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***Alifeyo Mjuma Nyasulu
Richard Douglas Kamara***

**THE IMPACT OF GOVERNMENT POLICY ON THE
PERFORMANCE OF AGRICULTURAL EXTENSION
SERVICES IN THE GROUNDNUT VALUE CHAIN IN
KASUNGU AND MZIMBA DISTRICTS OF MALAWI**

Although extension services play a crucial role in agricultural commercialization and diversification, the capacity of extension workers to support value chain-based and market-oriented production remains underexplored, particularly for crops such as groundnuts. This study assessed the effectiveness of extension services within the groundnut value chain in Kasungu and Mzimba districts, focusing on the capacity of extension workers, the impact of extension support, and the challenges encountered. A mixed-methods approach was used, combining farmer surveys with key informant interviews conducted with extension staff.

Findings revealed that while extension workers actively support production practices, they often lack the capacity to assist in the more advanced stages of the value chain such as value addition, processing and marketing. As a result, farmers reported improved productivity due to production-focused extension support, but noted limited impact beyond the harvest phase. The study also found that despite policy advocating for pluralistic provision of extension services, government officers are the predominant source of agricultural information, with minimal involvement from NGOs or private sector actors. This limits farmers' access to an adequate and diversified extension service.

The study, therefore, concludes that although extension services have contributed to increased groundnut productivity, there is a critical need to enhance support in post-harvest handling, value addition, and market access. It provides valuable insights for public policy makers, development partners and various stakeholders to spearhead the reorientation of extension services from a production-centric model to a holistic value chain approach, including capacity building for extension workers and improved stakeholder coordination across the production-to-consumption continuum.

Key words: *agricultural extension, groundnuts, value chain, government policy.*

General statement of the problem. Groundnuts remain one of the most important crops in Malawi, serving both subsistence and commercial purposes. Policy frameworks such as the National Agriculture Policy (NAP), National Export Strategy II (NES II), and Malawi Vision 2063 recognize groundnuts as a priority crop for agricultural diversification, value addition, and market-driven production (Government of Malawi, 2016; 2021 and NPC, 2020). These policies aim to reduce over-reliance on tobacco for export earnings and maize as the staple crop, thereby promoting a resilient agricultural sector that supports sustainable livelihoods and economic growth. Groundnuts are, therefore, identified as a viable alternative to a resilient agricultural development because they well-suited to diverse agro-ecological zones in Malawi and are less costly to produce.

Despite this potential, the groundnut value chain is still faced with various structural and operational challenges. Adoption of improved varieties remains low due to inadequate input supply chains, affordability constraints, and limited access to extension support (Ragasa & Mazunda, 2018). Post-harvest losses persist owing to poor access to technologies and weak farmer knowledge, while market-oriented interventions have often lacked scale and sustainability, with insufficient integration into broader value chain strategies (FAO, 2021; Mutimba et al., 2010). Addressing these challenges demands robust and well-coordinated

extension service delivery capable of supporting farmers across all stages of the value chain.

However, gaps in agricultural extension service delivery continue to limit farmers' ability to access market opportunities and participate meaningfully in the groundnut value chain. Smallholder farmers continue to face challenges such as low productivity, poor quality outputs, and inadequate access to markets (Mabaya et al., 2011).

Although the role of extension services in general agricultural development is well documented (Rivera et al., 2009; Anderson et al., 2015), specific evidence on their effectiveness in the groundnut value chain in Malawi remains limited. Existing studies focus broadly on extension systems without addressing the unique technical, market, and policy challenges associated with groundnuts. Yet, studies such as Waliyar et al. (2015) have shown that the groundnut sector faces distinct challenges, including high aflatoxin levels, post-harvest losses, low value addition, and volatile market prices, issues that require tailored extension strategies. Moreover, previous research highlights systemic constraints in Malawi's extension system such as inadequate staffing, insufficient training, and limited resources (Chirwa et al., 2006), which may further hinder effective support for groundnut farmers.

These issues, therefore, challenges public policy to deliver extension services that are not only production-focused but also value chain-oriented, providing support across input access, production, post-harvest management, value addition, and marketing (Government of Malawi, 2016). While policy frameworks including extension policy, the National Agricultural Extension and Advisory Services Strategy (NAEASS) in Malawi promote pluralistic, market-oriented and value-chain focused, their effectiveness in supporting groundnut value chain development is not well-documented.

Formulation of the purpose of the article (task statement).

This paper seeks to assess the effectiveness of agricultural extension services in the groundnut value chain in Malawi. It focuses on analyzing the roles played by extension actors across various value chain stages and how that affects groundnuts production. The study also explores the challenges and opportunities for

improving value chain integration and outcomes for smallholder farmers. The findings of the study will be used by policy makers and development practitioners on how the extension service can be leveraged and enhanced in order to improve groundnut production in Malawi.

Analysis of recent research and publications. Agricultural extension services are central to agricultural development. Basically, they entail organized systems of education and support that aim to facilitate the transfer of knowledge, information, and innovations between different stakeholders and farmers with an aim of improving agricultural returns. According to the Food and Agriculture Organization (FAO), agricultural extension is “a system that facilitates access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitates their interaction with partners in research, education, agri-business, and other relevant institutions; and assists them to develop their own technical, organizational, and management skills and practices” (FAO, 2011). In this sense, extension support is expected to encompass a range of processes from the production to consumption stages of the agricultural value chain.

There is a substantial body of evidence that shows that extension services enhance agricultural productivity, promote the adoption of innovations, and consequently contribute to rural development (Anderson & Feder, 2007; Davis et al., 2010). These services serve as a bridge between farmers and other agricultural stakeholders, including research institutions, government policy and private traders, enabling knowledge sharing and innovation of agricultural technologies and practices (Swanson & Rajalahti, 2010). This helps to build the capacity of farmers in conducting agricultural activities, which helps to improve yields and build more resilient farming systems.

In the Malawian context, where agriculture is predominantly smallholder-based, extension services are indispensable in overcoming constraints related to knowledge gaps, market access, and resource limitations (Government of Malawi, 2016). They

support efforts to increase productivity by introducing farmers to improved seed varieties, fertiliser use, post-harvest handling, and value addition techniques. According to Davis et al. (2010), well-functioning extension systems can significantly contribute to poverty reduction and rural transformation by enhancing the capacity of farmers to produce for both subsistence and markets.

Over time, extension services globally have undergone several paradigmatic shifts, influenced by changing development priorities and agricultural policies. Historically, extension services followed top-down approaches where government extension workers were the main source of advice, transferring knowledge generated by researchers to farmers. Furthermore, agricultural extension services have traditionally focused on increasing on-farm productivity through technology transfer and agronomic training. In the modern context of value chain development, extension services are expected to play a much broader role that goes beyond production. The changing orientations of extension service delivery demands more demand-driven, market-oriented, multi-stakeholder and holistic approach for comprehensive value chain development.

Beyond production, therefore, extension services are also expected to facilitate access to post-harvest technologies, supporting processing and value addition, and linking farmers to structured markets (FAO, 2011; Akinbode, 2020). Extension workers are also expected to help farmers understand quality standards required for domestic and export markets, promote good agricultural practices (GAP), and advise on handling, sorting, and storage techniques to reduce post-harvest losses and aflatoxin contamination (Waliyar et al., 2015). They also serve as intermediaries, connecting farmers with agribusiness firms, cooperatives, financial institutions, and development agencies. This is expected to help to integrate smallholder farmers into the formal agricultural value chains.

The groundnut value chain is one of the prominent value chains in Malawi and Sub-Saharan Africa, being promoted for both consumption and commercial purposes for both local and international markets. However, it is constrained by multiple production and post-

production challenges. One major concern is aflatoxin contamination, a toxic compound produced by fungi in improperly stored nuts, which significantly limits export potential and poses public health risks (Waliyar et al., 2015; FAO, 2019). Limited farmers' awareness of these market requirements, inadequate drying and storage practices, and weak regulatory enforcement exacerbate this problem. Post-harvest losses are another significant challenge, resulting from rudimentary handling, poor infrastructure, and lack of access to value-adding technologies (Ariong et al., 2023). In addition, fluctuating farm-gate prices and limited access to markets and market information discourage smallholder farmers' participation in high-quality markets. Farmers often rely on informal markets where they receive low and unpredictable returns, a condition worsened by poor coordination and limited bargaining power (Goeb et al., 2024).

Literature highlights persistent problems such as aflatoxin contamination, poor post-harvest handling, and reliance on informal markets (FAO, 2011; KIT & IIRR, 2008), yet little empirical evidence exists on the role of extension workers in helping farmers overcome these challenges. Furthermore, research that explicitly links extension service quality and structure to groundnut value chain outcomes remains scarce in Malawi and across Sub-Saharan Africa (Mabaya et al., 2011; Akinbode, 2020). Seemingly, there is no adequate insight into the capacity of extension workers to deliver services tailored to the different stages of the groundnut value chain in Malawi, or their ability to collaborate effectively with non-state actors such as NGOs and private companies. This lack of data makes it difficult to design extension interventions that are comprehensive, value-chain specific, market-oriented, and inclusive of key stakeholders.

This study aimed to fill this gap by examining the effectiveness of extension services in integrating smallholder farmers into the groundnut value chain and identifying the opportunities that exist to improve the role played.

Methodology. The study utilised a mixed-methods research approach, integrating both qualitative and quantitative methodologies for data collection and analysis. This choice was made to leverage the

strengths of both methods, thereby enriching the research process and providing a more comprehensive understanding of the research questions and objectives (Creswell and Clark, 2018).

Sampling and data collection. The study was conducted in Kaluluma and Chipala Extension Planning Areas (EPA) in Kasungu District, and Luwelezi EPA in Mzimba District, in Malawi. These districts were particularly selected because they are historically key producers of groundnuts in Malawi. In total, 366 farmers were engaged in a survey, and 14 key informants participated in in-depth interviews. The key informants included a range of extension officers at the EPA and District levels.

Data Collection. Being a mixed-methods research, the study collected both qualitative and quantitative data. The farmer survey collected data through a semi-structured questionnaire, which comprised closed-ended and some open-ended questions designed to assess farmers' level of knowledge of the groundnut value chain, extent of access to extension services at different levels, perceived impact and challenges faced. A checklist was developed to guide in-depth interviews with extension workers to assess their level of capacity and the challenges faced in offering extension services in the groundnuts value chain.

Data analysis. Qualitative data obtained through key informant interviews (KIIs) were transcribed and analysed using content analysis. A thematic coding approach was used to identify patterns and categories aligned with the research objectives. Quantitative data were analysed using IMB SPSS Statistics 23 and involved computing frequencies, means, and percentages to summarise farmers' responses on access to extension services, knowledge levels, and outcomes such as yield and income. Cross-tabulations were used to explore relationships across districts and Extension Planning Areas (EPAs).

Results and Discussions. This section presents findings and discussions in relation to the research objectives. It discusses the level of knowledge and skills among extension workers; the current roles played by extension workers and the perceived impact on the groundnuts value chain.

Level of knowledge and skills among extension workers in the groundnut value chain. In order to evaluate capacity, the study collected both qualitative and quantitative data through key informant interviews

and was analysed to assess the level of education, experience, knowledge and specialised training in value chains by extension workers.

Level of education. The findings from the key informant interviews on their highest education qualification, as shown in Table 1, indicate that most extension workers possess a diploma-level education (41 percent) or certificate (44 percent) while only 14 percent of the extension workers possess a Bachelor's degree or higher. Notably, the results show that higher-level officers (Such as District Agricultural Development Officers (DADO) and ADD officials) are more likely to hold degrees, while frontline officers like AEDOs usually possess certificates or diplomas.

Table 1

Highest education level of extension staff

Qualification		DAES (1)	ADD (2)	DADO (2)	AEDC (4)	AEDO (27)	Total (36)	%
PhD		0	0	0	0	0	0	0%
MSc		1	0	0	0	0	1	3%
BSc		0	2	1	0	1	4	11%
Diploma		0	0	1	3	10	14	41%
Certificate		0	0	0	1	14	15	44%
MSCE		0	0	0	0	2	2	1%

These disparities in the level of education may affect the quality and depth of support provided at different levels. Less educated extension workers often excel at engaging with farmers at the grassroots since they are more familiar with the contexts, but they may be limited in terms of understanding complex concepts such as value chain linkages, value addition and quality standards in the groundnut value chain (Hamasali & Layeeq, 2023). On the other hand, more educated extension workers usually work in higher and strategic government offices and have a better understanding of more technical concepts. For instance, KIIs with

DAES and ADD officials reported that they adequately understand the value chain concept and hence have been involved in the development of related training manuals and policy documents.

These results, therefore, suggest the need for professional development for frontline extension workers to equip them with more specialised knowledge of value chains. This enables the transfer of skills between the more educated and the lower-tier extension workers. Continuous training enhances extension workers' capacity to effectively support farmers (ISP-MSU & AAP, 2023; Phiri & Lungu, 2023).

Experience. With regards to experience, results from the key informant interviews reveal that high-level government workers possessed more relevant experience that would expose them to value-chain oriented extension services more than the frontline extension workers, which may affect service delivery. The results resonate with the earlier findings that extension workers at higher levels have more exposure with the technical understanding of value chains. They are actively engaged in crafting the understanding of the concept by taking part in developing training manuals. There is, therefore, a need for learning spaces to facilitate skills transfer between the top-level extension officers and frontline workers.

Knowledge. The results show that extension workers only have a basic understanding of the agricultural value chain concept. While most extension workers reported that they are aware of the value chain concept, only about 10 percent demonstrated a deeper understanding of value chain concepts like value addition or market linkages. This was more pronounced among frontline extension workers who are in close contact with farmers. This presents a substantial gap as it affects the quality of extension services delivered on the groundnut value chain as a whole.

The results from interviews with extension workers, as summarised in Figure 4, further reveal that there is more understanding of the production stage of the groundnut value chain than the later stages of the value chain. At the production stage, the study found that 85 percent of extension workers demonstrated proficiency in basic agronomic practices such as seed selection, row spacing, weeding, and fertiliser application; and 50 percent demonstrated knowledge of conservation agriculture

practices such as conservation tillage, crop rotation, and sustainable soil management. Confirming this, one extension worker from Kasungu said: “While we guide farmers on planting, weeding and other production aspects of groundnut production, when it comes to analysing market trends and value addition, most of us have not been trained adequately”.

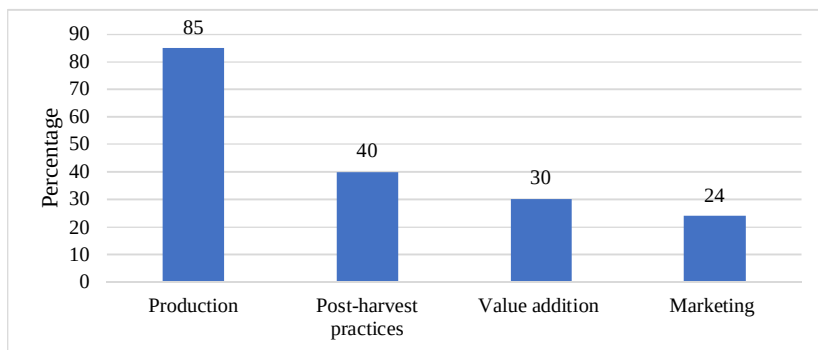


Fig. 1: Extension workers understanding of the various stages of the value chain

Beyond production, the study findings reveal considerable deficiencies in extension workers’ understanding of processes such as post-harvest management, value addition, and market access techniques. Merely 40% of the extension workers exhibited knowledge of post-harvest processes, including drying, shelling, and storage methods, designed to mitigate aflatoxin contamination, which is a vital concern for preserving groundnut quality and marketability. There is a serious gap, as aflatoxin contamination can severely restrict market access for groundnut growers, as reported by Bonkougou et al. (2024). Furthermore, only 30 percent reported to have knowledge about value chain practices, and 25 percent had knowledge about market trends and prices. These results align with Chanza & Mgalamadzi (2025), who posit that extension services in many developing nations need to emphasise market access and commercialisation in order to achieve the integration of smallholder farmers into value chains.

In short, while extension workers demonstrate considerably more

knowledge of production practices, there is still limited capacity building in advanced stages of the value chain, such as post-harvest handling, value addition, logistics and marketing. This is despite the National Agricultural Extension and Advisory Services Policy (2025) promoting the transition towards holistic and value-chain orientation. According to Mungai et al. (2024), extension services must incorporate value chain-oriented and market-based guidance to maintain their relevance and utility for farmers in contemporary agricultural systems. There is a need for continuous learning programs for extension workers, especially for those at the grassroots levels (Preeti & Tripathi, 2023).

The status of extension services and the roles played by extension workers. In order to assess the characteristics and nature of extension services in the groundnuts value chain, the study explored sources, accessibility, and content of agricultural information available to farmers. This analysis focused on the roles of various service providers, the interactions between farmers and extension workers, and the perceived adequacy of the information concerning the groundnut value chain. This section, therefore, presents the relevant quantitative and qualitative findings addressing this objective.

Main sources of value chain messages. The results, as shown in Table 2, suggest that in Kasungu District, value chain messages are more dominated by government extension workers, while Mzimba registered slightly more diversification. In Kasungu, government extension workers accounted for 91.3% and 100% of the messages received by farmers in Kaluluma and Chipala, respectively. Overall, government extension agents provided 93.9% of extension messages in Kasungu, compared to 6.1% from input suppliers.

Table 2.

DAO	EPA	Govt extension workers	Input suppliers	NGO
Kasungu	Kaluluma	91.3%	8.7%	0%
	Chipala	100.0%	0%	0%
Mzimba	Luwelezi	64.3%	21.4%	14.3%

Sources: of value chain messages

In Luwelezi EPA in Mzimba District, on the other hand, government extension agents are the main sources for 64.3% of farmers, but input suppliers and NGOs also contribute 21.4% and 14.3%, respectively. This diversity signals some collaboration between farmers, extension workers, private traders and NGOs in delivering more comprehensive extension services (Aregaw et al., 2023; Cooman et. Al., 2024)). Although where there was more diversity in Mzimba, farmers still highlighted that extension workers play a key facilitative role in farmers' interactions with other players. This strong relationship between farmers and extension workers, therefore, is very important and needs to be leveraged in value chain development.

Content Adequacy of Extension Messages to support the needs of farmers. The study further asked about farmers' perception of the messages they received from extension service providers. Results, as shown in Table 3, reveal that, despite high access to extension services, many farmers expressed concerns regarding the adequacy of the information provided, particularly concerning the groundnut value chain. The farmers required more detailed knowledge on topics such as post-harvest management, market opportunities, and value-addition strategies.

Table 3.

Are these messages adequate?

DAO	EPA	No	Yes
Kasungu	Kaluluma	91.3%	8.7%
	Chipala	70.0%	30.0%
Mzimba	Luwelezi	78.6%	21.4%

Sources: of value chain messages

This gap between information accessibility and content sufficiency underscores the limitations of current extension services in meeting the specific needs of farmers for improved market engagement and value chain participation. These findings align with Mungai et al. (2024),

who emphasise the importance of tailoring extension content to address farmers' practical challenges in value chain management. Strengthening collaboration among government agencies, NGOs, and private sector actors is also key in overcoming these challenges.

Frequency of extension visits/contact. The frequency of extension visits is key to the effectiveness of agricultural extension services, since consistent interaction facilitates absorption and effective engagement among farmers. The findings in Table 4 indicate a low frequency of extension worker visits in the various Extension Planning Areas (EPAs) in the Kasungu and Mzimba districts, diverging from the recommended biweekly visitation schedule.

Table 4

Frequency of visits

DAO	EPA	Weekly	Every Fortnight	Monthly	Every 2 months	Upon being called	Rarely (every 3 months and above)	Never
Kasungu	Kaluluma	8.7%	0%	30.4%	26.1%	0%	13.0%	21.7%
	Chipala	0%	20.0%	10.0%	0%	0%	50.0%	20.0%
Mzimba	Luwelezi	0%	21.4%	28.6%	14.3%	14.3%	21.4%	0%

Sources: of value chain messages

In Kaluluma in Kasungu, the most common frequency of visit by extension workers was monthly (30.4 percent) but 21.7 percent of farmers were never visited. The situation was worse in Chipala where about 50.0 percent of the farmers reported having been visited only once in three months, and 20 percent had never been visited. In Luwelezi EPA (Mzimba), on the other hand, the frequency of visits varied, with 21.4 percent reporting fortnightly visits while 28.6 percent were visited monthly. About 21.4 percent reported being visited once every three months, while 14.3 percent were only visited upon being called upon. This can be attributed to high farmer-to-extension worker ratios, resource limitations such as transportation, and logistical obstacles in traversing

extensive geographic regions. This affects the quality of extension service provided to farmers and its effectiveness (Lee et al., 2023).

Quality of service from the farmers' perspective. Besides the frequency of service, the study also asked farmers to rate the quality of extension services received from government extension workers. Table 5 demonstrates that a significant proportion of respondents indicated satisfaction with the services provided by government extension workers. In Kaluluma EPA, 91.4% of respondents expressed satisfaction with the support received, while in Luwelezi EPA, the figure was 92.9%. The elevated satisfaction indicates that government extension workers in these regions are seen as dependable providers of agricultural information as a result of their consistent presence and regular engagement with the farming community, as suggested by Kassem et al. (2021) and Birner et al. (2009).

Table 5

Satisfaction with number of visits

DAO	EPA	Neutral	Not satisfied	Satisfied	Somehow satisfied	Very satisfied
Kasungu	Kaluluma	4.3%	4.3%	60.9%	4.3%	26.2%
	Chipala	30.0%	20.0%	40.0%	0%	10.0%
Mzimba	Luwelezi	0%	7.1%	28.6%	14.3%	50.0%

The situation in Chipala EPA is mixed, where half of the farmers reported being neutral and dissatisfied with extension services. This is because of the infrequent visits and uneven service delivery.

Perceived effectiveness of extension services in supporting farmers in the groundnut value chain. Extension services are expected to help improve the performance of the groundnuts value chain and consequently improve the living standards of farmers. The study explored the effectiveness of extension services in achieving various performance outcomes, including productivity, marketing, value addition, household incomes and food security. This was assessed through engagements with farmers and triangulated with key informant interviews. Table 6 shows the results of the changes perceived by farmers after engaging with extension workers.

Table 6.1

Changes in smallholder farmers' performance after training by extension workers

DAO	EPA	Positive changes				
		Business orientation	G/ nutYield	Agronomic practices	Market scouting skills	Other
Kasungu	Kaluluma	21.0%	33.9%	37.1%	8.1%	0.0%
	Chipala	11.1%	33.3%	50.0%	5.6%	0.0%
Mzimba	Luwelezi	18.2%	18.2%	29.5%	22.7%	11.4%

Note: "Other Areas" include post-harvest handling and value addition.

Improvements in agronomic practices and yield. The results indicate that agronomic practices were the most reported improvement in both Kasungu and Mzimba, with 50% in Chipala, 37.1% of respondents in Kaluluma and 29.9% in Luwelezi noting the positive change. These practices included better land preparation, plant spacing, pest control and planting time.

Income and economic resilience of farmers. According to results in Table 18, another significant area of progress highlighted in the statistics is the increased business orientation among smallholder farmers, with 21.0% of respondents in Kaluluma and 18.2% in Luwelezi reporting positive change. The gains in yield have resulted in increased marketable surplus and, consequently increased household incomes for farmers. Farmers have used these incomes to meet other household needs, including school fees, buying groceries and other food costs in the course of the year.

Marketing and value chain participation. The results in Table 18 reveal that enhancements in market scouting or research abilities are infrequent, with merely 8.1% of respondents in Kaluluma and 5.6% in Chipala reporting progress in this domain. Luwelezi performs more favourably, as 22.7% of farmers indicate improved market scouting abilities. This corresponds to earlier results that Luwelezi has private players, such as Pyxus, who are engaged in groundnut marketing. These

results emphasise the eminent challenge of limited access to good markets that farmers face. This, in turn, reduces the potential revenues earned as farmers end up selling their produce to middlemen at exploitatively low prices.

These results align with findings by Becerra-Encinales et al. (2024), who notes that many extension systems prioritise production at the expense of market integration and value chain advancement. Enhancing marketing abilities is essential for empowering farmers to sell their produce at competitive prices and optimise profits from excess groundnut output. Furthermore, there is need for good coordination with private players that offer market opportunities to farmers as observed in Luwelezi EPA in Mzimba.

Food Security and Nutrition. Farmers associated the increased productivity and incomes with better food availability, accessibility and affordability. Farmers indicated that they retained some groundnuts for use at home, which provided a good and cost-effective source of protein in their diet. It is consumed raw, roasted, cooked and in sauces. One farmer noted that “Now I do not need to buy groundnuts for relish or my child’s porridge anymore because I harvest enough groundnuts.”

The increased income from the sale of surplus groundnuts also means farming households can afford to buy other foodstuffs needed to ensure food security and dietary diversity in the household. A farmer from Mzimba said “When my maize finished in February, I just sold one bag of groundnuts and went to purchase some more maize. At least it was able to push me as I waited for harvest.”

This evidence shows that groundnuts play a dual role in ensuring food security as a source of food itself and as a source of income to buy other types of food. Witcombe & Tiemann (2022) refer to these as nutritional access and economic access to food, respectively. As observed, the changes are more a result of increased yields and productivity than extension messages related to utilisation and nutrition.

Despite these improvements, farmers still acknowledged that while groundnuts have a positive contribution towards food availability, food insecurity remains a challenge, especially in the lean months. Some farmers reported that they sometimes sell their groundnuts early to

meet household needs and still face challenges during lean months. In addition, farmers reported that extension messages on the utilisation of output remain limited. This is substantiated by a farmer from Mzimba who said “sometimes we sell too soon because we need cash. Also, we sometimes sell more than we should. Later we run out of food and we need to buy again but prices have gone up” and another who note that “while extension workers help us in production, there is little that is done after we harvest.”- Female farmer, Luwelezi EPA.

As productivity is being enhanced, there is also a need for extension services regarding the utilisation of groundnut output and nutrition to ensure that the gains result in positive household outcomes.

Challenges and Opportunities facing extension service delivery in the groundnut value chain. The convergence of findings from both farmer surveys and key informant interviews paints a clear picture of the systemic challenges hindering the effectiveness of the groundnut value chain in Kasungu and Mzimba. Farmers and extension workers alike face multiple constraints that affect both production and the broader value chain outcomes.

From the farmer’s perspective, climate variability, limited access to quality seed and affordable inputs, unreliable markets, and post-harvest losses emerged as the most frequently reported challenges. A farmer from Kasungu reported that “Our extension officers help us a lot when it comes to production, but when we have harvested and want to sell, we are usually on our own. Sometimes we hear about market opportunities too late, and we do not know how to exploit them”. This shows that beyond production issues, there is a rising need for extension services post-production stages, where extension support is markedly limited.

Complementing this, extension workers highlighted operational constraints, chiefly inadequate transport, insufficient training in post-harvest and marketing domains, and weak institutional coordination. One farmer also acknowledges these challenges, saying, “The extension workers try to do their work to the best, but we understand their challenge as they have to meet many of us with vast distances all by bicycles or sometimes by foot”. These limitations directly affect their capacity to respond to the complex and evolving needs of farmers, especially in delivering value chain-oriented and climate-resilient advisory services.

Therefore, the results point to a critical misalignment between farmer needs and the current scope of extension delivery. While foundational support on crop husbandry is being provided, the broader demands of market engagement, value addition, and climate-smart practices remain underserved.

Despite the challenges, a recurring theme from interviews with extension workers was the opportunity to enhance the effectiveness of extension services by leveraging existing partnerships with non-governmental organisations (NGOs), private sector actors, and government initiatives. These partnerships could help address the training, resource, and administrative challenges faced by extension workers.

For instance, there are already many NGOs in Malawi focusing on agricultural development. There is only a need for intentional collaboration in providing training in specialised areas, such as value addition and climate-smart agriculture. The private sector could be engaged to provide access to market linkages, financial resources, and advanced agricultural technology to improve service delivery. As one extension worker noted, “we already work with some NGOs ... I believe they can be even more helpful if we could get more support in the areas of value addition and market access”. Lastly, existing government programs such as the Farmer Input Subsidy Program (FISP) and public-private partnership programs, are leveraged to improve resource availability and streamline administrative processes.

Furthermore, another opportunity lies in the current policy orientation. The current framework in Malawi already supports a transition from production-focused extension to a more pluralistic, market-oriented, and value chain-based system. Instruments such as the National Agricultural Extension and Advisory Services Policy (2025), National Agricultural Extension and Advisory Services Strategy (NAEASS) explicitly promote a pluralistic extension model and align with the Agricultural Innovation Systems (AIS) framework, emphasising multi-actor collaboration, market linkages, and farmer-centred service delivery.

Conclusions. The study mainly sought to evaluate the effectiveness of extension services in groundnut value chain development in Malawi. To achieve this, the following specific objectives were pursued:

- a) To assess the level of knowledge and skills among extension workers in the groundnut value chain
- b) To examine the current status and roles played by extension workers in the groundnut value chain.
- c) To evaluate the perceived effectiveness of extension services in improving groundnut production and food security.
- d) To identify key challenges and opportunities affecting the effectiveness of extension service delivery in the groundnut value chain.

This study adopted a mixed-methods approach, combining quantitative surveys with qualitative interviews in Kasungu and Mzimba districts, Malawi. A structured questionnaire was administered to a representative sample of smallholder groundnut farmers to capture production practices, access to extension, and market participation. Key informant interviews with extension workers, farmer leaders, and value chain actors provided in-depth insights into service delivery capacity, coordination, and challenges.

On the level of knowledge and skills among extension workers in the groundnut value chain, the study found that while extension workers, particularly at the AEDO level, demonstrated strong knowledge in groundnut production practices (e.g., land preparation, planting, and pest management), there were significant knowledge gaps in post-harvest handling, value addition, aflatoxin control, and marketing. Those at higher levels (e.g., ADD, DAES) exhibited a broader understanding of value chain concepts, suggesting uneven capacity across tiers. These findings confirm the need for targeted capacity-building interventions, especially for frontline staff.

On the role and status of extension workers in the groundnut value chain, the study found that extension workers' roles are still largely confined to agronomic support. Involvement in other segments of the value chain, such as aggregation, processing, and marketing, is minimal. Furthermore, collaboration with NGOs and the private sector remains limited, despite policy provisions encouraging pluralistic extension approaches. This indicates a misalignment between policy intent and operational reality, and underscores the need for reorienting extension mandates and practices.

Consequently, while farmers widely acknowledged the positive impact of extension services on groundnut productivity and improved farming techniques, many expressed dissatisfaction with support beyond production, particularly in accessing markets, value addition, and food storage technologies. The findings suggest that while extension services contribute to improved yields, their impact on broader food security and income gains remains constrained by poor access to post-harvest support and better markets.

The study hence identified key challenges facing extension service provision in the groundnut value chain, including inadequate staffing and resources, limited value chain training, weak coordination across stakeholders, and low adoption of ICT tools. However, the study also identified opportunities such as increased interest from NGOs and private sector actors, and potential for integrating digital platforms and mobile tools for extension delivery. These represent practical entry points for reforming the extension system.

These findings demonstrate that these constraints are not merely operational but apply broadly to public policy implementation inadequacies. While policy frameworks like the extension policy promote pluralistic and market-oriented extension systems, the production-focused service and limited capacity for holistic extension reflect structural in operationalising policies, resourcing and institutional alignment. Policy tools appear to be insufficiently adapted to the demands of value-chain oriented extension especially in post-harvest handling and marketing.

Policy recommendations. Based on these conclusions, the study recommends that extension services be broadened from production-centric to the entire value chain, including post-harvest handling, value addition, storage, and marketing. There is a need for deliberate policy initiative to implement specialised capacity building for extension workers on value chain development, market linkages, and aflatoxin management. To encourage diversified and specialised extension services in the spirit of pluralistic extension, there is also a need for policy frameworks to leverage collaborations among government agencies, NGOs, private sector actors and farmer groups to ensure that extension services respond to the changing demands.

ВПЛИВ ДЕРЖАВНОЇ ПОЛІТИКИ НА ЕФЕКТИВНІСТЬ СЛУЖБ СІЛЬСЬКОГОСПОДАРСЬКОГО ПОШИРЕННЯ ЗНАНЬ У ЛАНЦЮЖКУ СТВОРЕННЯ ВАРТОСТІ АРАХІСУ В РАЙОНАХ КАСУНГУ ТА МЗІМБА В МАЛАВІ

У статті показано вплив державної політики на служби щодо поширення знань які відіграють вирішальну роль у комерціалізації та диверсифікації сільського господарства, можливості працівників сфери поширення знань підтримувати виробництво, що базується на ланцюжку створення вартості та орієнтоване на ринок, які на сьогодні залишаються недостатньо вивченими, особливо для таких культур, як арахіс. Проаналізовано інструменти державної політики щодо ефективності служб поширення знань у ланцюжку створення вартості арахісу в районах Касунгу та Мзімба, зосереджуючись на можливостях працівників сфери поширення знань, впливу підтримки щодо розширення таких знань та проблемах, що виникли. У статті був використаний змішаний методологічний підхід, який поєднував опитування фермерів з інтерв'ю ключових інформаторів, проведеними з працівниками сфери поширення знань.

Результати дослідження показали, що хоча працівники сфери поширення знань активно підтримують виробничі практики, їм часто бракує можливостей допомагати на більш просунутих етапах ланцюжка створення вартості, таких як додавання вартості, переробка та маркетинг. Як наслідок, фермери повідомили про підвищення продуктивності завдяки підтримці розширення знань, орієнтованого на виробництво, але також відзначили обмежений вплив після фази збору врожаю. Дослідження також виявило, що, незважаючи на політику, яка виступає за плюралістичне надання послуг поширення знань, державні службовці є основним джерелом сільськогосподарської інформації, з мінімальною участю неурядових організацій або представників приватного сектору. Це обмежує доступ фермерів до адекватних та диверсифікованих послуг поширення знань.

Таким чином, у дослідженні робиться висновок, що хоча

послуги з розширення сільськогосподарських культур сприяли підвищенню продуктивності арахісу, існує критична потреба в посиленні підтримки післязбиральної обробки, створення доданої вартості та доступу до ринку. Це надає цінну інформацію для розробників державної політики, партнерів з розвитку та різних зацікавлених сторін, щоб очолити переорієнтацію служб розширення сільськогосподарських культур з моделі, орієнтованої на виробництво, на цілісний підхід до ланцюга створення вартості, включаючи нарощування потенціалу працівників сфери поширення знань та покращення координації зацікавлених сторін у всьому континуумі від виробництва до споживання.

Ключові слова: державна політика, інструменти державної політики, сільськогосподарські послуги з розширення сільськогосподарських культур, арахіс, ланцюг створення вартості, державна політика.

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Відомості про авторів / Information about the Authors

Аліфейо Мджума Ньясулу, магістр зі спеціальності «Дослідження розвитку», Університет Південної Африки E-mail: alifeyo.nyasulu@gmail.com.

Alifeyo Mjuma Nyasulu, MA Student in Development Studies, University of South Africa (UNISA), E-mail: alifeyo.nyasulu@gmail.com.

Річард Дуглас Камара, доктор PhD галузі знань публічне управління та адміністрування, науковий співробітник, Йоганнесбурзького університету, м. Йоганнесбург, Південна Африка. E-mail: richard.douglas_dr@douqualiakademie.org, orcid: <https://orcid.org/0000-0003-1153-9215>.

Richard Douglas Kamara, Doctor of PhD in the field of public management and administration, Associate Researcher University of Johannesburg, Johannesburg, South Africa. E-mail: richard.douglas_dr@dou-qualiakademie.org, orcid: <https://orcid.org/0000-0003-1153-9215>.

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