieties, low input use and reliance on rainfed cultivation.

Figure 1: Wheat production and comparative yield trends

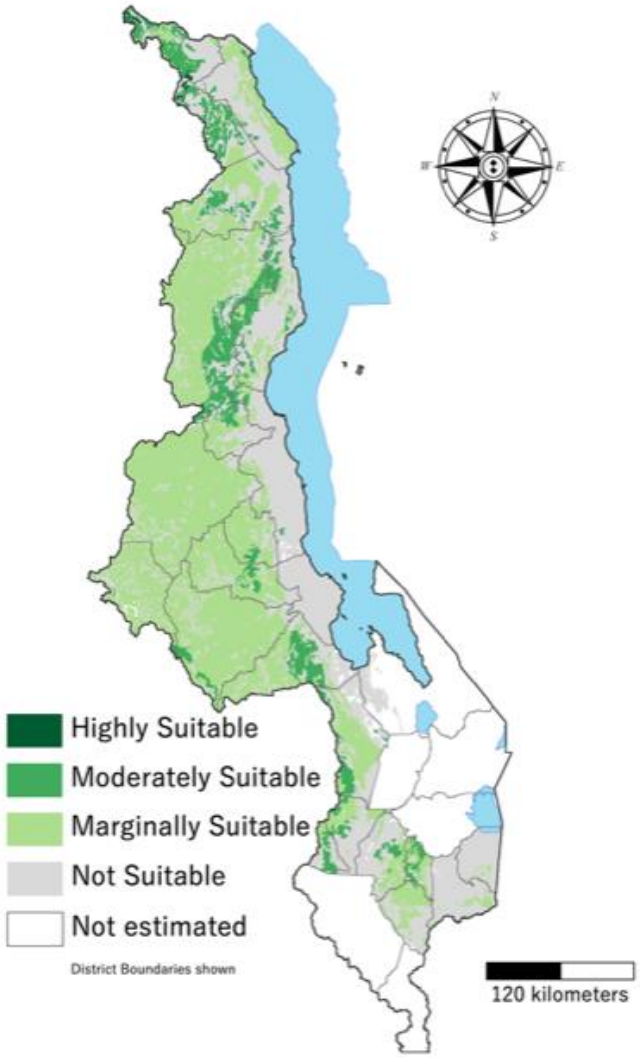


Source: APES data and FAOSTAT

Just like production, wheat yields in Malawi (Mw) have been very low, averaging 0.87 tons per hectare between 2005 and 2022, compared to an average of 3.22 tons per hectare in South Africa (SA), over the same period. The potential yield for Malawi is 3.5 tons per hectare. This yield difference suggests Malawi could achieve higher levels of production from the same amount of land currently dedicated to wheat production.

Being a cool season crop, wheat production in Malawi usually takes place under residual moisture and rain showers during the cool months of April to August, with cultivation concentrated in high altitude areas of Malawi (Figure 2).[7]

Figure 2: Wheat suitability mapping for Malawi



Source: Benson, et al., 2016[8]

During the 2021/22 cropping season, only 187 hectares was used for wheat cultivation in Malawi compared to an estimated potential of 30,000 ha

identified as suitable for wheat cultivation, assuming rainfed production.[6] Thus, in addition to addressing challenges that limit yield, wheat production in Malawi can be increased by expanding land allocated to wheat production. With investments in irrigation, further expansions can be achieved beyond the estimated potential of 30,000 ha by developing new farms in non-highland areas.

Some companies have already started exploring these opportunities by conducting wheat trials in different parts of Malawi. Pyxus Agriculture Limited, for example, successfully implemented wheat trials between June and October 2022 (Figure 3). Pyxus intends to use wheat as a rotation crop for its groundnuts fields and also produce wheat seed for commercial farming. Trials focused on short season heat tolerant wheat varieties which could be suitable for Malawian climate.

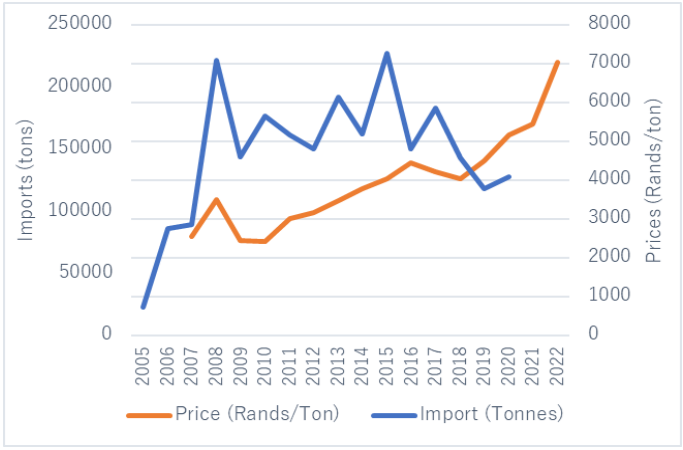
Figure 3: Pyxus Wheat Trials in Dowa

Source: Pyxus Agriculture Limited

Malawi has three main active processors which include Bakhresa Grain and Milling company (Blantyre), HMS Foods Grain Limited (Blantyre) and Capital Foods Limited (Lilongwe). Together these processors have huge capacity of processing about 1000 tons per day. On average, production between 2005 and 2021 is representing only about 0.5% of the total estimated grain requirement for Malawi of over 200,000 tons.[6] Wheat demand is likely to rise 3-6% annually in Malawi largely driven by growths in population, economy and urbanization.[6] The country depends almost entirely on imports to meet the local demand, mostly from Russia and Ukraine (Figure 4). In 2020, for instance, imports from Russia alone amounted to USD27 million, representing over 90,000 tons.[9]

Assuming that Malawi grows wheat varieties that yield 3 tons per hectare on 45,000 hectares that are planted twice a year through irrigation, the country will have the required grain in excess.

Figure 4: Malawi wheat imports and global prices

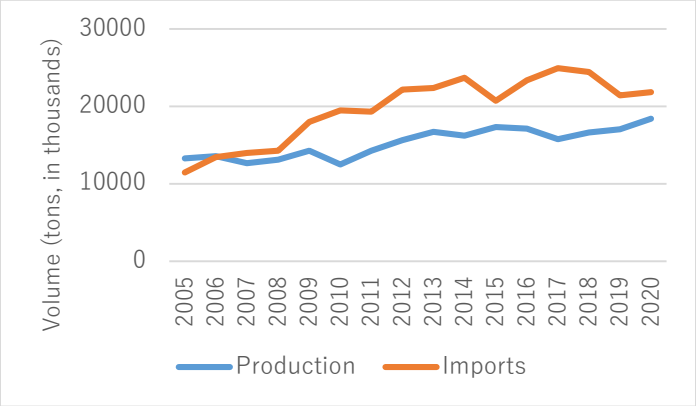


Source: FAOSTAT and SAFEX[10] data

Given the current excess local demand, most of Malawi's increased wheat production would likely be consumed domestically, but there are also export opportunities. Demand for wheat in Southern African Development Community (SADC) and Common Market for Eastern and Southern Africa (COMESA) regions is higher than production (Figure 5). Sub-Saharan Africa (SSA) has been

identified as the major driver of rising global wheat trade over the last decade.[6] With the rising of global wheat prices (Figure 4), exports would boost foreign currency earnings for the country.

Figure 5: Wheat production and imports trends for SADC and COMESA countries



Source: FAOSTAT

Challenges for scaling up wheat production

There are several challenges facing wheat farming in Malawi and these include limited access to improved seed varieties, high transport costs, inadequate access to reliable markets, limited knowledge of wheat production practices, overreliance on rain-fed production, low input use, and lack of policy support.

Limited access to improved varieties

Malawi does not have formal wheat seed production and distribution systems.[6] Wheat research has received little support over the years. Despite establishment of National Research Station for wheat in Ntcheu district in 1968, there has been little progress to breed and promote improved varieties for local and exports market. Farmers rely on recycled seed as available private seed companies stopped marketing improved wheat varieties.

High transport costs

Marketing of wheat has been challenged by poor road infrastructure and networks. This limits efficient delivery of farm inputs and also hinders access to good markets.

Inadequate access to reliable markets

Wheat farmers lack direct link with large scale buyers or processors who are located in major cities of Malawi. Furthermore, low wheat quantities produced by the local farmers and lack of proper market structures result in high transaction costs for processors to buy from the farmers.[6]

Limited knowledge of wheat production practices

There is insufficient knowledge and skills on good agriculture practices for wheat production in Malawi.[10] Improving farming knowledge would increase production and technical efficiency of smallholder farmers. The current low wheat production can also be linked to poor agronomic and post-harvest handling practices.

Reliance on rainfed production and low input use

Current wheat production that solely depends on residual moisture and rain showers is highly prone to adverse effects of climatic change. Increasing investments in irrigation facilities would increase production of wheat even in non-traditional areas during winter months. Furthermore, access to improved inputs would improve wheat productivity and production.[6]

Lack of policy support

Malawi does not have a national wheat development policy and strategy. Agricultural policies are biased on supporting the production of maize, leaving out other important cereals like wheat. This results in little incentives to invest in

wheat production in Malawi. [11] Policy support in the form of providing access to financing for acquisition of good quality certified seed and fertilizers by farmers would boost production and productivity, for example.

Policy implications

A number of policy recommendations can be drawn from our findings. Firstly, there is need to put in place deliberate efforts to address challenges that limit productivity and production such as investments in irrigation, access to good quality seed and fertilizers, access to finance, investments in seed research and development and access to tailored extension services to address challenges related to poor production practices. The intervention by Clinton Hunter Development initiative project in Neno provides an example of how deliberate interventions could lead to increased production and access to existing lucrative markets. Secondly, Government should work on meaningful engagement with private sector in a number of strategic areas including but not limited to linking farmers to local millers and processors who provide a ready market for the crop based on desirable variety traits, supporting investments in agro-processing by providing roads, electricity and telephone infrastructures, and create conducive policy environment or incentives for private sector operations. Thirdly, while this study contributes to an understanding of the wheat sector in Malawi, there is need to undertake a value chain analysis to gain a deeper understanding of the specific challenges and opportunities of wheat farming in Malawi. Finally, Government's strategy on the promotion of wheat production should be aligned to the existing concept of mega-farms, where the focus is large-scale commercial farming with agro-processing zones where all produce will be taken to for processing and other value addition processes. Smallholder farmers should be organized in commercially-oriented groups for bulk production, easy access to group loans for inputs and access to markets.

This Policy Brief should be cited as:
Gondwe, A. and Minofu, J. (2022). An assessment of the potential for scaling Malawi's wheat production for domestic consumption and export. Policy Brief No. 22. Lilongwe: MwAPATA Institute
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This research is made possible by the generous support of the Agricultural Transformation Initiative (ATI) through the Michigan State University (MSU) Food Security Group. The contents are the responsibility of study authors and do not necessarily reflect the views of ATI and/or MSU.

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