Policy Brief No. 45
August 2026

Strategies for building a more profitable soybean value chain in Malawi

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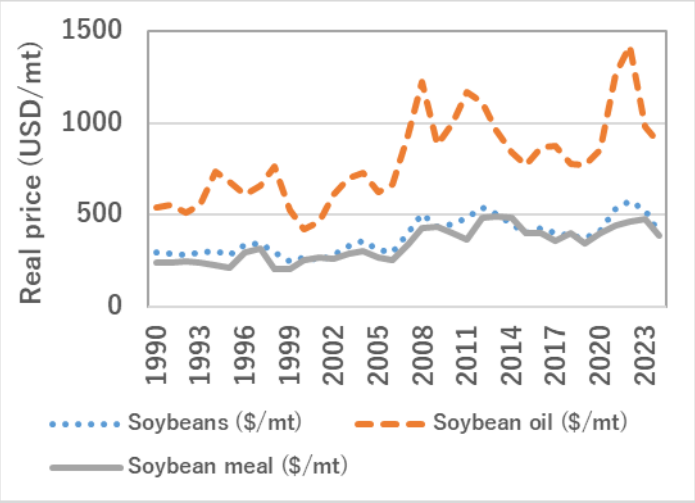
Key Messages:

- The soybean value chain offers strong commercialisation potential, with Malawi already a net exporter of soybeans.
- Key challenges include low production levels and thin margins for seed multipliers, which constrain expansion.
- National productivity remains about 50% below potential, largely due to limited access to inputs, soybean rust and the impacts of climate change.
- Farmer profitability can be significantly enhanced by narrowing the yield gap and linking producers to premium off-takers.
- Sustaining competitiveness will require investments in seed multiplication, good agricultural practices, mechanisation, value addition, storage, and aggregation.

Introduction

Globally, soybean demand has been increasing due to its contribution to global protein demand[1,2]. Global soybean production has increased from 26.88 million tons in 1961 to 371.17 million tons in 2023. Most of the soybean in the world is produced by Brazil, the United States of America, Argentina, China, India, and Paraguay. In Africa, South Africa and Nigeria are the largest producers. Currently, about 76% of soybean production is used as a protein source for animal feed, whereas 20% is consumed by humans as edible oils, tofu, soy milk, and tempeh, among others, and the remaining 4% is used for industrial purposes, including the production of biodiesels and lubricants[3]. This demand is also reflected in global prices of soybeans and soybean by-products. Global price data show that soybean and soybean products have registered increases in real price between 1990 and 2024 despite some volatility observed over the years (Figure 1). The increase in prices has been driven by increased demand for biofuel and animal feed use.

Figure 1: Trend of global prices for soybean products and their substitutes



Source: World Bank Commodity Price Data[4]

In Malawi, soybeans remain one of the most valuable crops for its export potential, soil nitrogen fixation ability[5], as well as its contribution towards household welfare. Studies have shown that soybeans significantly reduce poverty[6], improve household nutrition, food security[7], and income[8].

Similar to global trends, soybean production and demand in Malawi are rising, but production falls short of domestic demand. For example, current processing capacity is estimated at 800,000 metric tons per year, while national production averaged 240,000 metric tons per year between 2020 and 2025. The existing excess processing capacity positions the sector to absorb increased production volumes for soybean cake and vegetable oil processing, thereby enhancing its ability to meet growing domestic market demand driven by the rapid growth of the livestock sector, particularly aquaculture and poultry production. Current annual domestic demand for soybean cake and vegetable oil is estimated at 72,000 mt and 70,000 mt, respectively.

This policy brief identifies the key bottlenecks in Malawi's soybean value chain and proposes solutions to address them. More generally, the study findings aim to support the implementation of the agricultural commercialisation and industrialisation pillar of Malawi's long-term development agenda (Malawi 2063). Specifically, the insights generated from the study will be useful in supporting evidence-based decision-making for the European Union-funded Ulimi ndi Chilengedwe m'Malawi (UCHI) – Strengthening Agricultural Commercialisation project. More generally, the findings are expected to generate policy recommendations necessary for sustaining the growth and commercialisation of the soybean value chain in Malawi.

Methodology

This policy brief is based on a comprehensive review of Malawi's soybean value chain, combining a desk review of production, demand, prices, and trade with stakeholder consultations across ten UCHI project implementation districts (Chitipa, Karonga, Nkhata Bay, Mzimba, Kasungu, Nkhotakota, Salima, Chiradzulu, Thyolo, and Mulanje). The stakeholders consulted included farmers, cooperatives, traders, processors, agro-dealers, commercial farmers, financial institutions, and relevant government agencies, ensuring a broad and representative perspective.

The discussions focused on assessing the profitability of the soybean value chain through gross margin analysis; competitiveness and trade status; identifying opportunities and weaknesses; determining the types of incentives required to develop the value chain; and identifying value chain development opportunities nationwide and in the selected districts.

Key findings

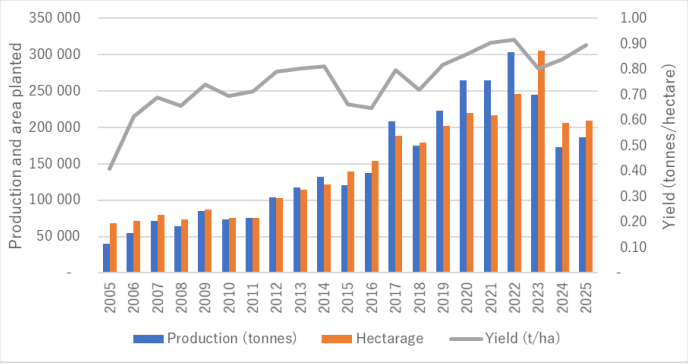
Soybean production and productivity trends

Soybean production in Malawi is primarily rain-fed, occurring between November and June. Outside this period, irrigated production is possible, but the window is limited, as high temperatures and photoperiod sensitivity reduce flowering and seed formation, leading to lower yields. Based on production data between 2005 and 2025, soybean production has been concentrated in Kasungu

(53% of total), Lilongwe (31%), and Mzuzu (9%) Agricultural Development Divisions (ADDs), despite the availability of soybean varieties that are well adapted to all agro-ecological zones in Malawi.

Soybean production has been steadily increasing since the early 2000s. However, recent production trends suggest a decline in both production levels, area under cultivation, and yield. For instance, soybean production has declined from 303,084 metric tons (mt) in 2022 to 195,380mt in 2025 (Figure 2). Likewise, area under cultivation within the same period declined from 245,634 hectares to 214,917 hectares. The yield has averaged 0.86 tons per hectare[9] against the potential yield of between 2.5-3.0mt per hectare achievable with the existing varieties[10].

Figure 2: Trend of production in Malawi



Source: Malawi Ministry of Agriculture, Annual agricultural production Estimates (2005-2025)

The low yields can be attributed to several challenges, such as climatic shocks, especially droughts, dry spells and floods, which have been recurring between 2022 to 2025[11]. Furthermore, production and yields have been negatively affected by diseases (soybean rust) and pests (caterpillars and leaf rollers)[12], resulting in huge production losses, recycling of seed due to high costs of seed, low usage of other inputs, poor knowledge of crop management due to low access to extension services (seed handling relating to time of planting, use of inoculants and fertiliser, plant spacing and seed rate, intercropping, pest and disease management, and post-harvest management).

Structure of the soybean value chain

The soybean value chain in Malawi comprises a diverse array of stakeholders who play various roles at different stages. At the production stage, smallholder farmers serve as the primary producers, accounting for approximately 96% of the total soybean production in 2025. Estates (e.g., Press Agriculture Limited) currently contribute about 4% of total production but generally exhibit higher productivity than smallholder farmers. Aggregators —comprising rural vendors, small grain traders, and large-scale traders—source soybeans from various producers and sell them to processing companies such as Paramount Holdings, Bakhresa, and Central Poultry.

The Commodity Exchange for Africa (ACE) warehouse receipt system enables farmer cooperatives to aggregate produce for bulk sales, strengthening their bargaining power and enabling them to secure premium prices. About 140,540 mt was estimated to have been deposited in ACE warehouses in 2025, of which 45,530 mt was estimated to have been traded at premium prices. The aggregators play vital roles of bulking, grading, and connecting farmers with processors and exporters. Transporters are responsible for the transportation of soybeans to markets and processing facilities. Financial institutions such as

NBS Bank Plc and the Export Development Fund provide working capital to agribusinesses, enabling them to source produce for supply to local and export markets. Input suppliers (e.g. SeedCo) offer crucial inputs, including seed, inoculants, fertiliser, and chemicals. Processing companies process the soybeans into feed cake, oil, and food products for human consumption. These supply to a range of downstream clients such as feed mills, retailers, and exporters. The product flow progresses from farmers to traders, processors, and ultimately to consumers and export markets. Consumers buy back final processed soybean products such as cooking oil, flour, soya pieces, and soy milk. Information circulates throughout the chain through policy and price signals, quality standards from off-takers, and market directives, all of which affect production and marketing decisions.

In addition to the production challenges earlier highlighted, the soybean value chain faces numerous constraints post-production. Traders face the problems of fragmented supply, poor storage facilities, and a lack of price transparency. High transport costs further diminish margins for traders. In the processing stage, profitability is limited by unsustainable minimum prices and low supply volumes. Across the value chain, broader macroeconomic pressures—including high inflation, foreign currency shortages, and elevated interest rates—continue to increase the cost of inputs and overall business operations, negatively affecting the profitability and competitiveness of producers, traders, and processors alike.

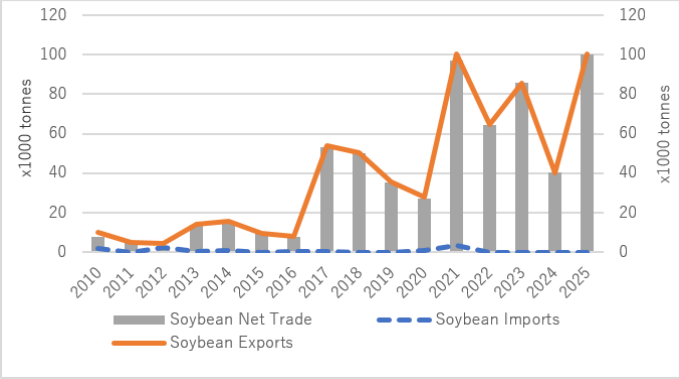
Soybean market opportunities and competitiveness

The local demand for soybeans has increased, driven by the growth of the poultry and fish industries, as well as the growing consumer markets for soy-based products such as soybean oil, flour, milk, and soy pieces. While comprehensive data on local soybean demand is limited, estimates derived from Food and Agriculture Organisation data suggest that between 2019 and 2024, Malawi's soybean utilisation averaged about 54,000 tonnes for food use, 26,000 tonnes for seed and other on-farm purposes, and approximately 160,000 tonnes for crushing and processing. Most of the available soybean is directed to local processing companies to produce soybean meal used in livestock feed and soybean oil for human consumption. The market is led by Sunseed Oil Ltd and Mt Meru with 180,000 mt processing capacity each, followed by Bakhresa (150,000 mt), CORI (70,000 mt), and Oil and Protein (50,000mt), with the remaining capacity of 170,000mt distributed among several others. While raw soybean grain is not globally competitive due to high production and transportation costs and relatively low productivity levels, processed products such as soybean cake and pieces have viable export markets. Nevertheless, some formal and informal soybean exports take place, driven by arbitrage opportunities created by the large gap between the official and unofficial exchange rates.

According to Malawi's soybean trade statistics, Malawi is a net exporter of soybean, with exports consistently far exceeding imports over the 2010–2025 period. Imports are minimal and declining,

reaching near zero in recent years, while exports show a strong upward trend (Figure 3). So, Malawi's soybean sector has a strong export orientation and growing market opportunities, reinforcing its potential for commercialisation.

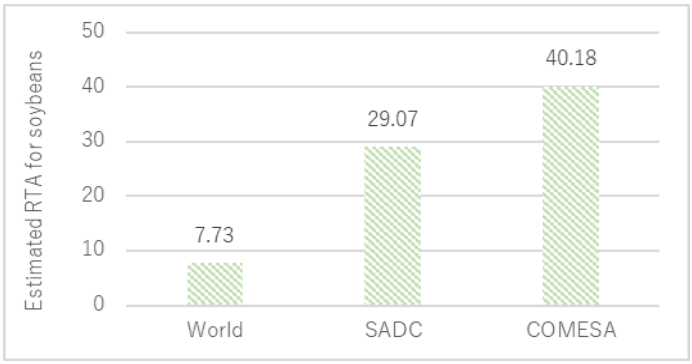
Figure 3: Malawi's soybean net trade between 2010 and 2024



Source: International Trade Centre (ITC) Trade Map data[13]

Across major markets, trade competitiveness of Malawi's soybean is especially high: on a scale that measures export strength, it scores 7.73 globally, 29.07 within SADC, and 40.18 in COMESA (Figure 4).

Figure 4: Estimated relative trade advantage indices for the soybean value chain



Source: ITC Trade Map data[13]

This indicates that Malawi has significant potential to further grow its soybean exports through right investments, improving the enabling environment, improved capacities, and coordinated efforts. The estimated relative trade advantage indices show that soybean is a strategic crop in Malawi with substantial export potential in the region and beyond.

Policy environment

Every year, the Government of Malawi issues minimum farm gate prices for major crops, including soybean. These are aimed at ensuring that farmers receive fair compensations and promoting higher producer incomes. However, evidence suggests that these prices are not fully monitored and enforced[14]. Furthermore, in some years, the announced minimum farm gate prices have exceeded international market prices in an effort to compensate farmers for the high cost of production associated with low productivity levels, resulting in processors purchasing soybean grain at prices above prevailing market rates. For example, the average international price of soybean averaged USD409.17/tonne between January and September 2025[5] compared to the 2025 minimum farm gate price of US605.32/tonne. Furthermore, the soybean industry has been subjected to export restrictions and bans, often imposed during harvest periods. These ad hoc interventions create investment uncertainty and distort markets. Export restrictions reduce formal exports while simultaneously encouraging informal cross-border trade and smuggling[15]. There also exist complex and lengthy export regulations,

which combined with farm-gate prices higher than international market prices, and high cost of transportation, continue to undermine Malawi's export competitiveness in regional and international soybean markets.

Seed systems for soybean in Malawi

Key players in Malawi's soybean seed value chain include international research institutions (e.g., IITA) involved in seed research and development; government agencies, notably the Department of Agricultural Research Services' Seed Services Unit, which oversees variety development and regulation; seed multipliers (commercial farmers) responsible for multiplying foundation seed; and seed companies that supply and distribute certified seed to farmers. Common seed varieties include Ocepara 4, Nasoko, Makwacha, Solitaire, Soprano, Tikolore, Serenade, Chitedze-4 and PAN 1867. These varieties are produced by various private companies and are distributed through dealers.

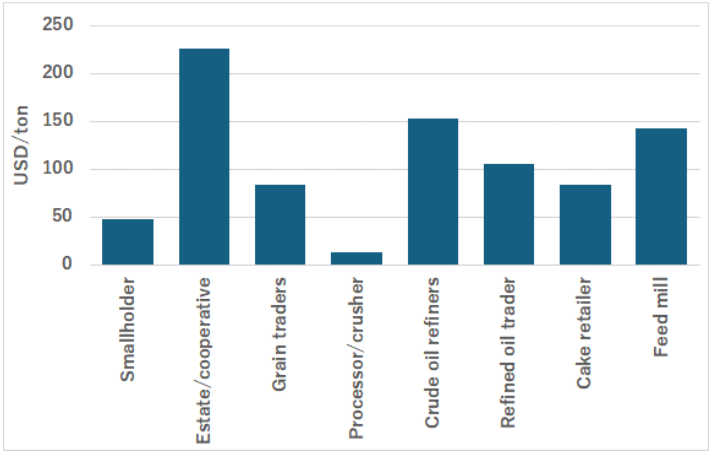
The main challenges in the seed system include the high cost of seed, which drives farmers to recycle seeds prone to disease. Although soybeans are self-pollinating and can be recycled for up to three years, many farmers lack basic seed selection skills, such as sorting and storage, resulting in poor germination.

Profitability analysis

Overall, soybean production remains a profitable venture despite low yields and high cost of production. Data from the twelve cooperatives we engaged show that farmers make a profit margin of about 31%, on average. Our gross margin analysis reveals that the total cost for soybean production is USD733/ha, spent on land rental, seeds, inoculant, pesticides, land clearing, ridging, planting, weeding, banking, pesticides application, harvesting, transportation of harvests, threshing, winnowing, and grading. However, seed cost dominates the production cost contribution (16%). On average, cooperatives obtained a total revenue of USD959.45/ha based on an average yield of 1,400 kg/ha and the minimum farm gate price of K1,200/kg for the 2025 season.

Margins for smallholders are low due to poor yields (Figure 5). Our analysis shows that margins can be improved by both improving productivity and strengthening linkages with high-end off-takers—who offer prices up to 20% higher. Margins for processors were positive, but low supply of soybeans left factories idle for most of the year. Traders also reported making profits, with some even transporting stocks from Chitipa to sell in Lilongwe. While seed companies earn good margins, seed multipliers face low profitability, as seed companies offer prices close to grain market rates, reducing incentives for seed multiplication.

Figure 5: Comparative margins for soybean



Source: Authors' analysis

Incentives for the development of a more profitable value chain

Based on our analysis, the following incentives are required to improve the soybean value chain:

Enhancing good agricultural production practices

Despite previous efforts by various programs and stakeholders to improve public extension service delivery, discussions with the government revealed that their staff need to receive additional training in modern agricultural practices, which would enhance soybean productivity. Furthermore, most farmers traditionally grow soybeans without the application of pesticides, inoculants, and fertilisers. Recent technological advancements have seen a growth in foliar fertilisers (boosters) which can be used in legumes, such as soybeans. Nevertheless, adoption of these fertilisers is still low, and in some cases, farmers are not aware of them. It would be essential that research be conducted on farmers' adoption behaviour on these fertilisers to determine the appropriate means of promoting them. Likewise, proper awareness channels need to be identified to support the dissemination of these technologies.

Across the board, training on new agricultural practices would be essential to advance the adoption of such technologies, in addition to seed handling, planting, integrated pest and disease management, and post-harvest management. Alternatively, adopting a private sector-led extension model, which empowers farmers through anchor farms would be ideal. Ideally, commercial farmers can be linked with small or semi-commercial farmers through contract farming and offer extension services as part of the contract package. Similar models have been successful in tobacco and hence can be replicated in soybean. Likewise, agro-dealers can be used to provide after sale services which engage farmers on how to use various technologies. Similar models have proven to be effective in other countries such as India[16].

Enhance seed systems

Seed multiplication is central to the development of the value chain. However, current soybean seed multiplication strategies need strengthening. Discussions with seed farmers revealed that while contract farming is already in place, the terms and arrangements could be significantly improved. So far, two models of seed multiplication contracts have been identified: (1) Farmers are given seed and pay back the startup seed with interest, and then sell the remaining seed to the company (seed lender); and (2) farmers buy the seed from the company on cash basis and sell it as seed to the company with a guarantee of the prevailing farm gate price as the minimum.

However, several challenges were revealed with these systems. First, farmers easily disregard contract arrangements when the contract price is lower than the market price. Second, the companies that contract farmers charge exorbitant costs for seed multiplication. For instance, we found that for every kilogram of seed farmers receive, seed suppliers demand three kilograms of the seed as interest, payable at harvest.

Despite these challenges, some commercial farmers expressed a strong commitment to partner with smallholders in seed multiplication and distribution. Such commercial farmers revealed that they can provide extension services, supplying

farmers with seed, and offering off-taker markets. However, they emphasised the need for other stakeholders to help identify, mobilise, and vet suitable farmers.

To strengthen seed systems, efforts should include linking smallholders to commercial farmers who have capacity to supply seeds at affordable prices and strengthening contract systems to discourage side-selling and protect farmers from excessive seed interest rates. A discussion with a commercial farmer revealed that, despite having the capacity to multiply seed, it needs organised farmer groups to work with under seed contract arrangements. On the other hand, cooperatives experienced with contract arrangements mostly expressed satisfaction with the agreements in terms of seed access and markets. Therefore, to incentivise commercial farmers and strengthen contract systems, there is a need to ensure that cooperatives are linked with commercial farmers. Secondly, there is a need to have a guarantee for commercial farmers, which would ensure that farmers sell their produce to them. Alternatively, contracts could be framed with a flexible price, which would enable farmers to sell above the normal market or farm gate price, whichever is higher, or farmers can pay for seeds from commercial farmers, with an option to sell to their market of their choice.

Provide storage and aggregation facilities

Our data revealed that most of the farmers sell when prices are low during the harvest period. One of the major reasons is that farmers lack adequate storage capacity. As noted at one of the cooperatives in Salima, warehousing systems play an important role in supporting crop storage and enabling farmers to access high prices in lean seasons. Furthermore, the cooperative's aggregated volume unlocked access to contracts with seed suppliers and financing from lending institutions. Therefore, warehousing and receipt systems and contract farming should be promoted to enhance farmers access to lucrative markets.

Promote value addition

We also found that processed products (e.g., oil extraction, soy cake, Likuni Phala, and soy 'coffee') fetch higher prices compared to soybean grain. In all the districts where we collected data, we found that demand for soybean products was high. This was very common for products such as soybean oil, soy milk, and soy flour. Supporting farmers with processing equipment and skills would significantly enhance their income.

Mechanisation

Most farmers in Malawi rely on hand hoes for farming and hence cultivate small land parcels with much of the land remaining idle. However, farmers who use tractors for land preparation as well as planting manage to cultivate on a large scale. Combined with good production practices, these farmers can achieve high yields. For instance, one cooperative from Nkhatabay managed to cultivate 10ha in one season and managed to harvest 3.2mt/ha compared to only 0.94mt/ha recorded by a cooperative in Kasungu. The higher yields in Nkhatabay were attributed to the adoption of good agricultural practices such as the use of foliar fertiliser, pesticides, timely planting, weeding, and hybrid seeds.

Recommendations

Four key recommendations emerge from the study, with implementation requiring coordinated action from government, the private sector, farmer organisations, and development partners. Firstly, efforts should focus on enhancing yields through better agronomic practices. This can be accomplished by training farmers in good agricultural practices, including timely planting, the use of inoculants and fertilisers, integrated pest and disease management, and improved post-harvest handling. Additionally, the capacity of extension workers should be strengthened by providing them with updated technical training on soybean management.

Secondly, there is a need to enhance seed multiplication models by supporting commercial farmers and cooperatives to participate in the production of certified seed, while also training farmers in seed selection and storage.

Thirdly, investment in community-level storage and aggregation facilities is crucial to mitigate losses, allow farmers to take advantage of higher prices during lean seasons, and strengthen farmer cooperatives to aggregate produce, enhance their bargaining power, and access structured markets.

Finally, there is a need to promote value addition by supporting farmers with equipment, working capital, and training to increase the production of soy-based products. This could be complemented by facilitating linkages to export markets for value-added products, which fetch better margins.

This Policy Brief should be cited as:
Gondwe, A., Chilora, L.K., Nyondo, C.J., and Chiwaula, L. (2026). Strategies for building a profitable soybean value chain in Malawi. Policy Brief No. 45. Lilongwe: MwAPATA Institute.
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This publication was funded by the European Union. Its contents are the sole responsibility of MwAPATA Institute and do not necessarily reflect the views of the European Union. The UCHI project (Ulimi Ndi Chilengedwe M'malawi) Strengthening agriculture commercialisation in Malawi aims to increase the share of commercial agriculture by smallholder farmers and agri-businesses in Chitipa, Karonga, Nkhata Bay, Mzimba, Kasungu, Nkhotakhota, Salima, Chiradzulu, Thyolo and Mulanje districts through more inclusive, sustainable and territorial relevant value chains for rice, soybeans, banana, aquaculture and apiculture. The project is implemented by UNDP and has a budget of 26.7 million euro from 2024 to 2029.

Published by MwAPATA Institute, Tobacco Loop, Lundu Street, Area 10/386, P.O Box 30883, Capital City, Lilongwe 3, Malawi