

Assessing the contribution of Agricultural Government supporting programmes for small-scale farmers' livelihoods in the Amathole District rural areas in the Eastern Cape, South Africa.

Ziyanda Jubisa

**Dissertation Submitted in Fulfilment of the Academic Requirements
For the Qualification**

**Master of Agriculture
Agricultural Extension and Rural Resource Management.
School of Agricultural, Earth and Environmental Sciences,
College of Agriculture, Engineering and Science
University of KwaZulu-Natal
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ABSTRACT

Abstract

Post-apartheid agricultural policy in South Africa focuses public support on small-scale farmers relying on agriculture. Government programmes aim to improve crop productivity, strengthen farming practices, expand market access and enhance food security, with extension officers positioned as key intermediaries linking research institutions and farmers. This study examines how such state-supported initiatives influence the livelihoods of small-scale farmers participating in four programmes—the Siyazondla Programme, the Comprehensive Agricultural Support Programme, the Cropping Programme and Livestock Improvement.

The research was conducted in rural villages of Raymond Mhlaba Municipality in the Amathole District, Eastern Cape. Fieldwork took place between August and October 2024. Using a qualitative research design, the study engaged 16 purposively selected programme beneficiaries identified through DALRRD Extension and Advisory Services. Data were collected through face-to-face interviews, exploring farmers' experiences of programme participation and extension support.

Findings indicate a frustrating mismatch between farmers' expectations of extension services and the actual delivery of support. Programme participation was often hindered by complex administrative processes, limited provision of tailored technical advice, and unreliable access to inputs. Irregular visits and inadequate follow-up by extension officers contributed to a diminished trust, as expressed through perceptions of neglect, favouritism, and inequitable resource allocation. In response, some farmers bypassed formal structures, relying instead on themselves, informal information networks and non-governmental support.

The study concludes that, although extension services remain vital for strengthening rural smallholder agriculture, their impact is constrained by systemic delivery and equity gaps. More inclusive, consistent and participatory extension practices are required to advance sustainable agricultural development in the Eastern Cape. Strengthening extension staff capacity and ensuring accountability in resource allocation are recommended to improve the relevance, responsiveness and fairness of support to small-scale farmers.

Keywords: extension officers; agricultural development programmes; small-scale farmers

DECLARATION

I, Ziyanda Jubisa,

Declare that by submitting this thesis electronically:

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This dissertation, in its entirety or in part, has not been submitted for any other degree or examination to obtain any other qualification.

Signed:



Date: 20 June 2025

Ziyanda Jubisa

As the supervisor for this candidate, I agree to the submission of this dissertation.

Signed:



Date: 23 June 2025

Dr. K Caister

DEDICATION

To my family especially my late mother (Vuyiswa Jubisa), my late best friend/ nephew (Mbasu Jubisa), and my late sister (Nonzolo Jubisa).

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LIST OF ACRONYMS

ABBREVIATIONS	MEANING
AKIS	Agricultural Knowledge and Innovation Systems
CASP	Comprehensive Agricultural Support Programme
DAFF	Department of Agriculture, Fisheries and Forestry
DALRRD	Department of Agriculture, Land Reform and Rural Development
DoA	Department of Agriculture
DRDAR	Department of Rural Development and Agrarian Reform
FAO	Food and Agricultural Organisation
ICT	Information communication technology
PGDP	Provincial Growth and Development Plan
SSA	Statistics South Africa
FFS	Farmer Field School approach

CHAPTER 1: INTRODUCTION

1.1 Background of the study

Musinguzi, Baker and Villano (2023) stated that Government support refers to the resources, programmes, and other advantageous treatment central and local governments provide to eligible enterprises and industries. Its goal is to promote company development, direct industrial upgrading, and stimulate economic progress. Thus, Gadisi, Owusu-Sekyere, and Ogundeji (2020) noted that the term "government support programmes" is extremely broad and can apply to a wide range of efforts that governments undertake to assist their populations. These programmes may provide financial aid, healthcare, education, housing, and other sorts of assistance. In particular, Grossmann et al., (2021) affirmed that understanding the influence of government support on welfare is critical. To some extent, households face obstacles in accessing government assistance, particularly in meeting basic requirements. Individuals in South Africa face a challenge in that many family units still have limited access to decent education, healthcare, electricity, and clean drinking water. Such households are under great stress because they are unable to afford basic services and necessities.

According to Chepape and Maoba (2020), agriculture plays a critical role in developing a robust economy and, as a result, eliminating disparities by improving income and job opportunities for the poor while sustaining the inheritance of natural resources. In the agricultural sector, small-scale agriculture has been highlighted as a vehicle for achieving the goals of poverty reduction and rural development in South Africa. In response, the Southern African government has established and executed several policies and programmes to support small-scale agricultural growth and redress historical injustices (Lidzhegu & Kabanda, 2022). For example, the Sustainable Agriculture Development policy seeks to establish the methods, standards, and practices that comprise the South African notion of sustainable agriculture. It highlights the importance of farming in South Africa's economic growth (Khwidzhili & Worth, 2017). The Comprehensive Rural Development Programme (CRDP) aims to promote social cohesion and rural development by enhancing access to basic services, fostering economic growth, and promoting industrial development in villages (DoA, 2009). Extension policies and strategies work with land reform and the Agricultural Policy Action Plan (APAP), which is responsible for

improving agricultural inputs, monitoring output and consumption in the agriculture sector, and facilitating comprehensive rural development (DALRRD, 2021)

The South African government has provided various forms of support to households engaged in small-scale farming to enhance their livelihoods, income, and food security (Mokgomo, Chagwiza, & Tshilowa, 2022). The goal is to utilise agriculture as a means of promoting sustainable and economic development. Maoba (2016) asserted that one of the key tools the Provincial Department of Agriculture uses to accomplish its agricultural development objectives is the agricultural extension service. By providing suitable agricultural information and expertise to build the capacity of land users and farmers, these objectives might be achieved.

The funding for Agricultural Development programmes has grown over time, with interventions including infrastructure grants, production input support, loan access, and extension service programmes. Lele (2019) argued that agricultural development programmes are a procedure that aims to continually improve agricultural production while also enhancing each farmer's income and business productivity by increasing capital, skills, and environmental resource preservation. Agricultural Development Programmes share one goal. Their goal is to boost food production and farm incomes for rural families in the designated project regions, thereby enhancing the standard of living and welfare of the agricultural population, with the hope of eliminating abject poverty (OlumuyiwaAkinrole, 2014). For example, the Siyazondla Homestead Food Production, Siyavuna Food, and the Food Security Programme are programmes and non-profit organisations that are heavily influenced by local government and assist disadvantaged households in producing their own food, thereby alleviating poverty.

1.2 Justification for the research

Kamara, Conteh, Rhodes, and Cooke (2019) asserted that, while the exact number of smallholders is unknown, it is generally accepted that there are over two million smallholder or household farmers in South Africa, compared to approximately 35,000 commercial farmers. Most farm holdings in Africa are smaller than two hectares. These farms are operated by rural, small-scale farmers who rely on agriculture for their livelihood. They are limited by a lack of capital assets that would enable them to increase agricultural output, enhance food security, and increase revenue.

Additionally, Khapayi and Celliers (2016) noted that government and development agency programmes and other efforts have worsened rather than relieved the obstacles confronting these farmers. Currently, developing farmers who are still living in poverty encounter challenges in transitioning into the commercial agriculture sector. On the other hand, agricultural development programmes are frequently hindered by several problems (Lau, Kleiber, Lawless, & Cohen, 2021). Ruggiero, Busch, Hansen, and Isakovic (2021) identified that political, physical, infrastructural, socioeconomic, and cultural restrictions are among the elements that hinder the development of rural community initiatives. Rural regions frequently feature bad roads and infrastructure, a lack of adequate housing, and high poverty rates. Zadawa & Omran (2020) stated that the majority of disadvantaged farmers are not involved in mainstream agriculture and instead conduct subsistence farming in congested, semi-arid areas of their previous homelands. This type of subsistence farming is distinguished by low output, limited access to land and resources, and, most critically, limited access to loans. With the current focus on small-scale farming, there is a need to continually explore the experiences of farmers who are beneficiaries of their programmes. Therefore, this study seeks to assess the contribution of Agricultural government support programmes to small-scale farmers' livelihoods in rural areas of the Eastern Cape, Amathole District, South Africa. Furthermore, the study examines the central role that government programmes play in building a strong small-scale farming community and, in the process, reducing inequalities by increasing incomes and employment opportunities in rural areas. Agricultural government programmes are at the forefront of progress. When working with small-scale farmers, a common observation is that they face multiple challenges, which hinder their progress and prevent them from operating in the commercial market. Moreover, small-scale farmers often feel rejected, and much of this stems from a lack of proper technical knowledge or expertise to enhance their farming production or standard of living. So, this study seeks to assess how these programmes respond to those particulars at hand and the following questions were formulated to guide the research and discussion of findings:

1.3 Research Questions

What contribution does the government make to small-scale farmers' livelihoods in rural areas of the Eastern Cape, Amathole District, South Africa?

1.3.1 What is the role played by extension officers in government-supported programmes?

1.3.2 What are the challenges faced by smallholder farmers in accessing government support programmes in rural areas?

1.3.2 How aware of government support are small scale farmers?

1.4 Operational Objectives

The objective of the study was to conduct an in-depth exploration of the experiences of small-scale farmers with agricultural government-supported programs on their farming livelihoods in and around Alice, Amathole District, Eastern Cape, South Africa.

The specific objectives were:

1.4.1 To identify the role played by extension officers in government-supported programmes.

1.4.2 To identify challenges faced by small-scale farmers in accessing government support programmes in rural areas.

1.4.3 To determine the awareness of government supporting programmes among small-scale farmers.

1.5 Importance of the study

The study's conclusions are significant because they provide useful, situation-specific information that may assist the municipality and possibly other nearby municipalities in reconsidering and enhancing their planning and management plans for the recipients of agricultural programmes. The study emphasises how government agricultural programmes are viewed and experienced in rural community settings by firmly establishing the analysis in the lived experiences of small-scale farmers. Finding the advantages and disadvantages of the present programmes and techniques requires an emic viewpoint. The study provides genuine data that can promote more responsive, inclusive, and locally tailored policies by capturing the experiences of individuals directly impacted, in addition to evaluating the efficacy of programmes from an external perspective. Ultimately, the study advances our understanding of how these initiatives can realistically and sustainably enhance food security, support livelihoods, and promote rural economic growth.

1.6 Delimitations of the study

Due to time constraints and the intensive nature of in-depth interviews, the study does not cover all local municipalities within the Amathole District. It is limited to agricultural government

support programmes for beneficiaries in the Raymond Mhlaba Local Municipality, with a focus on purposefully selected small-scale farmers from the town of Alice. Participants were identified as beneficiaries of specific government programmes. In the Raymond Mhlaba Municipality, four government-supported agricultural programmes are active in aiding small-scale farmers, namely the Siyazondla Homestead Programmes, Comprehensive Agricultural Support Programme (CASP), Cropping Programmes, and Livestock Improvement Scheme. Due to the small respondent group and the nature of the analysis, this study, and therefore, its results, will not be generalizable. The implications identified will be transferable to similar small-scale contexts. However, the goal of this research is not to create or evaluate a new framework or paradigm. Its goal is to investigate and comprehend farmers' viewpoints on the value and applicability of extension services in their particular situations, as well as the advantages of agricultural programmes in their daily lives. This research adopts an interpretative approach, employing pre-existing frameworks to facilitate the discovery of important correlations without assuming that they will apply universally, in contrast to models that frequently seek to evaluate fixed, predictive associations. Consequently, the results provide insights into the reasons driving farmer contentment or unhappiness but are not statistically generalizable. Although these insights cannot be used to predict results across all agricultural communities, they can inform more contextually relevant extension policies and practices.

The explicit perspectives of extension officials in charge of implementing agricultural programmes were not included in the scope of the data collected. While extension staff play an important role in implementing government-supported projects, this study intentionally focuses on the experiences and perspectives of small-scale farmers, who are the major beneficiaries. From a theoretical perspective, the study is consistent with the Sustainable Livelihoods Framework (SLF), which emphasises understanding livelihoods from the perspective of resource users, valuing their agency, tactics, and limitations. In this scenario, excluding opinions of extension staff was compatible with the goal of reflecting farmers' lived experiences and adaptation methods within current institutional frameworks. However, it is agreed that integrating extension officers might have offered further insights into implementation issues, institutional support, and programme efficiency, thereby enhancing the findings. Future studies should incorporate diverse stakeholder views to provide a more comprehensive understanding of the relationship between policy implementation and farmer experiences.

1.7 Limitations of the Methodology

Despite the advantages of a qualitative research approach, certain methodological constraints must be recognised. The study employed purposive sampling, which is suitable for selecting individuals directly involved in the issue under examination; however, this non-probability technique limits the representativeness of the sample and the generalizability of the findings. The focus on participants registered in four government-supported agricultural projects aimed at small-scale farmers in the Raymond Mhlaba Municipality further restricted the inclusion criteria. While this guaranteed that the research included those who were actively involved in institutional support organisations, it also excluded farmers who were not part of these programmes, whose experiences may have been very different.

The use of a sample of 16 people offered adequate depth for qualitative analysis but ultimately limited the range of opinions gathered. The study's focus on a single municipality further limits the applicability of its findings to other contexts with differing socioeconomic situations, regulatory frameworks, and institutional capacities. Consequently, the results provide insights into the reasons driving farmer contentment or unhappiness but are not statistically generalizable.

The use of open-ended questions yielded rich and complex narratives, allowing for the abstraction of concepts (such as 'Lack of Trust,' described through individual responses).

Practical restrictions, such as infrastructural limitations, transportation issues, and data saturation, all influenced what data could be gathered in practice. These shortcomings do not diminish the study's insights; rather, they highlight the methodological constraints within which the findings should be understood.

1.8 Outline of the study

This dissertation consists of six chapters. Chapter One introduces the study. Chapter Two discusses theoretical frameworks and context. The third chapter addresses the selection and description of the study area, including the research methodology, which outlines how the data was collected and analysed. Chapter Four presents a coded analysis conceptualising the farmers' realities. These are then interpreted in Chapter Five in relation to who the farmers are, identifying a gap between the farmers' reality and the intention of public extension. Lastly, Chapter Six discusses the findings in relation to the study's objectives, drawing conclusions and making recommendations.

CHAPTER 2: LITERATURE REVIEW

This chapter begins by presenting an overview of the review of agricultural support programs and the role extension officers play in these programs. It also looks at challenges faced by rural smallholder farmers in accessing government support programmes. The literature focuses on agricultural development programmes as strategies for improving the livelihoods and welfare of small-scale farmers, challenges faced by small-scale farmers in accessing these programmes, awareness of government programmes among small-scale farmers through ICT, the policy strategies employed by the programmes, and a summary conclusion of the chapter.

2.1 Historical Frameworks Informing Extension Service Delivery

Trying to make sense of how agricultural extension services operate in the real world often means looking through multiple lenses. In Table 2.1, Several approaches are presented that have been historically relevant in framing extension approaches that focus on development.

While theory offers helpful ways to interpret these dynamics, it can only take us so far. This study draws on several well-established frameworks to explore recurring patterns, frustrations, and missed opportunities that emerged from farmers' experiences. Among the frameworks referenced are the Diffusion of Innovations Theory, the Sustainable Livelihoods Framework (SLF), the Agricultural Knowledge and Information Systems (AKIS) Framework, and the Farmer Field School (FFS) approach. Each of these offers its own perspective on what shapes farmers' decisions, how support is delivered, and why gaps in access persist.

One of the more widely referenced frameworks in this space is Rogers' Diffusion of Innovations Theory (2003), which attempts to explain how new ideas, such as technologies or farming practices, are adopted (or resisted) within communities over time. In theory, extension officers are expected to play a key role in facilitating this process. However, in this study, that role appeared fractured. As noted by Worley, Peake, and Fuhrman (2025), timely communication plays a crucial role in the adoption of innovation.

Table 2.1 Historically established approaches to agricultural extension

Philosophical foundation	Theoretical Premise	Lesson learned
Diffusion of Innovations Theory (Rogers, 1962)	Providing timely and relevant information to facilitate the diffusion and adoption of agricultural innovations and technologies, an essential step toward building confidence and decision-making capacity.	Although Rogers' Diffusion of Innovations Theory (1962) offers a fundamental framework for comprehending the spread of innovations, especially by emphasizing perceived qualities like relative advantage and compatibility, it has come under increasing criticism for paying insufficient attention to global structural, institutional, and socio-political factors, such as how power imbalances, cultural contexts, and regional disparities affect the unequal adoption of innovations across various societies (Robinson, Borrás & Boon, 2024).
Sustainable Livelihoods Framework (Scoones, 1998)	A comprehensive approach to comprehending and enhancing the lives of those living in poverty. It acknowledges that poverty is a multifaceted problem that calls for a more comprehensive viewpoint that takes into account every facet of an individual's existence.	The Sustainable Livelihoods Framework (SLF) provides a helpful, people-centred approach to understanding how individuals and communities combine various assets to sustain their livelihoods, emphasising vulnerability contexts and institutional processes (Scoones, 1998). However, recent studies indicated that in South Africa and globally, it can undervalue the influence of broader political-economic forces and power relations that shape livelihood opportunities within complex and unequal social landscapes (Jones et al., 2022).

Philosophical foundation	Theoretical Premise	Lesson learned
Farmer Field School (FFS) approach (Van den Berg & Jigging, 2007)	Is a participatory education approach that brings together small-scale food producers to solve production issues through sustainable agriculture? FFS provides practical group learning, improving local communities' ability to observe, critically analyse, and make better decisions.	Although the Farmer Field School (FFS) approach has received a lot of praise for its experiential, participatory learning model that enhances sustainable agricultural practices and empowers farmers through knowledge co-creation both globally and in South Africa (van den Berg & Jiggins, 2007), more recent research has shown that its long-term efficacy may be limited by a lack of institutional support, unequal access to resources, and difficulties scaling the model sustainably across a range of socioeconomic contexts (Davis et al., 2020).
NGO Models (which may also include public-private systems)(Chambers & Conway, 1992)	NGOs can play a crucial role in addressing the issues of small-scale farmers by providing training and capacity-building initiatives. These efforts should prioritise providing farmers with practical skills and information that will improve their production and sustainability.	Whether privately funded or publicly aligned, non-governmental organisations (NGOs) play a crucial role in supporting small-scale farmers by providing them with access to agricultural training, inputs, market connections, and advocacy for more inclusive policy environments. However, due to their short project cycles, fragmented coordination with government agencies, and a propensity to impose externally driven agendas that may not always align with local priorities or capacities, their impact can be uneven (Ojha et al., 2016; Chambers & Conway, 1992).
Agricultural Knowledge and Information Systems (AKIS) framework (Birner et al., 2023)	(AKIS) connects and integrates farmers, researchers, agricultural educationists, and extensionists, encouraging them to capitalise on and promote reciprocal learning,	(AKIS) The framework, first introduced by Rölöng and Engel in 1991, has greatly impacted agricultural innovation by emphasising the value of knowledge sharing between farmers, researchers, and organisations. This idea has impacted

Philosophical foundation	Theoretical Premise	Lesson learned
	as well as generate, exchange, and use agriculture-related technology, knowledge, and information.	development initiatives globally as well as in South Africa. However, more recent assessments indicate that its efficacy is often constrained by governance concerns, disjointed institutions, and persistent power disparities that differ depending on the context, particularly in rural areas with limited resources (Birner, 2018).
Sustainable Livelihoods Framework (Chambers & Conway, 2022)	Might thus be viewed as a manner of thinking about the aims, scope, and priorities of development in order to accelerate progress toward poverty eradication.	
	The AKIS perspective emphasises the exchange-based diffusion and flows of knowledge within heterogeneous and multi-stakeholder contexts, networks, or platforms. This can result in increased access to knowledge, learning through interaction and the use of innovation development.	
Agriflection (Worth, 2006)	The Agriflection model suggests that to learn effectively, farmers need to form genuine relationships with academics, extension agents, funders, and policymakers. The first lesson covers the activities of farmers, their motivations, and ways to improve the sustainability and profitability of their present	Agriflection (Worth, 2006) offers a compelling, Africa-rooted learning model that draws on SLF and AKIS, emphasising reflective, participatory, and asset-based extension practices to empower smallholder farmers. However Evaluations of public agricultural extension in South Africa show that extension services frequently struggle with inadequate reach, weak capacity among extension personnel, and policy-practice gaps,

Philosophical foundation	Theoretical Premise	Lesson learned
	farming systems. Under this strategy, farmers are full collaborators in research and development that can produce innovations (hard technologies, techniques, and processes) that have a direct influence on the sustainability and financial success of involved farmers.	which may limit the potential for models like Agriflection to be scaled or embedded sustainably (Khwidzhili & Worth, 2019).
Sustainable Livelihoods Framework (Chambers & Conway, 2022)	The livelihoods approach prioritises individuals. Acts as a tool for examining the livelihoods of the impoverished while illustrating the primary influencing elements.	

The Agricultural Knowledge and Information Systems (AKIS) framework (Birner et al., 2023) emphasises collaboration among actors, farmers, extension officers, researchers, and suppliers, but has been criticised for exaggerating formal institutional roles while underestimating power dynamics and informal knowledge flows (Klerkx et al., 2012; Hall et al., 2006). The study's findings of delays, misunderstanding, and disappointed expectations among farmers demonstrate how, when one actor fails, the entire system suffers, reflecting AKIS's systemic logic while also highlighting gaps between policy and execution (Waldron, Vsanthakumar, & Arulraj, 1997). Informal discussions, such as WhatsApp groups and local radio, demonstrate how farmers cope with institutional fragmentation, implying that AKIS may insufficiently capture adaptive, grassroots forms of information transmission that occur in practice.

The Sustainable Livelihoods Framework (Chambers & Conway, 1992) adds an important ethical component by concentrating on how individuals utilise assets to survive and adapt, emphasising that interventions should increase, not destroy, livelihood security. In this context, it highlights the unequal distribution of services among smallholders, with those who have stronger

connections or larger landholdings benefiting the most. However, detractors claim that, while SLF's categories are conceptually rich, their implementation might be too descriptive, providing little assistance for altering unequal institutional interactions (De Haan, 2012; Scoones, 2009).

Similarly, the Farmer Field School (FFS) paradigm (Van den Berg & Jiggins, 2007; Suvedi & Vander Stoep, 2016) promotes participatory learning but has had little dissemination and durability outside of pilot settings (Davis et al., 2012; Friis-Hansen & Duveskog, 2019). When its participatory ethos is not consistently enforced, FFS may exacerbate rather than diminish disparities by favouring well-connected farmers (Chowa et al., 2020). Rogers' (1962) Diffusion of Innovations theory explains adoption trends, although it has been criticised for presuming farmers are passive users of knowledge (Leeuwis & Aarts, 2011). Finally, the Agriflection paradigm (Worth, 2006) encourages reflective practice and adaptive learning; however, feedback loops are typically aspirational in under-resourced settings.

Together, these critiques emphasise a crucial tension: while each theory sheds light on essential aspects of agricultural knowledge, extension, and livelihoods, none adequately captures the interplay of power, context, equality, and institutional capability. Understanding these limits is crucial for developing more inclusive, adaptable, and context-sensitive agricultural extension systems that genuinely respond to farmers' daily realities rather than idealistic models of participation, information flow, or innovation adoption. Integrating insights from these frameworks, while paying careful attention to their underlying assumptions, can help guide interventions that balance systemic coordination, participatory learning, equitable access to resources, and reflective adaptation, ultimately fostering resilience and agency among smallholder farmers.

2.2 The role played by extension officers in government supporting programmes.

A broad definition of agricultural extension is the process of enhancing farmers' agricultural knowledge and skills to increase their productivity and achieve other desired improvements (Raidimi & Kabiti, 2019). When agriculture is used as a means for development, initiatives and programmes can be designed to support people transforming their way of life through advancing social and economic goals. Agricultural extension services play a crucial role in the sustainability of agricultural systems (Mahlombe, 2018; Ugochukwu & Chinyelu, 2020;

Siankwilimba, 2023). South Africa's policy agenda supports a shift towards private, public partnerships. Within this context, the justification for commercial extension service is the overburdened governmental agricultural extension sector, insufficient budget, and policy emphasis (Nyabvudzi, 2021). As significant links in the agricultural value chain, extension and advisory services in many African nations now include participants from the governmental, non-profit and commercial sectors (Nwafor, Ogundeji & Nwafor, 2021).

Extension services are mechanisms for disseminating new information and ideas to rural regions, aiming to foster change and enhance the livelihoods of farmers and their families. Through the process of extension, technology and capability development can support the transformation of production from household to market-related benefits (Raji, Iomah, & Eyieyien, 2024). Consequently, agricultural extension entails disseminating information to farmers through the adoption of innovative technologies and enhanced practices across several sub-sectors, including crop production, livestock management, fodder cultivation, sericulture, apiculture, and horticulture, among others (Lele, 2019). It is the primary responsibility of extension officers to stay current with the latest agricultural practices and knowledge, and to support small-scale farmers in making informed decisions to enhance agricultural output (Hamid & Al-Taiy, 2024). Extension as a service, therefore, is of critical importance in developing rural economies (Umeh, Igwe, & Anyim, 2018). Without extension and advisory services, farmers would lack access to the support and services necessary to enhance their agricultural and other productive activities. In this context, it is imperative that extension agencies take an active role in the development of all segments of the population by utilising enhanced technology in agriculture and related activities.

In the South African context, Makapela (2018, p. 18) stated that agricultural extension services are considered a special branch of rural extension dealing with several economic and social aspects of the small-scale farming community, such as:

- Efficient farm production
- Efficient marketing, distribution and utilisation of farm produce
- Conservation, development and use of natural resources for farm sector development
- Efficient farm management

- Improving the standard of living of the rural population
- Development of leadership for community improvement.

2.2.1 Education role of extension officers

Maginga (2019) noted that the main duty of an extension officer everywhere is to educate smallholder farmers with existing government-supported programmes. Busungu, Gongwe, Naila, & Munema (2019) described technology transfer as a learning process that extension officers manage via both official and informal channels. Conferences, seminars, and producer meetings are some examples of the formal education that extension staff members receive (Hamasalih & Layeeq, 2023). Additionally, it is inferred (Bonye, Alfred & Jasaw, 2012) that extension officers deal with farmers daily and provide service training. These formal instruction sessions may cover a wide range of subjects, from specific management techniques to more abstract technical ideas about the connections between stocking and harvest size, as well as oxygen changes in ponds and disease diagnostics.

Additionally, Toroitich (2021) asserted that Extension agents visit farms to spend a considerable amount of time on informal education. For example, competent extension agents who personally observe farm operations often identify potential problems and can even address the particular special difficulties. Šūmane et al., (2018) reported that, during field visits, farmers have the opportunity to ask questions on a range of topics, challenges, and issues not addressed in official seminars. Providing producers and consumers with information through newsletters, newspaper articles, radio and television broadcasts, and other media is also considered an instructional activity. However, Purnima, Bhagyalakshmi & Lalitha (2018, p. 46) suggest that certain technologies or methods be displayed at public events, such as fairs and markets. Hands-on training and education, working side by side with farmers, is an effective but time-consuming means of transferring technology. Pappa (2018, p. 80) added that farm-level demonstrations are a technique of informal education where the extension agent demonstrates a particular technique to improve farm operations for an individual or a group of farmers.

Faxon (2023, p. 898) notes that one of the most significant issues confronting agricultural extension staff is farmers' lack of proper knowledge about new technologies, particularly in applying information and technology. As a result, agricultural extension staff must think

critically and logically to establish an effective extension programme and work effectively on it to inform and educate farmers. Röling (2019) and Pandey, de Coninck & Sagar (2022, p. 2) affirmed that some restrictions connected with extension work for knowledge transfer are identified in most nations throughout the world, and some suitable methods for collaboration with extension to make extension work more effective and efficient. Faxon (2023) suggests that one of the most significant issues confronting agricultural extension staff is farmers' lack of proper knowledge about new technologies, particularly in applying information and technology. As a result, agricultural extension staff must think critically and logically to establish an effective extension programme and work effectively on it to inform and educate farmers.

2.2.2 Technical Services

Extension officers provide technical services, including soil and seed testing. These services can be provided at no charge, at a discount, or for a profit (Mizik, 2023). Purnima, Bhagyalakshmi & Lalitha (2018) affirmed that extension officers are specialists who serve as intermediaries between researchers and farmers, offering technical assistance and playing a crucial role in facilitating communication between farmers and researchers. They assist farmers in making informed decisions by ensuring the implementation of suitable knowledge to promote sustainable production and rural development (1). Extension agents can also help farmers improve their technical, managerial, and communication skills. As a result, Clarkson (2022) noted that extension officers can provide trustworthy information to their farmer clients and help them remain competitive.

Sulandjari, (2022, p. 140) stipulated that agricultural extension officers must communicate to farmers agricultural information on natural resources, animals, and crops, as well as how to utilise farmland best, build proper irrigation schemes, use and store water economically, combat animal disease, and save money on farming equipment and procedures. In addition, Rahman and Yousif (2016) mentioned that it must guarantee that farmers comprehend and apply this knowledge on their fields in order to maximise productivity. Norton and Alwang (2020) noted that agricultural extension staff frequently disseminate innovative agricultural technologies. Best practices support services designed and carried out in collaboration with farmers, who make the ultimate choices about what is needed.

Fabregas, Kremer and Schilbach (2019, p. 1) assessed that extension officers also collaborate with agricultural experts to conduct studies on food, fibre, and animal products and aid cattle ranchers and veterinary surgeons in the treatment of various animal ailments. They describe how each agricultural extension officer is affiliated with one of the country's agricultural development centres, providing services to farmers. Furthermore, extension agents play a crucial role in technology transfer to rural farmers, encouraging them to adopt innovations in their farming practices. Hamasalih & Layeeq (2023, p. 388) determined that administering good farmer technology transfer programmes is viewed as the most influential method to improve farmers' willingness to work hard and intelligently, while it has a causal impact on increasing farmers' revenue, which in turn leads to an increase in national income.

2.2.3 Supply of Production Inputs

Rahman, Kabir, Rahman, Mamun & Hossen (2020) indicated that it might be challenging for farmers taking part in development projects to arrange transportation for production inputs. Transportation is often provided to extension agents, who use it to deliver materials to farmers during routine visits. For instance, extension agents may transport feed for livestock (such as pork and poultry) that produce manure to fertilise fish ponds (Phezisa, 2016). Supplying small-scale farmers with production inputs is a contentious practice (Beharielal, Thamaga-Chitja & Schmidt 2022). Otieno, Gweyi & Oduor (2022) suggested that, instead of teaching farmers to produce their own seed, extension officers find it generally easier to provide seed. On the other hand, government funding may not be dependable, the transport required to deliver the inputs may malfunction, or there may be a variety of other issues, all of which prevent the timely delivery of inputs or the timely arrival of the necessary materials at the production site. However, Langyintuo (2020) contends that small-scale farmers face more challenges, which reduce their profitability, prohibit them from producing enough products to satisfy market demand completely, and/or prevent them from earning enough money to keep their households out of poverty. In addition, the World Bank. (2018) noted that other factors that make them vulnerable include poor institutional support, limited access to inputs, and generally unfavourable socioeconomic, political, and governance conditions.

These factors hinder the farmers' ability to adapt, which ultimately lowers their potential to increase productivity. Generally speaking, farmers who depend on the government for these

services do not develop alternate sources of supply or transportation. Farmers simply do not have the production inputs when needed if government support falls short, which it frequently does, and production suffers as a result.

2.2.4 Establishing projects and forming co-operatives

Novkovic, Puusa & Miner (2022) describe a co-operative as a unique type of business that offers products and/or services to its members. Members of a co-operative distribute profits, or surpluses, according to the volume of business each member generated for the co-operative. Agricultural extension serves as a liaison between local farmers and rural communities, connecting them with initiatives, cooperative development, and funding (Phezisa, 2016). Steinke, Ortiz-Crespo, van Etten & Müller (2022) noted that extension agents communicate with farmers and give them information to help them make decisions for efficient and sustainable farming. Tamsah and Yusriadi (2022) claimed that, in order to understand new and better ways to ensure improved and sustainable production, they collaborate with scientists. They then translate this knowledge into advice and guidance for farmers.

Additionally, Norton and Alwang (2020) viewed extension as increasingly assisting in the development of small-scale farmers, often by providing them with training in both business development and production techniques to help them gain access to both formal and informal markets. Agricultural extension is the application of scientific research to agricultural practices through providing the link between farmers and research. Therefore, Žmija et al., (2020) confirmed that extension agents are essential in starting initiatives and creating cooperatives. They serve as communicators and facilitators, assisting farmers and other stakeholders in making informed choices and applying the necessary information to achieve the best outcomes. In addition, Koutsouris and Zarokosta (2020) noted that they frequently provide consultation, direction, and practical demonstrations of the latest agricultural technologies. Extension agents collaborate with other subject-matter experts to develop innovative techniques that can enhance productivity.

2.2.5 Marketing of agricultural products

Kushitor et al., (2022) established that programmes and initiatives are established, executed, monitored and evaluated by agriculture extension workers with intentions. These initiatives and

projects are undertaken with specific objectives, such as food security and revenue generation. Moreover, McCampbell, Schumann, & Klerkx (2022) note that a benefit toward every attempt by farmers or in the farming environment inspires small-scale farmers to achieve better and more. Agricultural items in nature are perishable, and the produce must reach the market or be consumed before it deteriorates or loses value. Agricultural extension staff are working together with agents to market the produce of local farmers. Silong and Gadanakis (2020) discovered that the establishment of connections with formal and informal financial institutions, as well as the provision of a list of input suppliers in the region that run loan schemes, outgrower schemes, or barter agreements, are two ways that extension workers may help small-scale farmers and groups.

2.2.6 Assisting farmers in acquiring funding and resources

Farmers receive a range of information on farming techniques, fertilisation, plant protection (including pests, weeds, and disease control), marketing, cattle and crop management, climate change, and other relevant subjects through access to extension and advisory services. Given the great value and function of a public extension and advisory service, it is imperative to offer it. (Maake & Antwi, 2022, p. 2). However, Chandra, McNamara & Dargusch (2017) noted that small-scale farmers have been prevented from engaging in the mainstream economy, owing to colonial regimes that discriminated against indigenous people, the majority of whom are small-scale farmers. Discrimination mainly affected natives' access to fertile land, infrastructure, and financial resources. Following independence, governments reversed such exclusion by assisting marginalised farmers through input supply systems, subsidies, and regulated markets (parastatals). Moreover, Paloma, Riesgo & Louhichi (2020) indicated that Small-scale farmers, on the other hand, confront two primary problems today.

One is that they are at a significant disadvantage in connecting to contemporary value chains due to their low sales volumes, lack of market information and relationships, and limited capacity to meet the high standards required by many high-value industries. Private agro-dealers and finance institutions regard them as high-cost and high-risk farmers due to their tiny size and reach. Afrad, Wadud & Babu (2019) noted that Agricultural extension advisory works with farmers at the grassroots level. Local agricultural extension advisors are skilled at identifying farmers and rural residents with farming potential. This makes it easier for farmers to get financing from many

stakeholders and financial institutions. Several projects and programmes (Massive food programme) were funded by the Eastern Cape Rural Development Agency. These programmes would not be effective and implemented if agricultural extension workers were not involved (Phezisa, 2016).

2.2.7 Training and visit of farmers

One of the strategies established by the Eastern Cape Department of Agriculture to encourage farmers to enhance productivity was the training and visit strategy. Production gains are used to gauge the success of this strategy. In this process, farmers are visited and instructed on the essential agricultural techniques and production methods. It is important to note that this strategy is similar to a top-down strategy in which agricultural officers are responsible for transferring information and skills to farmers. Farming activities are a form of training for farmers. Farmers are organised through agricultural exhibitions, information days, and field trips to learn farming skills and knowledge (Phezisa, 2016). Moreover, Benor (2022) claimed that over the past 10 years, the Training and Visit (T&V) approach of agricultural extension has gained significant traction and is now utilised in at least 40 nations. Professionalism, a single line of command, concentration of effort, time constraints, a focus on the field and farmers, frequent and ongoing training, and two-way links between extension and research are among the essential elements of the T&V system. Additionally, Norton and Alwang (2020) noted that frequent training sessions serve as a structured forum for feedback between farmers and agricultural services, as well as a means for extension personnel to share knowledge and learn from one another's experiences.

All staff training and visits follow set timetables to guarantee that the essential field and farmer orientation are sufficient and suitable throughout staff training. In Figure 2.1 below, a linear depiction of how extension officers function as a medium for disseminating knowledge to farmers, as well as the actions implemented in the process.

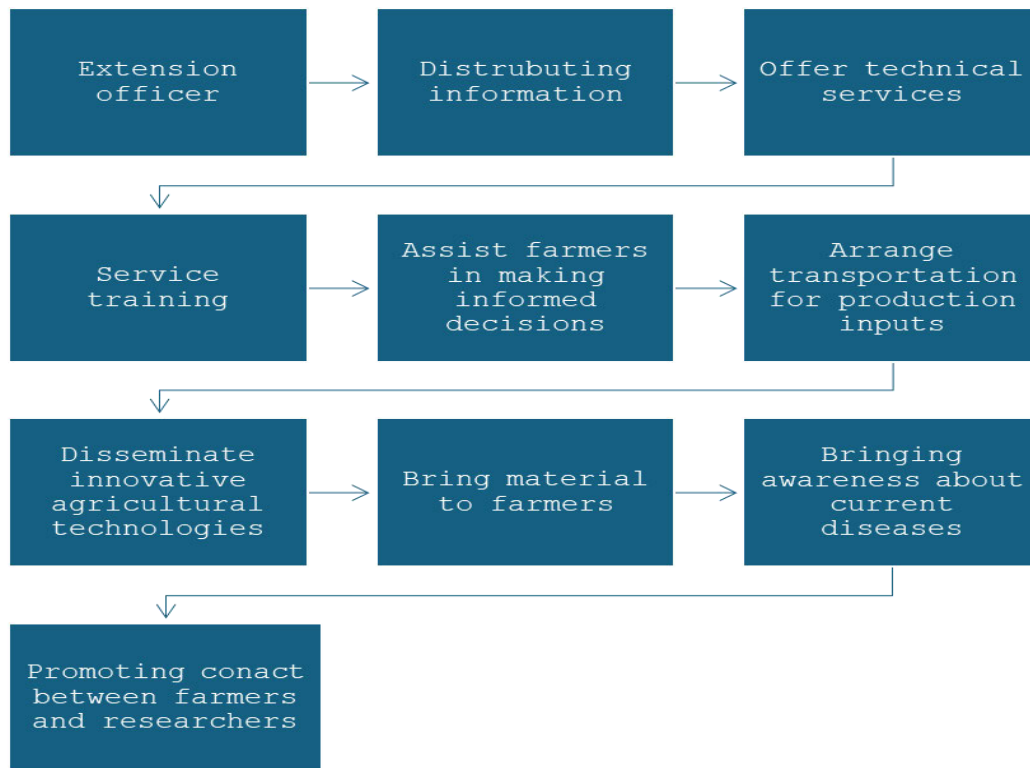


Figure 2.1 Diagram showing the components of extension officers and the role they play in farmer services. Source: (Adamsone-Fiskovica & Grivins, 2022, p. 480)

2.3 Agricultural government supporting programmes

An agricultural development programme often denotes the initiative aimed at enhancing the living standards and economic stability of individuals in rural and sparsely inhabited areas (Mncina & Agholor, 2021, p. 124). However, urbanisation and shifting global manufacturing networks have altered the nature of rural communities (Singh et al., 2023). Lele (2019) argued that agricultural development programmes are procedures that aim to continually improve agricultural production while also enhancing each farmer's income and business productivity by increasing capital, skills, and environmental resource preservation. Agricultural development initiatives aim to increase farmers' and fishermen's incomes and living standards, create jobs, and enhance food security, among other objectives. However, Yar and Yasouri (2024) contested that Agricultural development programmes face challenges in succeeding in rural areas, but a lack of government provision of basic infrastructure, including clean water, sanitation, electricity, and housing, also seems to demoralise people. Providing these fundamental services would inspire groups to start and help with poverty-alleviation projects. Not evaluating community needs has

also undermined the launch of development projects (Khaisi, 2022, p. 5) contributing to slow progress. From this discussion, we can conclude that government-supported programmes are helpful in improving the livelihoods of small-scale farmers in rural areas; however, it is quite evident that there are challenges hindering the programmes from reaching the intended beneficiaries.

2.3.1 Importance of agricultural government support programmes

Through government assistance programmes, the agricultural community is given new technology, knowledge, and skills to help with business, planting, or agribusiness values and principles, as well as the development of human resources with the fundamental values of hard work, teamwork, creativity, and innovation (Faqih, & Aisyah, 2019, p. 2). Agricultural development programmes in the 1970s were designed as a system for farmers and their families, aiming to equip them with the capability and self-sufficiency to improve their own welfare and contribute to rural development (Sinha, 2008, p. 80). Rural development: “The process of enhancing the quality of life and economic well-being of individuals living in relatively isolated and sparsely inhabited areas,” has typically focused on the agriculture and forestry of land-intensive natural resources (Butt, et al., 2010, p. 54).

Castro-Arce and Vanclay (2020) assure that the transformation of rural society is the primary goal of government supporting programmes. In actuality, these modifications are meant to advance rural society. The initiatives are designed for individuals seeking holistic growth. It aims to involve people in development activities, especially those in rural areas. The villagers' standard of living is improved thanks to this assistance and development programmes, which also provide them with access to various employment opportunities and the chance to establish businesses that will enhance agricultural output. Programmes focus on creating cooperative societies and other organisations so that a variety of planning and development-related tasks reach further. However, Shava and Thakathi (2016, p. 367) argued that due to nepotism and corruption in the procurement systems, government-supported programmes have been compromised, which hinders achieving effective rural development.

In Figure 2.2, the diagram depicts the flow of information, resources, and assistance within agricultural initiatives, with the extension officer playing an important role in linking farmers to

these programmes and giving them the knowledge they need to address their daily restrictions and better their livelihoods (Taylor & Bhasme, 2018, p. 7)

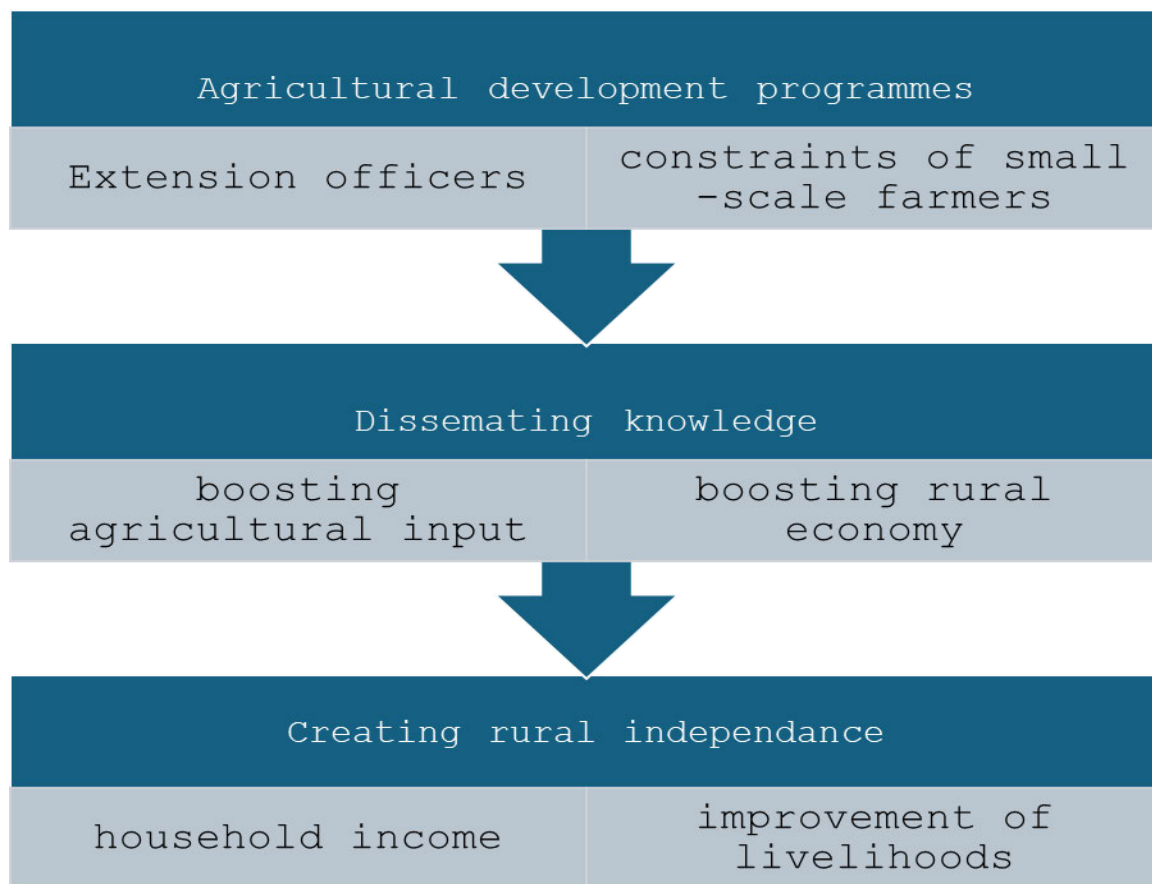


Figure 2.2 Diagram showing components of agricultural support programmes and their interactions with aims and objectives. Source: (Taylor & Bhasme, 2018, p. 8)

2.3.2 Improved agricultural productivity

Mokgomo, Chagwiza and Tshilowa (2022, p. 2) claimed that Agricultural development programmes have been known to be a powerful tool for shaping lives and making life meaningful, even at an adult age. Abubakar (2024, p. 23) stated that increased agricultural productivity depends primarily on the knowledge of the rural farmers to understand and accept the complex scientific changes, which are difficult for the illiterate rural farmer to understand. There are better-yielding crop varieties, improved chemicals, and enhanced fertility and technology available in rural farming areas through the implementation of government-supported programs (Buisson, Saikia, & Maitra, 2020). Agricultural development programmes are more

vital in agriculture as it has the potential for farmer to obtain or generate income through self-employment and skills gained (Li, Liu, & Huo, 2021).

These programmes improve farming and enhance farm productivity directly through the quality of labour and better utilisation of agricultural resources (Li et al., 2021). Myeni, Moeletsi, Thavhana, Randela & Mokoena (2019) argued that crop production in South African small-scale farms continues to be below the potential of the land, despite previous efforts by agricultural researchers, extension services, and government supporting programmes. Tabari (2020) asserted that the prolonged droughts, longer dry spells, limited water and nutrient availability, degraded soils, and ineffective farming techniques are blamed for the low yields. It becomes apparent that, due to their reliance on rainfed agriculture and limited capacity for adaptation, the livelihoods and food access of the majority of South African small-scale farmers will be potentially impacted by climate change.

2.3.3 Livelihood improvement

Agricultural development programmes are implemented as a response to the challenges facing communal farmers; challenges like low returns on yield or production, poverty and unemployment (Rafael, 2023, p. 154). They also improve functional and analytical ability and thereby open opportunities for individuals and groups to achieve greater access to labour markets and livelihoods. Agricultural development programmes increase local food availability, farmer income and increase the sustainability of agricultural practices (Cieslik, Barford & Vira, 2022, p 1137). Improving local food availability directly addresses hunger issues that occur when people are unable to purchase food. People rely on food produced by farmers in their local area in rural areas with limited access to more productive areas; if farmers are unable to produce enough food, people go hungry (Niehof, Gartaula & Quetulio-Navarra, 2018, p 285). Improved crop yields can both meet the demand of the region (which could be just a few villages) and lower the price of food in that region. Lower food prices mean more people can afford to buy the food, and fewer people go hungry (Li, et al., 2021, p. 1271)

Agricultural development programmes help to increase farmers' income through the use and implementation of different farming practices. The increase in farmer income can also lead to higher production levels, as there will be more inputs, resulting in improved yields (Emran,

Krupnik, Aravindakshan, Kumar, & Pittelkow, 2021). An increase in the sustainability of agricultural practice leads to rapid changes in agricultural technology that will increase productivity and the sustainable use of resources.

This means that profit improvement changes the structure of the farming industry and increases agricultural development in rural farming (Alexander, et al., 2018). It is undeniable that government programmes are prominent in uplifting rural livelihoods; however, the process to reach small-scale farmers in rural areas is not always smooth sailing. Makofane and Gray (2014) argued that residents are disenchanted with the absence of government delivery of vital infrastructure, such as clean water, sanitary facilities and electricity, conditions that would prevent programmes and projects from being developed successfully in their communities. Hajdu, Neves & Granlund (2020, p. 745) posit that the concept of primacy dominates many conceptualisations of rural development in former homelands and development planning, which is frequently sector-based, and ignores the wide range of household livelihood activities. Development interventions have frequently failed because of this. Zikargae, Woldearegay & Skjerdal (2022, p. 4) stated that projects and programmes are frequently hampered by a lack of local consultation and understanding of rural lives and livelihoods, as well as a tendency to narrowly focus on local 'mind-sets' for identifying both problems and solutions, while ignoring larger structural contexts and determinants.

2.3.4 Poverty Alleviation

A relative poverty metric defines poverty as falling below a threshold calculated from within the population of interest. A "relatively poor" person has much less money than other members of society (Arcaya, & Subramanian 2015). According to Mahlombe (2018, p. 13), agricultural initiatives have the ability to spur economic growth; they should be a key component of any plan to combat poverty. Small-scale farmers and rural families face difficulties due to a lack of physical resource ownership and restricted market access. Therefore, taking into account agricultural development programmes for economic growth would assist the rural poor in providing for themselves through agricultural output. As much, anti-poverty initiatives, such as agricultural development programmes, aim to boost employment, income, and social security.

Makofane and Gray (2014) argued that, problems relating to inefficiency and ineffectiveness in managing funds and achieving technical, social, and financial objectives are among the numerous challenges in establishing and sustaining rural development projects and programmes in eradicating poverty in rural areas. Small-scale farmers have also contributed to employment and revenue generation in South Africa through agricultural output, an important contribution to the country's economy. Even on a worldwide scale, rural farmers have created job and income prospects in rural regions. Participation of teenagers and men in agriculture or programmes might help to minimise poverty and migration (Mabaso, 2014). Christensen, Ojomo & Gray (2018, p. 23) indicated that billions of dollars would continue to be spent annually on anti-poverty programmes, including the construction of countless water wells in struggling communities and the thousands of improvised schools and clinics that are located in developing nations. Unfortunately, a lot of these initiatives fall short of helping people escape poverty.

2.3.5 Contribution to household income

Agriculture development programmes have a central role to play in building a strong economy, and in the process, reducing inequalities by increasing household income and employment (Chepape & Maoba, 2020). Earning money has long been seen as a means of sustaining life on a global scale. In South Africa, the most significant component in ensuring household food security is money (Mahlombe, 2018).

Inkoom, Dadzie & Ndebugri (2012) emphasise that the major source of income for rural families is agriculture. Nevertheless, agricultural development programme initiatives also give resources in kind for nourishment, such as vegetables, in addition to financial gain (cash) (Chepape & Maoba, 2020). Although many rural households work a variety of jobs to support their family, advances in agriculture have proved to be the key to broad-based, poverty-reducing growth in the rural economy.

Effective agricultural reforms have prioritised the farming family and given farmers chances to increase their income. For some people, this will include increasing farm productivity or changing the production mix to incorporate higher-value animals and crops. For some, opportunities arise for off-farm work. Farmers spend more in the local economy as their income

risers, which boosts the demand for agricultural products and creates employment opportunities (Boettiger, Denis & Sunil Sanghvi, 2020).

2.3.6 Job creation

Research from 2012 identified the agricultural industry as a significant employer. It was envisioned in South Africa that a million more jobs could be created in agriculture and agribusiness by 2030, assuming there was sufficient political will and that stakeholders carefully expanded the arable area, provided irrigation, and planted the right crops (Bureau for Food and Agricultural Policy, 2012). Patel, Mthembu & Graham (2020) noted that, even though Agricultural government programmes cannot completely replace economic growth as a strategy for enhancing employment outcomes, they nonetheless play a significant role in assisting youth and providing pathways to the workforce over time.

South Africa has a high rate of unemployment that is concentrated in the country's poorest communal areas (Mahlombe, 2018). Rural populations tend to be less educated and less literate. Despite this, Krantz (2013) shows that regardless of their capacity, they often depend on agriculture to provide for their needs and improve their living situations (Maulu, Hasimuna, Mutale, Mphande, & Siankwilimba, 2021). The lives of many rural residents continue to be significantly impacted by migration for jobs and the rural household's reliance on remittances, which represent a portion of the migrant's income. This suggests that, despite claims that agricultural production initiatives and development programmes are the primary strategy for reducing poverty and improving food security for the rural poor, they have a limited impact on creating subsistence-level jobs (Mabaso, 2014). In Tables 2.2 to 2.4, summaries of programmes are presented to show the emphasis and focus for livelihood-supporting projects. These programmes are currently claimed by the DoA to be in operation in the Eastern Cape.

Table 2.2 Government supporting programme: Siyazondla

Programme	Policy agenda	Description	Target beneficiaries	documentation
Household Food production (Siyazondla)	To ensure the availability, accessibility and affordability of safe and nutritious food at national and household levels.	The initiative seeks to boost food production for impoverished households, enhancing food security and generating revenue. Beneficiaries get agricultural inputs, including seeds, fences, water taps, pipelines, and equipment.	Unemployed breadwinners HIV infected and affected families Households earning less than the accepted minimum social grant level Child-headed families (15 years and upwards); Physically challenged people.	ID Copies Water rights Proof of land ownership

Source: Mcata (2019), Department of Rural Development and Agrarian Reform (2020) (www.drda.gov.za); National food and nutrition security plan for South Africa (2018-2023).

Table 2.1 Government supporting programmes: Cropping Programme

Programme	Policy agenda	Description	Target beneficiaries	documentation
Cropping programme	To ensure the availability, accessibility and affordability of safe and nutritious food at national and household levels.	The programme is for all interested in subsistence and smallholder farmers. The purpose of the programme is to provide mechanisation and production inputs.	Applicants must be from a disadvantaged group residing in the Eastern Cape Involvement of youth and women Short to long-term legitimate right to use the land Farmers are encouraged to apply as an association/commodity group	Copy of ID Viable business plan Secure market for produce Proof of land ownership

Source: Department of Rural Development and Agrarian Reform (2020) (www.drda.gov.za)

National food and nutrition security plan for South Africa (2018-2023)

Table 2.2 Government supporting programmes: CASP

Programme	Policy agenda	Description	Target beneficiary	documentation
Comprehensive Agricultural Support Programme	National development plan Government priority: economic transformation and job creation Agro-processing value chains Standard operating procedure framework when implementing projects	This program aims to offer post-settlement assistance to producers who have purchased land via private means and are, for instance, active in exporting or value-adding domestic businesses, as well as to the targeted beneficiaries of land reform.	Applicants must be from previously disadvantaged group residing in the Eastern Cape Province. Applicants must be registered on the Producer Farmer Register database. Youth and women are encouraged to apply.	Applicant form Proof of land ownership Short project profile Copy of ID Viable business plan for a commodity;

Source: National Treasury, Republic of South Africa (2020)

Department of Agriculture, Forestry and Fisheries (2019)

Table 2.3 Government support programmes

Programme	Policy agenda	Description	Target beneficiaries	documentation
Livestock improvement programme	Securing access to land, feed and water Securing access to livestock/ animal health services Securing access to credit and other inputs Providing insurance and risk coping mechanisms	A program that aims to improve the genetic makeup of herds and flocks of subsistence and small-scale farmers in the Eastern Cape province of South Africa. Bulls and or heifers Rams and or ewes	Applicants must be from previously disadvantaged group residing in the Eastern Cape Province. Applicants must be registered on the Producer Farmer Register database. Youth and women are encouraged to apply.	application form Proof of land ownership Short project profile Copy of ID Viable business plan for commodity; Proof of availability of funds/association bank account

Source: Department of Rural Development and Agrarian Reform

Province of the Eastern Cape (2021/22) (www.drda.gov.za)

Livestock Sector, Policies, Institutions and Institutional Change (FAO, 2019)

2.4 Challenges faced by small-scale farmers in South Africa.

In South Africa, the term "small-scale" is frequently used to describe the primitive, unproductive, non-commercial subsistence farming. It is frequently connected to black farmers, as though they are incapable of becoming large-scale commercial farmers (Iles, Ma, & Erwin, 2020). Aliber and Hall (2010) define the small-scale farmer as a *family farmer* since many rely on relatives' labour to satisfy production demands and save a portion of their produce for household use. Small-scale farmers comprise both farmers who own the land on which they labour and those who do not. A majority of South African farmers are rural smallholder farmers, making up 2 million, which is 68% of the overall farmers in the country (Mutero, 2016). Despite that, rural

small-scale farmers are facing several challenges. Based on the definition by Aliber and Hall (2010), the terms "*smallholder*" and "*small-scale*" are used interchangeably in this report. Generally, "small-scale" refers to South African-specific mentions, whereas "smallholder" is used when the literature employs that terminology.

External and internal limitations are the two types of common restrictions faced by small-scale farmers in less-developed areas (Dhillon & Moncur, 2023). External limitations are mostly out of a farmer's control and originate from the broader agricultural environment. Agriculture carries inherent risks, such as limited access to inputs, credit, mechanisation, and marketing services; insufficient institutional and infrastructure support; unsuitable laws and policies; constrictive administrative and social structures; and issues with land tenure and the purchase of agricultural resources. Internal constraints are those that limit a farmer's capacity to function efficiently, regardless of the farmer's intrinsic ability to allocate resources in an economically efficient manner. Such limits are normally under the farmer's control. These include liquidity issues, labour scarcity, a lack of skills, expertise, and education, and a variety of cultural characteristics that, in some cases, inhibit more efficient resource management. Small-scale involvement in these potentially profitable marketplaces is hampered by a lack of assets, market intelligence, and access to services (Mpandeli & Maponya, 2014, p. 135).

The agriculture sector contributes roughly nine (9) per cent of the country's GDP and continuously provides jobs to close to a quarter of working residents (World Bank group, 2021, p. 1). Rural residents endured low incomes and few opportunities for profitable work for a long time. Due to a number of factors, including limited access to credit, a lack of farm machinery and equipment, inadequate production inputs, and difficult market access, many people are impoverished and uncompetitive (Kaiser & Barstow, 2022, p. 28).

According to the Department of Rural Development and Agrarian Reform (2021), destructive weather events are also a major concern, disproportionately affecting the poor and the most vulnerable, many of whom reside in rural areas. Blundell, Costa Dias, Joyce and Xu (2020) stated that the poor and most vulnerable people, many of whom live in rural areas, are disproportionately affected by destructive weather events, which are also a major concern. Additionally, the COVID-19 pandemic raised unemployment rates across the board, including in rural areas (Espí, Leibbrandt, & Ranchhod, 2020). In addition, small-scale farmers face various

challenges that hinder them from participating in the mainstream market, adopting current agricultural technology, and advancing innovation. Figure 2.3 illustrates the challenges faced by small-scale farmers in rural areas that hinder their participation in the commercial market and stagnate development progress.

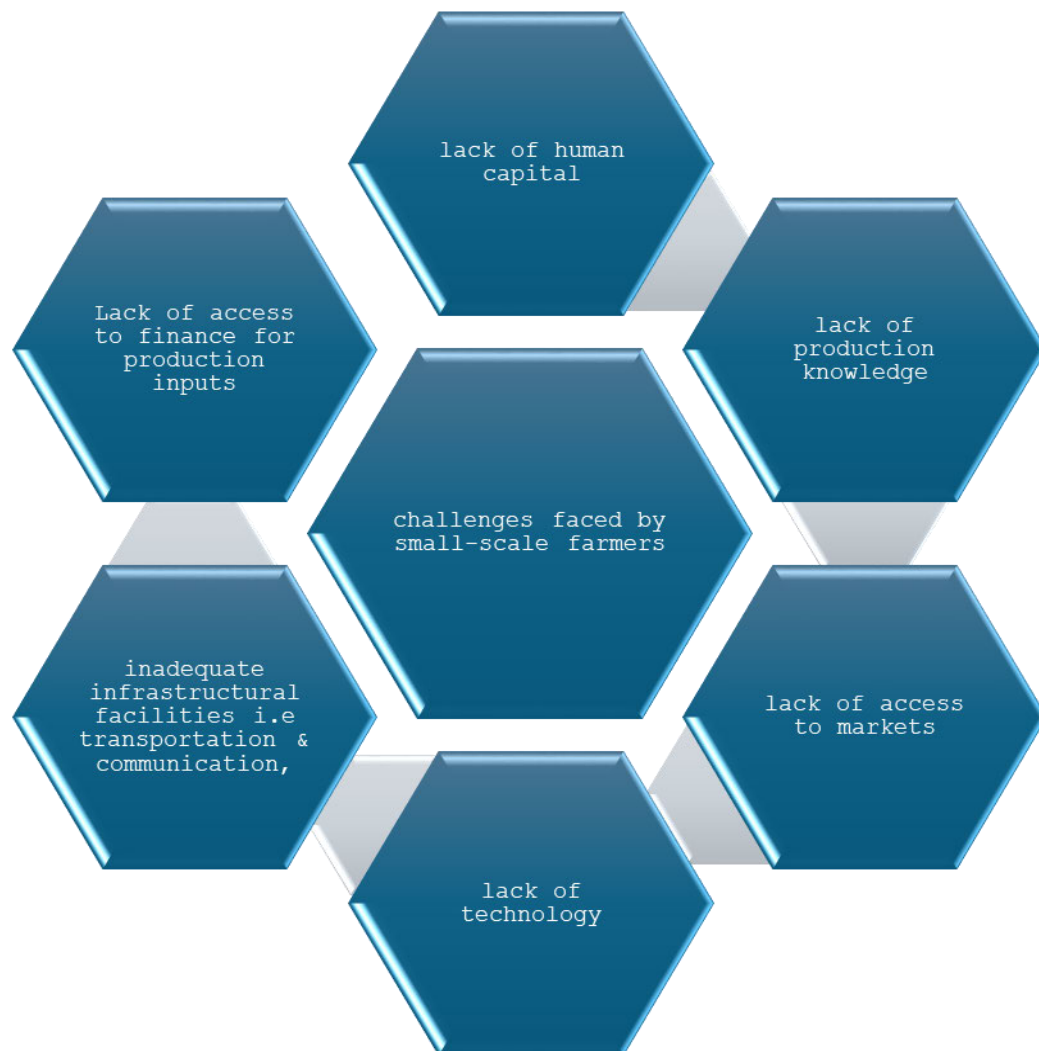


Figure 2.3 Challenges faced by small-scale farmers in South Africa

Source: (Dhillon and Moncur, 2023, p 5)

2.4.1 Lack of human capital

Many emerging producers lack financial skills, making it impossible to meet the quality standards set by fresh produce markets and food processors. Production quality suffers because

of a lack of production knowledge (Ntshangase, Muroyiwa & Sibanda, 2018). Zulu (2018) indicated that small-scale farmers have difficulty getting loans from development/commercial banks and microfinance programmes because of their lack of industry knowledge, distance from rural areas, high collateral requirements, and high interest rates and are perceived as an industry risk. It is quite evident that small-scale farmers require capital and financial means to purchase inputs, as well as to invest in machinery, storage facilities, animal stock, and essential services for crop production intensification, which are hard to come by. Ndlovu and Masuku (2021) asserted that small-scale farmers find it challenging to make investments that do not pay off right away, such as those for machinery or long-term cash crops (such as trees), due to their limited access to short-term financial resources.

2.4.2 Asymmetry or lack of information on markets

Rural producers, particularly small farmers, have little knowledge of market demand, which is for them, difficult to obtain. They may gather information from other actors in the commodity chain, but the accuracy of that information cannot be guaranteed because those actors may be engaging in "opportunistic behaviour" (Mpandeli & Maponya, 2014, p. 135). Small-scale farmers lack knowledge about local product pricing, quality criteria, the best venues and times to sell their crops, and possible purchasers. As a result, they are less able to trade their products effectively and get the maximum advantage from the marketable portion of their output (Mpandeli & Maponya, 2014). Giller, Delaune, Silva, van Wijk, Descheemaeker, van de Ven, Schut, Taulya, Chikowo & Andersson (2021) indicated that Small farmers frequently are unable to produce enough due to insufficient expertise and an inability to reach contractual agreements. Due to these issues, they are excluded from participating in mainstream markets. As a result, they are constantly trapped in market constraints because changing these challenges on their own is difficult (Cheteni & Mokhele, 2019). It is concluded that small-scale farmers have limited access to formal markets because they lack the knowledge and capacity to satisfy market demands. The study found that access to arable land, institutional support services, and a lack of marketing expertise all negatively impact achieving livelihood goals.

2.4.3 Technological barriers

Technology advances have always been a vital contributor to agribusiness success and will continue to have an impact on the seamless operation of businesses throughout the agricultural value chain (O'Sullivan, Bonnett, McIntyre, Hochman & Wasson, 2019, p. 134). Adams, Jumpah & Shafiulla (2021) asserted that to increase agricultural productivity and income and eventually combat poverty, it is essential to develop superior technologies, convey them to small-scale farmers, and encourage their use. The welfare of households is positively and significantly impacted by the adoption of upgraded technologies. However, Reddy (2022) stated that, despite the significance of advanced technology in modernising farming, access to these technologies continues to be a problem, leading to production inefficiencies. It is inferred that although technology can be impactful to small-scale farmers in terms of production increase and their livelihoods, access to technology remains a predicament, which leads to unproductivity.

2.4.4 Lack of knowledge/information

According to Joubert (2013, p. 1), Small-scale farmers frequently lack expertise in a wide range of fields, such as farm management and entrepreneurship, resource management and record-keeping, financial planning and management, marketing, processing, and packaging, transportation, management of natural resources, and mechanical and electrical knowledge. A lack of market understanding and inadequate financial capabilities often causes limited access to formal markets. Ndlovu and Masuku (2021) agree that small-scale farmers lack business competence and knowledge, such as a successful selling and buying plan based on prior demand and experience, in order to meet market access requirements. Musyoka (2020) argues that, one of the most difficult issues that small-scale farmers in South Africa face is the expectation that they produce more with the few resources available to them. In addition, as the sector grapples with climate change, Ncube (2017) posits that lack of literacy is the primary cause of a country's underdevelopment, trending towards a lack expertise on how to manage their farms in the event of a catastrophe or environmental change.

2.5 Opportunities for facing challenges

2.5.1 Awareness of government programmes to small-scale farmers

Providing agricultural knowledge to small-scale farmers may boost economic growth by enabling them to produce more crops, which they can then sell at a higher price. Due to widespread mobile phone ownership in Africa, there is, for the first time, a practical possibility of transmitting relevant information to isolated farmers across the continent (Wyche & Steinfield, 2015). Ndimbwa, Ndumbaro & Mwantimwa (2019) reveal that access to agricultural information and knowledge raises the understanding of small-scale farmers about various agricultural advances and issues, allowing them to take appropriate livelihood activities. People are introduced to new and improved farming practices, enhanced seedlings, sophisticated pest control procedures, and storage systems through agricultural information and expertise. In addition, Vidanapathirana (2019) asserted that in many developing nations, several limiting factors and visible limitations exist in the distribution of agricultural knowledge. Poor reception quality and limited coverage area are two clear obstacles to the effective use of broadcasting media in many developing nations. The communications delivered are not adapted to the information requirements of rural communities. Even when the information is useful, it is rarely broadcast at the appropriate time and so does not reach the intended audience.

Another significant limitation is the use of print media: flyers and newsletters as message carriers are ineffective in reaching illiterate farmers. Whereas, Muzekenyi, Zuwarimwe and Kilonzo (2021, p. 92) noted that another constraint is that farmers cannot understand the technical terminology used to convey information. The insufficiency of current extension programmes is a significant barrier to the spread of agricultural information. Some of these initiatives lack well-thought-out planning and are hastily put together without involvement from the farmers whose views are to be transformed. Such educational materials for farmers are unable to maintain their interest or influence their attitudes as they would like. It is crucial to comprehend that despite government putting in place programmes to support small-scale farmers, it is difficult for them to access those programmes and become aware of them. Moreover, Bonephace, Gui & Makawia (2022) asserted that, farmers become aware of agricultural information services as a result of their demands, both within and outside the confines of agricultural structures and systems. A well-designed agriculture information service raises farmer awareness by providing access to

various services. In addition, it is quite evident that rural areas have restricted access to agricultural information services because of agricultural structures' lack of service delivery.

2.5.2 Access agricultural information through radio

In developing nations, radio is widely utilised as a communication medium to promote educational programmes in teaching, health, literacy training, nutrition education, and the promotion of changes in farming techniques to boost agricultural productivity (Sarmah & Lama, 2017). Cubos and Vargas (2021) indicated that many farmers are limited by a lack of information in any other manner (financial assistance, resources, information dissemination). Thus, many nations provide insufficient government funding for research and extension. In accordance with this reliance, community radio serves as a communication tool for rural farmers to acquire agricultural information and agricultural programmes via radio station. Mburu (2013) divulged that, because of their specialisation and concentration on wide casting to local audiences in local languages, most FM stations have achieved significant levels of popularity and listenership. Agricultural programmes are also broadcast on national and private radio stations, and small-scale farmers can get agricultural information through a variety of methods. It is deduced that, because radio covers a wide range of topics, it may be the best medium for disseminating information about government initiatives supporting small-scale farmers. Additionally, the government of our nation might consider setting up radio stations that are solely dedicated to agricultural activities, shows, and programmes to ensure that small-scale farmers are not left behind.

Rural radio and television are viewed as effective extension tools because they can communicate with farmers who are illiterate and provide them with information about all facets of agricultural production in a language they can comprehend. Providing pertinent information in the local agro-ecological and cultural context does not just entail reading technical material over the airwaves in local languages; it also entails learning how farmers themselves address their concerns in the community (Parvizian, Lashgarara and Hosseinnajad, 2011). Thus, Makaula (2021) asserted that it is common practice to quickly disseminate contemporary agricultural technologies to all sorts of farmers via radio and television. Mtega (2018) also suggested that Radio and television stations, as opposed to agricultural extension, have a greater chance of being able to reach more people at once since broadcasting is made feasible by satellites and antennas.

2.5.3 Access agricultural information through mobile cell phones

Krell (2021) alluded that Mobile phones, for example, are being marketed as digital platforms with the ability to reach a large number of farmers at once in rural areas. However, FAO (2019) claimed that this invention is restricted in Africa's rural areas because of its high cost, inadequate or nonexistent internet access, and farmers' lack of information about their applications. Moreover, Makaula 2021 indicated that small-scale farmers in South Africa communicate agricultural knowledge through media, meetings, friends, family, and posters. Mobile phones have the potential to increase farmers' access to agricultural information as well as their learning. Nyamba and Mlozi, (2012, p. 558) stated that mobile phones have become a key tool in the communication of this kind of information due to the availability of both private and public agricultural information sources. The tool has some benefits, including access to information on the supply markets and prices, knowing where to sell products and applicable prices, as well as accessing data from weather advisory services and consulting with extension workers.

Quandt, Salerno, Neff, Baird, Herrick, McCabe, Xu, & Hartter (2020) stated that in Kenya, it was shown that having access to mobile money services reduced severe poverty in homes led by women by 22% and overall improved agricultural household income. Although the advantages of mobile phones are generally known, it is equally crucial to keep in mind that these technologies have the potential to worsen current power disparities. Masuka, Matenda, Chipomho, Mapope, Mupeti, Tatsvarei & Ngezimana (2016) reported that, mobile phone use has little impact on the activities of small-scale farmers who farm for subsistence. However, it has a significant impact on those who farm for the market because it enhances interactions and relationships between farmers and other stakeholders in rural livelihoods. Kumar (2022, p. 3) also added that the use of ICT in agricultural advice services, in particular mobile phone services, in the agricultural sector provides information on the market, weather, transportation, and agricultural practices to be in contact with pertinent authorities and departments. Due to their availability to a range of communication channels, cell phones have recently given farmers a new way to approach making uncertain decisions. The study's findings suggest that mobile devices can be used to access current knowledge and information about markets, agricultural issues and challenges, suggestions for the expansion of the agricultural market, and government assistance programmes that are available and beneficial to small-scale farmers' farming systems.

2.5.4 Access to agricultural information through extension services in South Africa

Extension officers can help small-scale farmers gain access to programmes. Extension officers are professionally trained individuals who work with farmers to provide information and advice on agricultural techniques and technologies. They also assist farmers in gaining access to government programmes and services that can help them increase production and profitability. The National Development Plan in South Africa intends to empower small-scale farmers through extension services (Carelsen, Ncube & Fanadzo, 2021). It is inferred that the ability of extension agents to assist small-scale farmers in accessing programmes is crucial. Extension officers are professionally trained individuals who work with farmers to provide information and advice on agricultural techniques and technologies. They also assist farmers in gaining access to government programmes and services that can help them increase production and profitability.

The National Development Plan in South Africa intends to empower small-scale farmers through extension services. Furthermore, Marumo (2022) describes the National Development Plan (NDP) as a long-term strategy to eradicate poverty and decrease inequality by 2030. As a result, it is deduced that the NDP recognises the importance of small-scale farmers in the agricultural sector and seeks to assist them through a variety of interventions such as land reform and access to programmes, among others. Davis and Terblanché (2016) revealed that, while many people advocate for the use of information and communication technologies (ICTs) to disseminate information to farmers and cut costs, they are not a replacement for extension personnel or organisations. They are critical components of the development process and information technology tools, and they must facilitate extension agents' work while also helping to strengthen their capacities. However, it is clear that extension officers face a number of difficulties when disseminating information and knowledge. These difficulties include a lack of information centres, a lack of good knowledge and information, ineffective extension staff, and ignorance of trustworthy information sources.

In the framework (Figure 2.4), a conceptual understanding draws together the threads of the previous discussion. It visualises the relationships relevant for this study and illustrates the Agricultural government support programmes' concerted efforts in delivering and administering support to small-scale farmers, aimed at enhancing their quality of life and enabling small-scale farmers to be successful participants in the economy (Staal, 2019).

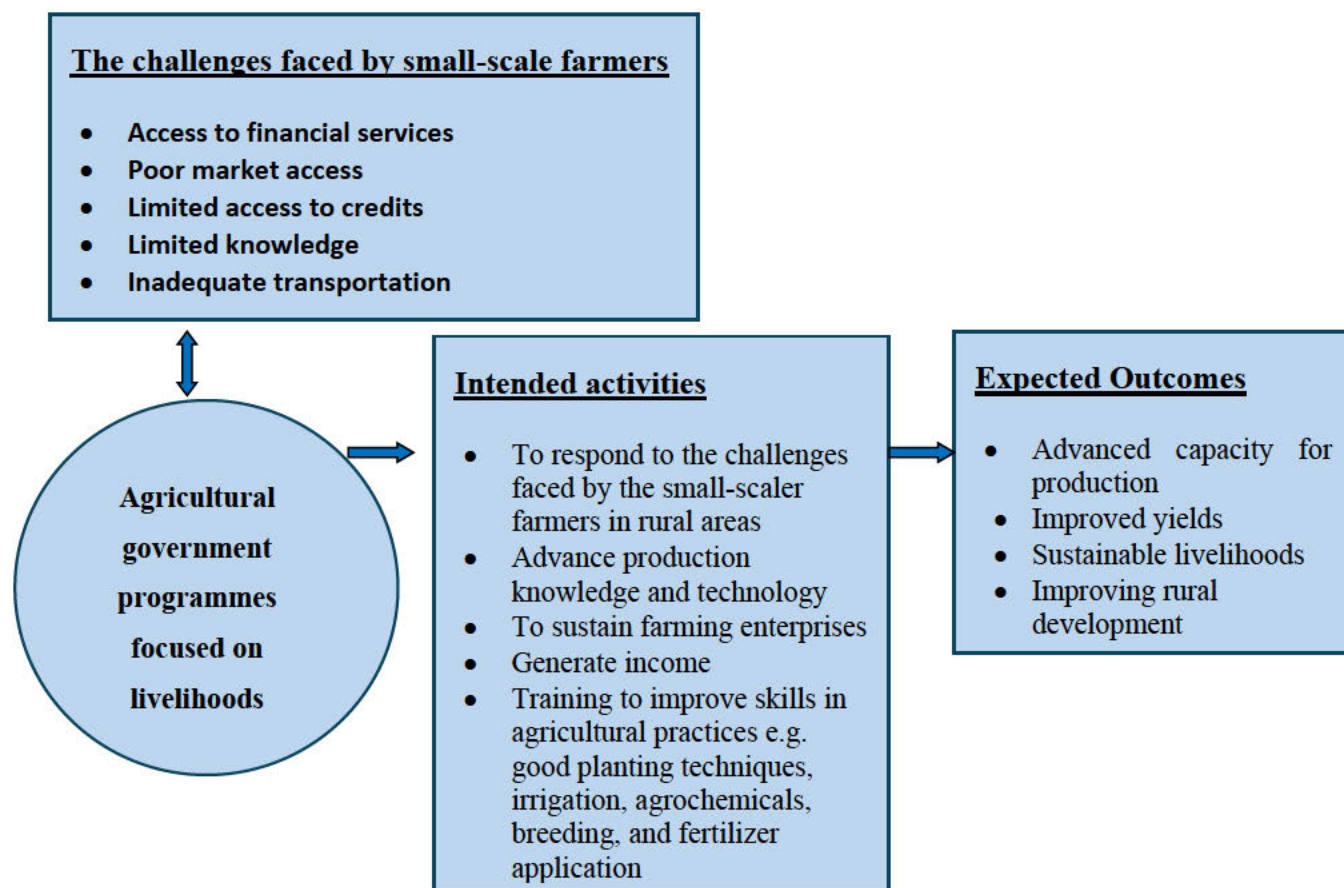


Figure 2.4: A conceptual framework of farming livelihood support through public extension programmes

These programmes are meticulously crafted to instil confidence and self-reliance among farmers through a range of activities facilitated by extension officers, including training, information days, and practical demonstrations. By fostering a structured approach and providing access to resources, information, and technology, these initiatives empower farmers to address challenges and make informed decisions autonomously effectively (DRDAR 2020/2021). The agricultural

government programmes stand as a cornerstone strategy within the Department of Rural Development and Agrarian Reform in the Eastern Cape of South Africa. Its primary aim is to uplift the livelihoods of farmers, with a special focus on small-scale extension officers. Through this program, significant strides have been made towards enhancing food production, ensuring food security, and bolstering rural incomes (Ngarava, Muchunje & Chamunuka 2020). Among the array of programmes declared active in the Amathole District Municipality by the government are the Siyazondla programme, the cropping programme, the livestock improvement scheme programme, and the comprehensive agricultural support programme.

2.6 Summary Literature Review

This chapter has focused on the definitions of Agricultural government programmes, small-scale farmer and extension officers and provided an overview of how agricultural programmes contribute to the livelihoods of small-scale farmers in rural areas, particularly in Amathole district in the Eastern Cape. Some common interventions that are employed by the Department of Rural Development and agrarian reform to improve the status of small-scale farmers in rural communities, households or individuals were discussed, with special attention given to Siyazondla programme, the cropping programme, the comprehensive agricultural supporting programme, the livestock improvement scheme. The constraints faced by small-scale farmers were discussed, and how these challenges have impacted negatively in their production in competing in the commercial sector, but not only that, but challenges that have negatively impacted their livelihoods. Although the study presented the programmes as a tool to address challenges faced by small-scale farmers, the study also found that the programme route is not always feasible and achievable. The literature also highlighted the role played by extension officers in disseminating information about programmes to small-scale farmers and the way they do it through training, information days, demonstration and farm visits and farm field days. Lastly, the discussion of using ICT to bring awareness to small-scale farmers was also thoroughly covered.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter reports on the methodology employed in the study, providing an overview for an intervention designed to generate knowledge from the farmers' perceptions. Conducting a meticulously planned and executed research project is paramount for generating reliable results and is crucial for informed decision-making regarding future actions. Therefore, this chapter communicates a detailed description of the study area, the chosen research design, ethical considerations, methods of data collection, characteristics of the study population, determination of sample size, sampling techniques employed, the instruments used for data collection, as well as the methodology and approach for data analysis.

3.2 Description of the Study Area

The study concentrated on certain places of the Eastern Cape, which were chosen in part because they are important tourism destinations with different landscapes and agricultural settings pertinent to small-scale farming. The Eastern Cape is one of South Africa's colder areas, with average daily highs of roughly 24°C and temperatures above 25°C for seven months of the year (Figure 3.1). The province, situated between KwaZulu-Natal and the Western Cape, experiences a range of climatic influences, including subtropical and Mediterranean temperatures along the coast and hotter, drier conditions inland. Its varied topography, ranging from coastal plains to mountainous escarpments, contributes to significant microclimatic diversity. The inclusion of tourism sites provides a useful lens for understanding how small-scale farming interacts with land use, local economies, and environmental conditions in areas of both ecological and economic significance (Weather Forecast, 2020).

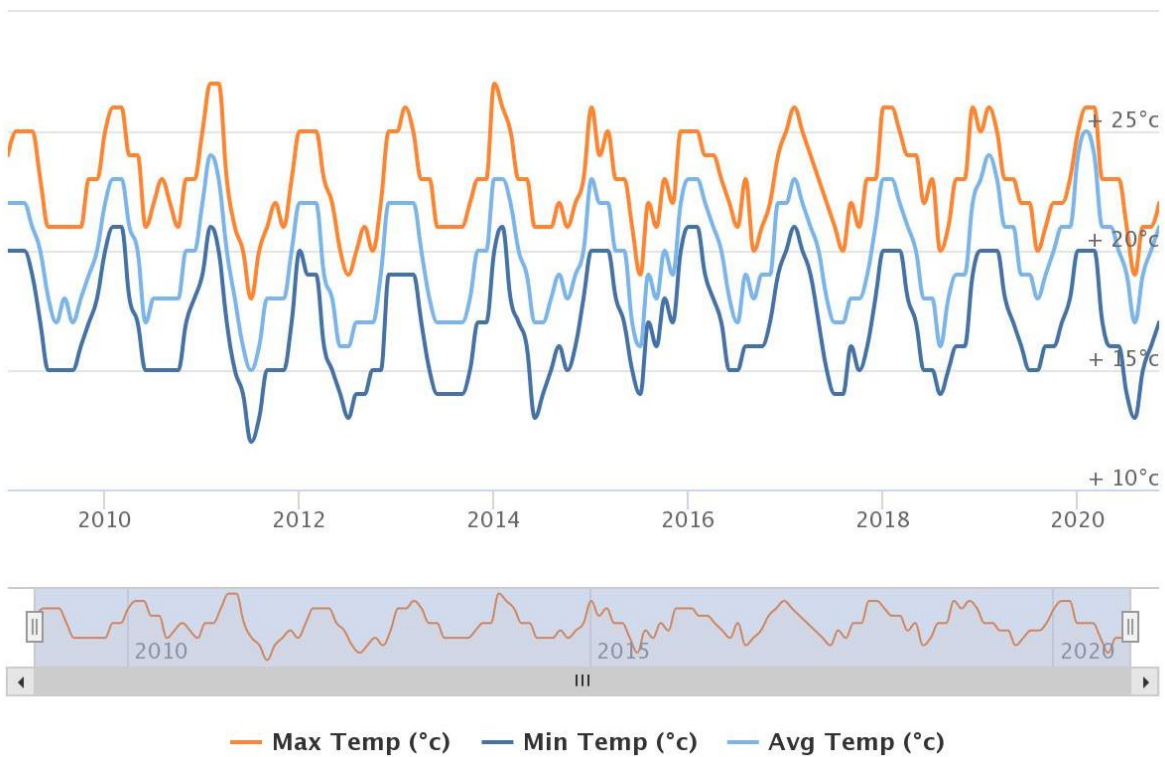


Figure 3.1 Showing min, max and average temperature since 2010 for some parts of the Eastern Cape. Source : (Weather forecast 2020)

3.2.1 Amathole District Municipality

The Amathole District in the Eastern Cape, South Africa, provides the greater context for this research, encompassing municipalities such as Ngqushwa, Amahlathi, Mbhashe, Raymond Mhlaba, Mnquma, and Great Kei. The Amathole District Municipality (ADM) is located in the Eastern Cape's central region (Figure 3.2). Stretching north from the mouth of the Fish River and south down the Wild Coast on the Eastern Seaboard of South Africa. The district shares legislative and administrative powers with six local municipalities (LM): Raymond Mhlaba, Mbhashe, Amahlathi, Mnquma, Ngqushwa, and Great Kei. All six local municipalities (coastal) border the Indian Ocean.

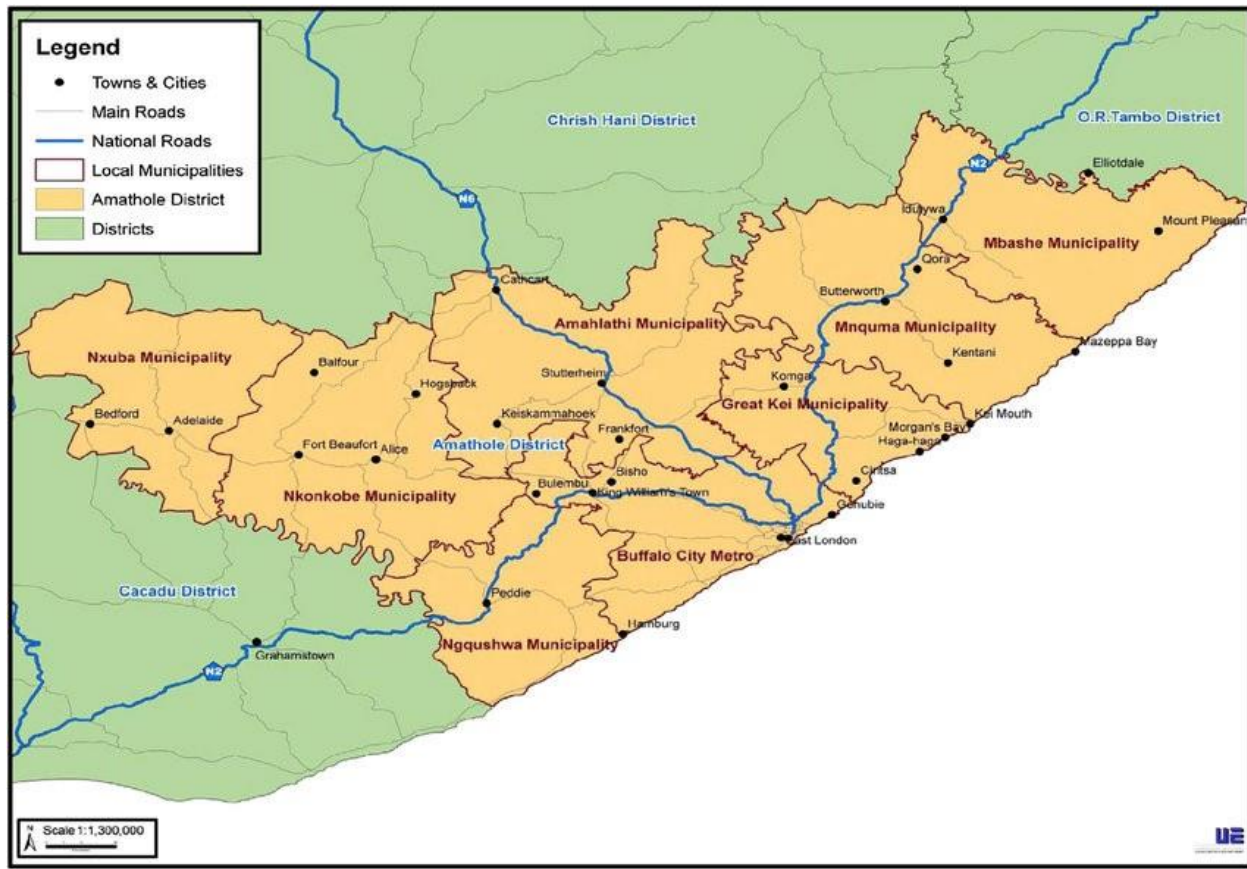


Figure 3.2 Locating the Amathole District Municipality

Source: Amathole District Municipality. 2019. Annual Report 2018/19. <http://www.amathole.gov.za>. Amathole District Municipality. Amathole District Municipality 2020/21 final Integrated Development Plan. IDP. 2020. Available online: <https://www.amathole.gov.za>

The municipality comprises several historically significant towns, including Alice, Adelaide, Bedford, Fort Beaufort, Middle Drift, Hogsback, and Seymour. Due to geographical considerations and financial constraints, the study focused on the Raymond Mhlaba Local Municipality, with a specific emphasis on a small town named Alice (eDikeni), located near Fort Hare. The town itself is characterised by a close-up street layout, as shown in Figure 3.3.



Figure 3.3 Map of the Raymond Mhlaba municipality, Eastern Cape

Source: (extracted 20 March, 2024 as an image from <https://spatialhub-mdb-sa.opendata.arcgis.com/pages/districts-ec>, and <http://www.amathole.gov.za/>)

3.2.2 Raymond Mhlaba Local Municipality and a little town called Alice

Raymond Mhlaba Municipality, is located on the southern slopes of the Winterberg mountain range and escarpment, within the broader Amathole District Municipality of the Eastern Cape Province. As outlined in the Raymond Mhlaba local municipal Integrated Development Plan (IDP) of 2017, the economic landscape is primarily characterised by community services, tourism, and a thriving agricultural sector. Notably, agriculture encompasses diverse activities such as citrus cultivation, forestry, small livestock farming, and crop production. The citrus industry stands out as a significant contributor to employment, trailing closely behind community services. Additionally, the area boasts active forest plantations and timber processing facilities (IDP, 2017).

Raymond Mhlaba Municipality was formed in 2016 by the amalgamation of the old Nkonkobe Municipality, which contained the settlements of Alice, Fort Beaufort, Hogsback, and Middledrift. Nkonkobe is now an important element of Raymond Mhlaba's administrative and economic landscape, and its long-standing agricultural activities, particularly citrus, forestry, and

cattle farming continue to influence the municipality's growth. The merger efficiently combined Nkonkobe's agricultural basis and service structures into a unified governance and development framework (Raymond Mhlaba Local Municipality, 2018)

According to the Eastern Cape Information South Africa, Alice exudes a distinctive charm, steeped in history and revered for its cultural significance (Figure 3.4).

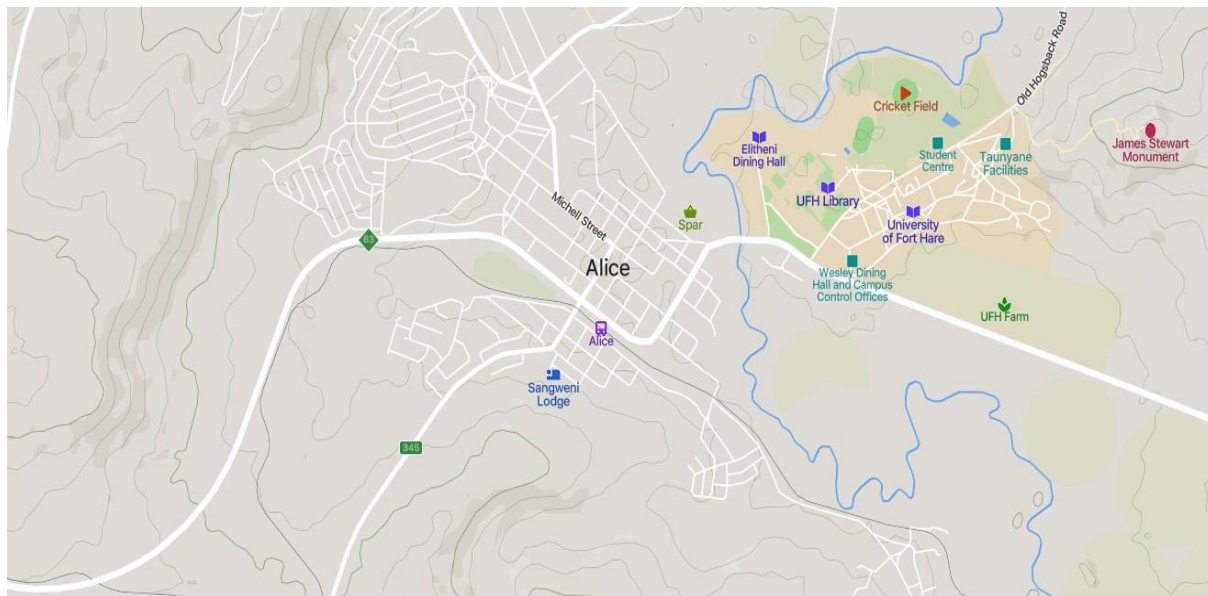


Figure 3.4 Map showing the Alice Eastern Cape Map

Source: Alice Map - Town – Raymond Mhlaba Local Municipality, Eastern Cape, South Africa (mapcarta.com)

The town's origins trace back to the establishment of military barracks known as Fort Hare, hence the name of the modern-day Fort Hare University. The Presbyterian Lovedale Mission station, established in 1821, laid the foundation for today's esteemed educational institution, the Lovedale TVET College. In Alice's history, agriculture has also played a pivotal role in the economic landscape, with cattle farming as a cornerstone for meat and dairy production. Additionally, the fertile soil supports thriving maize cultivation, addressing the region's dietary needs and economic purposes. Alice also the University of Fort Hare, is a renowned institution contributing to various academic disciplines, particularly agriculture.

The selection of Alice as the study area was informed by a comprehensive review of existing literature and the researcher's expertise. Crucial considerations, such as data availability and the

size and livelihoods of the target population (including farmers engaged in crop and vegetable production, as well as animal husbandry), weighed heavily in the decision-making process.

3.2.3 Criteria for Selecting the Study Area

Across the Eastern Cape provinces, the Department of Rural Development and Agrarian Reform (DRDAR 2020) has spearheaded numerous farmer support initiatives to enhance small-scale agricultural operations' productivity and sustainability (De Satgé & Phuhlisanani 2020). The targeted objectives of these programmes align closely with the overarching goals of this study to explore what public support means from the farmers' perspective. Raymond Mhlaba Municipality, with a focus on Alice, was chosen as the focal point for this study, aimed at evaluating the effectiveness of various support programmes—such as the Siyazondla Homestead Programme, CASP, Cropping, and the Livestock Improvement Scheme in bolstering small-scale farming endeavours within the Amathole District of the Eastern Cape Province, South Africa. The selection of the Raymond Mhlaba Municipality, particularly the township of Alice, as the study area was informed by a meticulous review of relevant literature and the researcher's first-hand experience. Crucial considerations, including data availability, the size and composition of the target population (comprising farmers engaged in crop and vegetable cultivation and animal husbandry), and the socioeconomic dynamics of farmers' livelihoods, played pivotal roles in delineating the study area boundaries.

3.3 Research design and approach

Dehalwar and Sharma (2024) assert that qualitative techniques offer a holistic understanding that quantitative methods often cannot capture, emphasising the advantage of this approach in research endeavours. In this study, this methodology prioritised understanding and interpreting the depth of meaning and intentions inherent in human interactions. In-depth interviews served as the primary method for data collection, allowing for rich and nuanced insights into participants' experiences. The focus was on comprehensively understanding farmers' perceptions and the benefits they derive from these programmes. Using a qualitative approach with a semi-structured interview process is aptly suited to explore and evaluate the impact of agricultural government programmes on the livelihoods of small-scale farmers.

The purpose of the investigation was to understand the contribution that is made by government programmes for small-scale farmers' livelihoods in rural Amathole District. Three questions

guided the analysis: What is the role played by extension officers in government supporting programmes? What challenges are faced by smallholder farmers in accessing government supporting programmes in rural areas? And, how aware of government support are small scale farmers?

A framework for exploring relationships between the farmers' experiences and available programmes, in this investigation, is drawn from Chapter 2 and summative Figure 2.4. In Figure 3.5 below, a flow of purposeful enquiry was established and identified.

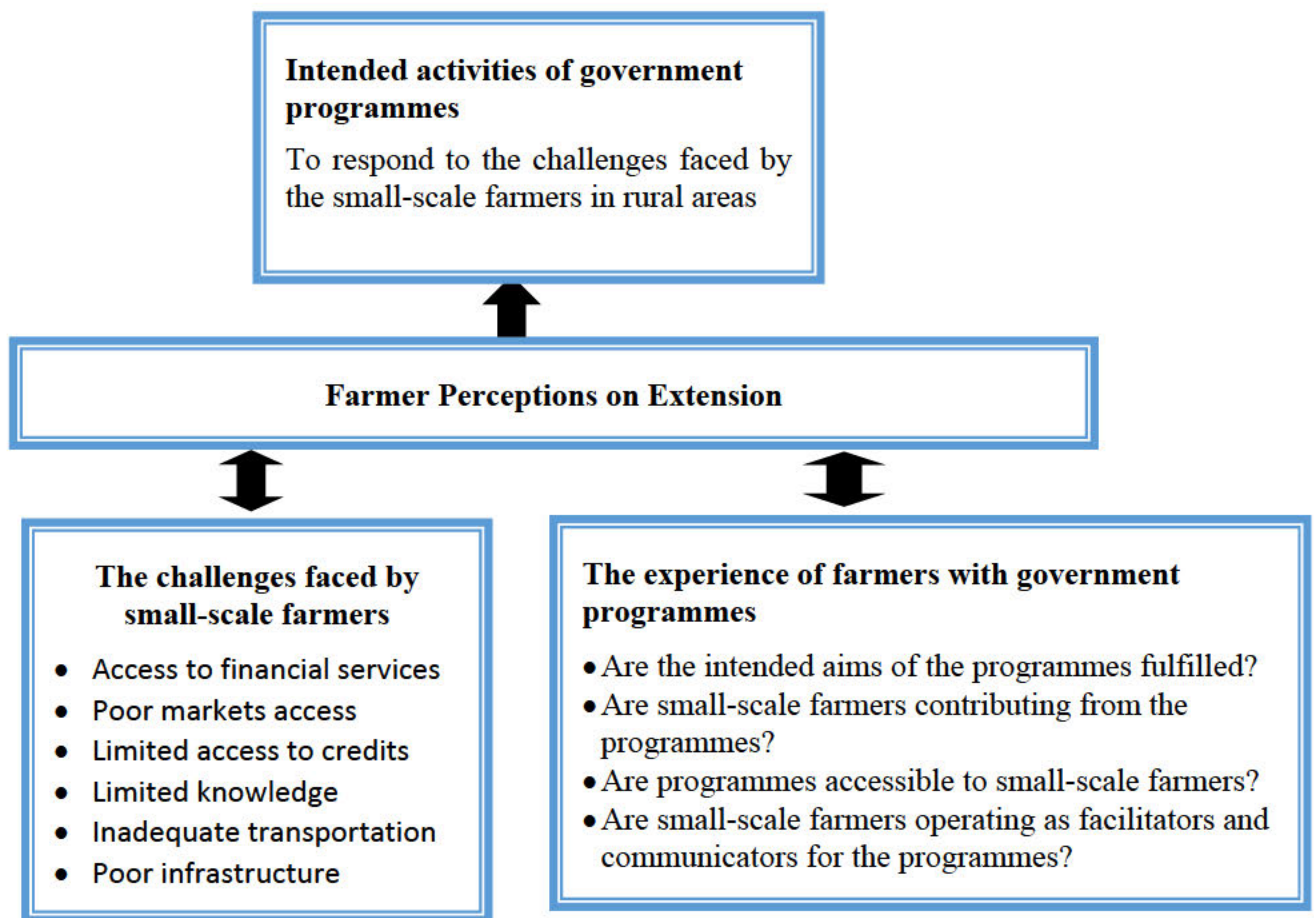


Figure 3.5 Thematic objectives for exploring farmer perception

To collect information for this analysis, three themes helped structure the questions to account for the research objectives to explore the Roles of Extension, the Challenges of Farmers, and the Awareness of Government Programmes. Open-ended questions were employed to encourage participants to share their thoughts, experiences, and beliefs freely. As emphasised by Popping (2015), open-ended questions provide respondents with the opportunity to express themselves

fully, resulting in rich and nuanced data. To transform the above themes into specific questions, a range of characteristics were drawn from the literature review and used to guide the development of the interview guide, ensuring that information would become available to address the questions being asked about the farmers' experiences (Table 3.1). This table summarises the key themes from this study, linking farmers' challenges and experiences with government programmes to relevant theoretical frameworks. It shows how empirical evidence can be linked back to policy and programme design, highlighting opportunities for more responsive and inclusive agricultural interventions.

Table 3.1 Conceptual Framework for the Logic of the Analysis Objectives

Key Themes	Sub-Themes / Analytical Focus	Theoretical Shaping / Conceptual Link	Policy and Programme Implications
1. Challenges faced by small-scale farmers in rural areas	• Access to financial services • Poor market access • Limited access to credit • Limited knowledge and skills • Inadequate transportation • Poor infrastructure	Influenced by the ideas of the Agricultural Innovation Systems (AIS) and the Sustainable Livelihoods Framework (SLF), which see livelihoods as reliant on access to resources, expertise, and supportive organisations.	Identifies key restrictions that government programmes must solve through increased access to money, market connections, and extension services.
2. Farmer perceptions on agricultural extension	Farmers' attitudes, satisfaction, and trust towards extension officers, communication methods, and relevance of advice.	Based on the Participatory Development Theory, which stresses the need to include farmers' perspectives in the planning and provision of extension services.	Gives the government input on ways to make extension more participatory, responsive, and farmer-centred.
3. Experiences of farmers with government programmes	• Are the intended aims of the programmes fulfilled? • Are small-scale farmers benefiting from the programmes? • Are programmes accessible to all small-scale farmers? • Are farmers acting as facilitators and communicators for the programmes?	Informed by Theory of Change (ToC) and Policy Implementation Frameworks, the focus is on how initiatives translate into actual change on the ground.	Allows for the assessment of the efficacy and inclusiveness of ongoing government programmes; directs redesign for increased farmer impact and involvement.
4. Intended activities of government programmes to respond to challenges	Government extension support, financial assistance schemes, training, infrastructure development, and input subsidies.	Linked to Public Policy Response Models, demonstrating how state actions seek to bridge the gaps indicated in farmer issues.	Linked to Public Policy Response Models, demonstrating how state actions seek to bridge the gaps indicated in farmer issues.

Table 3.1 The required data for each objective and their analytic tools

No.	Specific Objectives	Research Questions	Data Required	Analytical Tool
1.	To understand the role played by extension officers in government support programmes.	What is the role played by extension officers in government support programmes?	Farming experience, awareness of the programme, farming practices, Literacy, Level of education, Dissemination of knowledge, Training and visit, information days, stakeholders	Thematic Analysis of In-depth Interviews (demonstrated in Appendix 6, reported on in Chapter 4)
2.	To identify challenges smallholder farmers face in accessing government support programmes in rural areas.	What are the challenges smallholder farmers face in accessing government support programmes in rural areas?	Identification of all agricultural programmes in the Amathole district, Specific barriers faced in the application process, infrastructural challenges, significant financial, administrative, and bureaucratic hurdles	Thematic Analysis of In-depth Interviews (demonstrated in Appendix 6, reported on in Chapter 4)
3	To determine the awareness of government support programmes among small-scale farmers.	How does the government support small-scale farmers?	Before and after programme introduction, i.e., Income, Poverty status, Farming systems, Standard of living, benefits received, getting selected for the program, needs assessed.	Thematic Analysis of In-depth Interviews (demonstrated in Appendix 6, reported on in Chapter 4)

3.4 Sample and Sampling Procedure

In determining the sample size for our study, various approaches are available, ranging from conducting a census for smaller populations to mirroring sample sizes of similar studies, utilising published tables, and applying formulas to calculate sample size (Gill et al., 2010). However, in qualitative research, where the focus often lies in delving deeply into individual experiences, researchers typically opt for smaller sample sizes (Hennink & Kaiser, 2022).

A purposeful sample: To select participants, a purposive and convenient sampling approach was employed. Purposive sampling is a deliberate sampling method where participants are selected based on their ability to provide in-depth descriptions of their experiences and their willingness to do so. Convenience is a pragmatic approach to accessibility and relevance. These strategies ensure that participants can contribute valuable insights that challenge and deepen the researcher's understanding of the phenomenon under investigation.

Criteria for Inclusion: The focus was on farmers who were beneficiaries of government programmes. In the Raymond Mhlaba Municipality, four government-supported agricultural programmes are targeting small-scale farmers:

Siyazondla Homestead Programme	This initiative promotes food security and nutritious diets through the establishment of food gardens. The program supplies essential inputs such as fertiliser, seeds, garden tools, and feed.
Comprehensive Agricultural Support Programme (CASP)	This program provides infrastructural support, including irrigation equipment, dip tanks, and storage sheds.
Cropping Programme	This program offers production inputs and mechanisation services to enhance crop yields.
Livestock Improvement Scheme	This scheme supplies breeding stock, including bulls, heifers, rams, and ewes, to improve livestock quality.

DoA support: The researcher obtained a letter from the department granting authorisation to undertake the research (Appendix 2) with farmers linked to government programmes. The final respondent group consisted of 16 beneficiaries, all of whom were willing participants in the research. Each beneficiary was approached with full transparency regarding the study's objectives and the confidentiality measures in place (Appendix 3 and 4). These respondents were eventually drawn from two lists of farmers.

The DoA director in the Department of Rural Development and Agrarian Reform (Appendix 2) initially provided a list of 47 Farmers who were reported to have benefited from one or another of the public agricultural programmes during the last five years. This included their locations (villages), farm coordinates (latitude and longitude), contact numbers, and email addresses. However, when contacted, farmers had their phones on voicemail and did not respond, and

others just did not pick up. The researcher was only able to contact seven farmers on that list, of whom only five were interested in participating. Some of the ‘unreached’ farmers were located in the remote rural areas of Alice in the Raymond Mhlaba municipality, and the researcher needed to find villages that were more accessible and less difficult to locate.

The DoA director then provided the phone number of a DoA extension officer working in the Ntselamanzi and Gqumashe areas (roughly ward 2). This new contact provided a handwritten list of 11 farmers and their contact numbers that he knew had been linked to a specific project over the last three years. All 11 of these farmers were willing to participate in the study, bringing the number in the respondent group to 16. The small sample was still coherent with the aim of getting a deeper comprehension of the contributions of these programmes, and rich, nuanced insights into participants' viewpoints and experiences. In addition, the group still allowed for variability in characteristics such as farm size, crops grown, and farming practices, which can provide a more comprehensive understanding of the farming livelihoods.

3.5 Entering the Field

Data collection commenced with an initial visit to the Raymond Mhlaba Local Municipalities to inform local extension officers about the study objectives. The plan for interviews was determined by the number of farmers reached on that given day. Sometimes two interviews would take place, sometimes three or more. The data gathering process took three months due to the difficulty in contacting the farmers, who live in distant areas/villages. The researcher experienced severe challenges in getting to the villages as they are far apart from each other and have poor roads, making travel difficult. A cab service was hired to bring the researcher to the farmers' communities, and each interview probably took around 30 minutes or more. The cab fare would vary depending on the distance between the villages. The villages the researcher travelled to were Dyamala location (Ward 2), Melani village (Ward 2), Guburha village (Ward 2), Gqumashe lower location (Ward 2), Ntselamanzi village (Ward 2), Mndeni village, Golf course (Ward 2), Nangu village (Ward 15), Ezindlovini village (Ward 15), Ncerha village (Ward 12) and Jojozi location (Ward 15).

A face-to-face interview was used to engage with respondents (Appendix 1). These interviews were semi-structured, providing a guide for systematic questioning, but also allowing for flexibility and probing for nuanced responses and personal voice. The researcher utilised a

phone voice recorder to record the interviews, which were subsequently manually transcribed and entered into Microsoft Word (Appendix 6).

3.6 Handling of Data

Data analysis stands as a crucial phase in research, serving as the transformative engine that refines, restructures, and reimagines collected data with the aim of drawing conclusive insights for a given situation or problem (Perez, 2020). It plays a pivotal role in organising findings from diverse data sources and acts as a sieve, sifting through the dataset to extract meaningful insights (Peck, Short and Olsen, 2020). The overarching goal is to prepare the data for subsequent coding and analysis by ensuring its uniformity and integrity. Here is an account of how information was handled in a systematic and sequential pattern for analysis.

- | | |
|---------|--|
| Round 1 | Interviews were recorded using the researcher's cell phone. |
| Round 2 | Recordings were transcribed through handwritten notes. |
| Round 3 | Handwritten notes were then typed into WORD |
| Round 4 | Transcripts were colour-coded for responses that referred to Roles of Extension, Challenges, and Awareness of Programmes. |
| Round 5 | This is the interpretation stage. Coded responses are grouped into categories which are then defined and interpreted through discussion. |
| Round 6 | Presentation of Patterns and Theoretical Discussion. In this phase, the interpretations are discussed as implications that arise from the difference between theory and reality. |

To include the entire set of transcripts as coded is too much content for a formal report, but a demonstration of how coding occurred against the transcribed interview notes for this investigation is provided in Appendix 6. The patterns emergent from coding (Round 5) are reported on in detail in Chapter 4, while Chapter 5 presents the patterns identified in Round 6.

3.7 Ethical Considerations in Research

The ethical considerations outlined are crucial for ensuring the integrity and validity of the study. By upholding research ethics, the study demonstrates a commitment to adhering to university policies and safeguarding the rights of participants. Participants are empowered to make informed decisions about their involvement, including the option to withhold consent or withdraw from the study at any stage (Appendices 2-4). Additionally, measures such as

maintaining confidentiality, protecting personal information, and preserving anonymity contribute to minimising potential risks and ensuring participant welfare. The application for ethical clearance from the Ethical Committee of the HSSRC at the University of KwaZulu-Natal further underscores the study's commitment to ethical conduct (Appendix 5). This rigorous review process helps to ensure that the research protocol aligns with ethical guidelines and standards, providing additional assurance of participant protection and research integrity. Ultimately, by integrating ethical considerations into the research process, the study upholds the principles of respect, autonomy, beneficence, and justice, thereby enhancing the credibility and trustworthiness of its findings.

3.8 Chapter Summary

This chapter explains the method used in sampling the small-scale farmers' population benefiting from the Agricultural Government programmes implemented in the Raymond Mhlaba Municipality with the help of extension officers. Qualitative techniques were used to better understand the depth of the information that the farmers were sharing. The sample used for this research consisted of 16 farmers; the sample size of 16 was sufficient to produce relevant findings while being manageable in terms of data collection and processing. Furthermore, 16 farmers were interviewed; the sample size was determined by time constraints, infrastructural constraints, and accessibility of the small-scale farmers and their location. Throughout the investigation, the appropriate ethical concerns for dealing with individuals were observed. Consent forms were distributed and signed prior to the start of the interviews. Respondents were fully informed about the research, and they were assured that all information would be kept strictly confidential. Respondents were also permitted to conceal their identities. This chapter serves as the foundation for Chapter 4, since it leads and governs all data coding, analysis, and presentation.

CHAPTER 4: CODING OF DATA AND RESULTS

The purpose of this study was to evaluate the contributions of Agricultural Government supporting programmes for small-scale farmers' livelihoods in rural areas in the Eastern Cape, South Africa. The analysis of information collected in the field takes the form of content analysis, shaped by two thematic objectives: to identify the role played by extension officers in public programme delivery and the challenges faced by farmers (Figure 4.1). Kogen (2024) inferred that, thematic analysis is a qualitative research approach that identifies, analyses, and interprets patterns of common meaning (themes) within a given data collection, which may include interviews, focus group discussions, surveys, or other textual data. This analysis process was a valuable tool in this investigation for interpreting the perspectives, opinions, knowledge, experiences, and values of the people involved.

Rounds 1-4, already defined in Chapter 3, account for a detailed transformation of information for interpretation. Guided by defined themes, the researcher extracted responses from the open-ended questionnaire. These 'voices of the farmers' were given codes until relevant responses were accounted for. An account and demonstration of this initial data handling process are presented in Appendix 6.

In this Chapter, Round 5 is presented. Coding involved assigning a descriptive label to a specific feature in the extracts, enabling the researcher to identify similar material across the data (Table 4.1). These responses were then able to be organised into conceptualised and meaningful interpretations of roles and challenges. In summary, a systematic and focused perusal of digitised responses identified extracts (Step 1), named/coded (Step 2), which are then collated as conceptual categories (Step 3). The categories were then grouped, defined and interpreted through discussion. The patterns found are presented sequentially in Tables 4.2 to 4.5.

4.1 The role played by extension officers in agricultural government programmes

The various roles that farmers attributed to the extension officers were identified as follows: Information dissemination of agricultural programmes, provision of technical and administrative

support, planning training sessions, workshops, and community meetings, bridging the gap between farmers and government stakeholders (Table 4.3).

Nevertheless, farmers also indicated some of the challenges that are an indication of gaps in these roles, including inconsistent visits, lack of follow-ups, and unfairness in service delivery. In the South African context, extension officers are theoretically entrusted with providing and disseminating information to small-scale farmers. However, public and private extension officers have different roles. While the role of private extension officers may be driven by commercial interests (Mbatha, 2024), public extension officers are part of government programmes that focus specifically on development agendas aimed at improving the livelihoods of small-scale farmers (Alex et al., 2004). They are responsible for disseminating technical information and knowledge to farmers, making them aware of government programmes to aid them and better their lives. They are entrusted and appointed as researchers and as a liaison between the government and farmers to effect change in their lives (Ngaka and Zwane, 2018).

4.1.1 Information Dissemination

Extension officers play an important role in educating farmers about government programmes. One farmer reported, *“Extension officers inform us about government programmes and provide seedlings, but there is no follow-up after initial assistance (Interview 1, 19 August 2024).* However, information dissemination about government programmes is not balanced. One farmer reported that programmes like PESI are being communicated effectively, while others, such as Siyazondla and CASP, are not adequately promoted. Another farmer stated, *“They conduct training and meetings but fail to inform farmers about important programmes like Siyazondla and CASP (interview 4, 22 August 2024)”*. More extracts related to farmers’ responses about the role of extension officers are presented in Appendix 6. Table 4.1 shows the author’s interpretation and classification of whether information dissemination by extension officers is effective or adequate based on extracts from farmers.

Table 4.1 Extracts identified from the interviews in step 1 related to a question asked about the role of extension officers **Source: Field survey 2024**

Interview number	Extract (Step 1)
1	“Extension officers inform us about government programmes and provide seedlings, but there is no follow-up after initial assistance.”
2	“They assist with the application process, but the programmes rarely deliver on their promises.”
3	“Extension officers prioritise certain groups, like sheep farmers, while others are neglected. They should be fairer in their services.”
4	“They conduct training and meetings but fail to inform farmers about important programmes like Siyazondla and CASP.”
5	“Extension officers should consult farmers more frequently. Currently, they are hard to reach and unresponsive.”
6	“Farmers rely on WhatsApp for information because extension officers rarely visit or provide updates.”
7	“When extension officers visit, they organise information days and give advice, but their outreach is inconsistent.”
8	“Extension officers collaborate with stakeholders but fail to make farmers aware of opportunities on time.”
9	“The officers are responsible for raising awareness, but they often fail to ensure farmers understand the programmes.”
10	“Extension officers take pictures of farms and ask about needs, but there’s no follow-up to address those needs.”
11	“Extension officers are supposed to educate and guide farmers, but their presence is minimal, leaving farmers to work independently.”
12	“The officers should monitor farms regularly, but in our area, they are inaccessible.”
13	“Extension officers are expected to organise workshops and improve farmers’ skills, but they are often unprepared or absent.”
14	“Extension officers have helped with programmes like PESI by providing inputs and organising community meetings.”
15	“They collaborate with local government and other organisations, but favouritism in resource distribution undermines their efforts.”
16	“Their role should include offering technical advice and follow-ups, but they focus more on administrative tasks and ignore farmers' needs.”

4.1.2 Administrative and technical support

Extension officers also help with administrative support by providing application assistance. However, there are challenges related to the timely delivery of inputs or benefits. Technical support is offered by extension officers by distributing inputs and offering technical advice on input application. However, there is irregularity in the provision of these services. Moreover, training and workshops are often insufficient or poorly organised. One farmer stated, *“Their role should include offering technical advice and follow-ups, but they focus more on administrative tasks and ignore farmers' needs”* (interview 16, 16 October 2024)

Table 4.2 Assignment of codes (Summarising each extract with specific codes) **Source: Field survey 2024**

Extract	Code
Extension officers inform us about government programmes and provide seedlings.	Program Awareness
They assist with the application process, but programmes rarely deliver.	Administrative Support
Extension officers prioritise certain groups, neglecting others.	Resource Allocation Bias
They conduct training and meetings but fail to inform farmers about key programmes.	Training Organization
Farmers rely on WhatsApp because extension officers rarely visit.	Limited Outreach
Extension officers collaborate with stakeholders but fail to raise timely awareness.	Stakeholder Collaboration
Officers take pictures of farms but do not follow up on farmers' needs.	Failure to pursue/ no follow-through
They are supposed to educate and guide farmers, but are often absent.	Farmer Education
Extension officers help with programmes like PESI by providing inputs.	Input Distribution
Favouritism undermines their efforts.	Equity Challenges

Table 4.3 Grouping of Codes into Categories as Perceived Roles for Extension (Steps 2 and 3)

Category (Step 3)	Codes (Step 2)
Information Dissemination	Program Awareness, Training Organisation
Administrative Support	Application Assistance, Stakeholder Collaboration
Technical Support	Input Distribution, Farmer Education
Monitoring and Engagement	Lack of Follow-Up, Limited Outreach

Source: Field survey 2024

Information dissemination is one of the fundamental roles assigned to extension officers. Table 4.4 illustrates the effectiveness and suitability of extension officers' information distribution roles based on each farmer's experiences. Each respondent indicated whether information dissemination about programmes is successful or adequate in their location.

Table 4.4 Effectiveness and adequacy of information dissemination role by extension officers (Source: Field survey 2024)

Effective	Inadequate
Respondent 1: The respondent alludes that information dissemination is effective because extension officers do come to their villages to conduct training, information days and meetings	Respondent 2: The respondent stated that information dissemination is poor and inadequate amongst his area and has no knowledge of the programmes
Respondent 4: The respondent declares information dissemination in their poultry production is efficient, and that farmers even hold award ceremonies/competitions.	Respondent 3: The responded exposed the inadequacy and lack of support in his area.
Respondent 7: The responded stated that information dissemination is in fact effective and efficient, especially with regard to assisting with getting them to relevant doors	Respondent 5: The responded expressed the lack of support from extension officers regarding information dissemination, he alluded that information normally misses him. So, it is inadequate.
Respondent 11: The respondent states that information dissemination is effective as extension officers come to their respective places to assist and deliver information.	Respondent 6: The respondent declares that the information dissemination is inadequate because he has no knowledge of programmes.
Respondent 12: The respondent declares the effectiveness of information dissemination in their area, as extension officers do come by to bring them awareness	Respondent 8: The responded inferred the inadequacy of information dissemination and has never been made cognizant of programmes.
Respondent 14: The respondent declares the effectiveness of information dissemination among them. She is aware of some of the programmes.	Respondent 9: The responded declare that they have never received any communication or information being disseminated about programmes.
	Respondent 10: The responded stated how extension officers make empty promises regarding information dissemination, has never received a decent communication.
	Respondent 13: The respondent declares that information dissemination is little and inadequate as they do not know the application process as well about programmes
	Respondent 15: The respondent stated the poorness of information dissemination in the area, distinctively so. No implementation has been performed.
	Respondent 16: The responded declares that information dissemination among them is inadequate and poor. The attempts to reach out to extension officers have been made numerously but empty promises have been made

One of the most visible functions of an extension officer is to provide technical assistance. Table 4.5 below illustrates the technical services given by extension officers and how they are navigated, as well as how much the process might be beneficial or bad based on the farmers' experiences and perceptions.

Table 4.5 Positive and negative characteristics of technical support of extension services

Positive characteristics	Negative characteristics
Assisting with providing application support	There are challenges related to the timely delivery of inputs or benefits
They also facilitate collaboration with other stakeholders	Irregularity in the provision of these service appreciate the provision of services
Collaboration with stakeholders is evident.	Training and workshops are often insufficient.
Technical support is offered by extension officers	Poorly organised information days with stakeholders
Distributing inputs and offering technical advice on input application.	Lack of practical benefits to farmers

Source: Field survey 2024

4.1.3 Monitoring and Engagement

Farmers acknowledge that extension officers are supposed to provide regular visits and follow-ups. However, the outreach is limited and lacks follow-ups, leaving farmers feeling unsupported. One farmer reported, “*Extension officers should consult farmers more frequently. Currently, they are hard to reach and unresponsive*” (Interview 5, 22 August 2024). Thus, they often depend on other sources, such “*rely on WhatsApp for information because extension officers rarely visit or provide updates*” (interview 16, 16 October), and highlighting gaps in direct engagement.

4.1.4 Training sessions, workshops and stakeholder engagements

Extension officers also facilitate collaboration with other stakeholders. Collaboration with stakeholders is evident in the responses of farmers. For example, one farmer noted “*They*

collaborate with local government and other organizations, but favouritism in resource distribution undermines their efforts” (Interview 15, 16 October 2024) while another stated “Extension officers have helped with programmes like PESI by providing inputs and organising community meetings”(interview 14, 25 September).

4.2 The challenges faced by small-scale farmers in accessing agricultural government-supporting programmes in rural areas

Smallholder farmers face several challenges when accessing government support programmes. Government support programmes are designed to assist farmers to enhance their productivity and adaptability. However, various obstacles get into the way of farmers when they attempt to benefit from these initiatives. This section presents the results of the challenges that farmers encounter. The specific challenges were also identified through steps 1 to 4 of the thematic analysis process. The following subsections detail the key challenges faced by farmers.

4.2.1 Infrastructure Challenges

Farmers face several infrastructural constraints, including poor roads, logistics and irrigation equipment. Poor road conditions prevent farmers from accessing essential services that are provided by extension offices as well as participating in available agricultural programmes. Moreover, farmers lack essential crop and livestock infrastructure, which reduces the risk associated with agricultural production. Farmers’ lack of irrigation equipment and fencing on their farms increases the chance of crop failure and livestock losses through theft. For instance, one farmer mentioned, "Farmers cannot get to extension officers due to poor roads and lack of transportation" (Interview 1, 19 August). Another farmer highlighted, "Farmers have to rely on bicycles to reach extension offices" (Interview 6, 28 August).

4.2.2 Awareness and Communication

There are also farmers’ awareness and communication challenges regarding government agricultural programmes. Farmers often have limited awareness of the available programmes. This is caused by limited outreach by extension officers. The level of literacy and ICT skills of farmers is also important for awareness and communication. Thus, the lack thereof further reduces their access to information. (One farmer expressed frustration, "Farmers fill forms but do

not receive promised inputs" (Interview 2, 19 August). Another farmer noted, "Application processes are unclear, and assistance from extension officers is inconsistent" (Interview 5, 22 August).

4.2.3 Administrative Barriers

The administration of government agricultural programmes is also a challenge. Farmers indicated the complexity and transparency of the application processes. Moreover, some promises are unfulfilled, with inconsistent support received from the extension officers. This reduces farmers' participation as most of them get discouraged. One farmer expressed frustration, "Farmers fill forms but do not receive promised inputs" (Interview 2, 19 August). Another farmer noted, "Application processes are unclear, and assistance from extension officers is inconsistent" (Interview 5, 22 August).

4.2.4 Equity and Fairness

The unfairness in the distribution of resources is a challenge for farmers. Farmers perceive the distribution as biased. Some farmers benefit more than others due to favouritism. Moreover, certain types of farmers and locations have received preferential treatment. One farmer mentioned, "The chairperson favours certain individuals, creating inequality" (Interview 2). Another farmer observed, "There is favouritism in resource distribution" (Interview 15).

4.2.5 Support and Collaboration

There are challenges regarding extension support and collaboration. There is a failure by extension officers to foster collaboration and facilitation with stakeholders to improve program reach. Moreover, technical support is lacking. This leads to farmers relying on indigenous knowledge or other sources for guidance. One farmer observed, "There is no collaboration with stakeholders" (Interview 3, 19 August). Another farmer mentioned, "We rely on indigenous knowledge due to a lack of support from extension officers" (Interview 9, 12 September).

Table 4.6 Extracts from the interviews about the challenges of farmers in accessing extension officers (Source: Field survey 2024)

Interview	Extracts (Step 1)
1	“Farmers cannot get to extension officers due to poor roads and a lack of transportation. They are unaware of government programmes and face issues of illiteracy.”
2	“Farmers fill forms but do not receive promised inputs. The chairperson favours certain individuals, creating inequality.”
3	Extension officers prioritise sheep farmers. There is no collaboration with stakeholders. Farmers with smaller fields are overlooked.”
4	“Farmers are unaware of programmes like Siyazondla and CASP. Lack of lease agreements and transportation prevents access to resources.”
5	“Farmers face transportation barriers and the high cost of feed. Application processes are unclear, and assistance from extension officers is inconsistent.”
6	“Farmers have to rely on bicycles to reach extension offices. There is limited knowledge about government programmes, and application processes are unclear.”
7	“Farmers are not informed about government programmes on time. Extension officers rarely visit, and awareness is minimal. Transportation is a major barrier.”
8	“Illiteracy and lack of ICT skills hinder farmers' ability to apply for programmes. Poor infrastructure and lack of irrigation exacerbate challenges.”
9	“Farmers rely on indigenous knowledge due to a lack of support from extension officers. Programmes are not well-communicated, and access to inputs is inequitable.”
10	“Extension officers make empty promises. Farmers lack irrigation and face crop diseases. Access to information depends on personal initiative or radio programmes.”
11	“Farmers lack knowledge about agricultural programmes and face procedural difficulties. Extension officers are often unavailable and fail to support farmers effectively.”
12	“Farmers do not know where to go for assistance. They are unaware of extension officer offices and face barriers such as pests, dry land, and poor roads.”
13	“Farmers feel neglected by extension officers. Illiteracy, poor administration, and lack of awareness prevent them from accessing programmes. Poor irrigation and

Interview	Extracts (Step 1)
	pest outbreaks add to challenges.”
14	“Farmers face challenges with irrigation, pests, and poor communication from extension officers. Programmes like PESI have helped, but not all farmers benefit equally.”
15	“Farmers encounter favouritism in resource distribution. Many programmes are inaccessible due to unclear application processes and a lack of proper guidance.”
16	“Farmers rely on social media for program information, as extension officers are unresponsive. Poor roads and lack of transportation make attending meetings difficult.”

Table 4.7 Codes’ assignment (Summarising each extract with specific codes)

Extract	Code (Step 2)
Farmers cannot get to extension officers due to poor roads and a lack of transportation.	Transportation Barriers
They are unaware of government programmes and face issues of illiteracy.	Awareness Gaps, Farmer Illiteracy
Farmers fill forms but do not receive promised inputs.	Unfulfilled Promises
The chairperson favours certain individuals, creating inequality.	Favouritism
Extension officers prioritise sheep farmers.	Resource Allocation Bias
Farmers with smaller fields are overlooked.	Inequitable Access
Illiteracy and lack of ICT skills hinder farmers' ability to apply for programmes.	Administrative Barriers
Poor infrastructure and lack of irrigation exacerbate challenges.	Infrastructure Constraints
Farmers rely on indigenous knowledge due to a lack of extension officer support.	Lack of Support
Programmes are not well communicated, and access to inputs is inequitable.	Communication Gaps

Source: Field survey 2024

Table 4.8 Grouping of codes into categories

Category (Step 3)	Codes (Step 2)
Infrastructure Challenges	Transportation Barriers, Poor Roads, Lack of Irrigation
Awareness and Communication	Awareness Gaps, Communication Gaps
Administrative Barriers	Unfulfilled Promises, Administrative Barriers, Lack of Guidance
Equity and Fairness	Resource Allocation Bias, Inequitable Access, Favouritism
Support and Collaboration	Lack of Support, Limited Stakeholder Collaboration

Source: Field survey 2024

CHAPTER 5: INTERPRETATION AND DISCUSSION-

BRIDGING THE GAP BETWEEN THEORY AND PRACTICE IN AGRICULTURAL GOVERNMENT PROGRAMMES THROUGH EXTENSION SUPPORT SERVICES

This first section describes the respondent group, characterising them by gender, age, and education level. Direct quotes from these participants provide first-hand perceptions in relation to who they are in the farming context and how these come together as emergent themes from a group of respondents.

5.1 Socioeconomic characteristics of respondent farmers

Table 5.1 below shows the distribution of respondents with respect to age, gender, education levels, farming activities and land size. The study participants were predominantly middle-aged and elderly, with 69% of respondents aged 50 years or older. Thirty-one per cent (31%) of these farmers were under the age of 50 years. This has implications regarding how farmers access information and resources, as older farmers may rely more on traditional methods of information dissemination, such as radio and extension services, whereas younger farmers might be more inclined to use digital platforms and social media for accessing agricultural information (Mburu, 2013; Anunobi, 2018). While women constituted 56% of the respondents, 44% of the respondents were male farmers. This highlights the significant role that women play in small-scale farming. Women are the mainstay of small-scale agriculture, the farm labour force, and day-to-day family subsistence (FAO, 2011). Moreover, they also contribute towards sustainable agriculture practices that are important for long-term agricultural productivity (Singh et al., 2023).

Half of the respondents (50%) had only primary education (below grade 8). Farmers with secondary and tertiary education were equal at 25%. This has implications for how farmers access information and resources. Educated farmers generally understand and are more inclined to implement modern agricultural practices, manage farm finances, and utilise technology effectively (Ullah, Saqib & Kächele, 2022). Moreover, they tend to have higher productivity and better economic outcomes than less educated farmers (Mburu, 2013; Anunobi, 2018). Moreover, educated farmers more easily adapt to changing environments to overcome issues such as climate change and market uncertainties (Paltasingh & Goyari, 2018).

Table 5.1 Socioeconomic characteristics of respondent farmers

Socioeconomic Factor	Subcategory	Number of Farmers (16)	Percentage
Age Distribution	<50 years	5	31%
	≥50 years	11	69%
Gender Distribution	Female	9	56%
	Male	7	44%
Education Levels	Primary (below grade 8)	8	50%
	Secondary (Grade 8-12)	4	25%
	Tertiary (Degree/Diploma)	4	25%
Farming Activities	Mixed (Crops + Livestock)	7	44%
	Crop/Vegetable Only	6	38%
	Livestock Only	3	19%
Land Size	<2 ha	9	56%
	2-10 ha	5	31%
	>10 ha	2	13%

Source: Field survey 2024

Mixed farming (crops and livestock) was the most common practice (44% of respondents), followed by crop/vegetable production (38%) and livestock-only farming (19%). While most respondents (56%) cultivated small plots of less than 2 hectares, 31% of the respondents cultivated medium plots (2 – 10) hectares (ha). Only 13% of the respondents cultivated more than 10 ha. There is a tendency to overlook farmers who cultivate small plots by extension officers. The cross-tabulation further revealed an association between land size and farming systems. Mixed farming (50%) and crop/vegetable production (43%) dominated small plots (i.e. <2 ha). Livestock-only farming on less than 2 ha was rare (7%). Space constraints may be the cause. Moreover, while there was a balanced distribution (38%) of crop/vegetable production

and mixed farming in medium-sized farms (2-10 ha), livestock-only was 23%. However, Large plots (>10 ha) had equal distribution across all three systems, suggesting larger landholders diversify or specialise based on resources.

Table 5.2 Land size vs farming systems of respondent farmers

Land Size	Mixed Farming (%)	Crop/Vegetable (%)	Livestock-Only (%)	Total (%)
<2 ha	50% (7)	43% (6)	7% (1)	56% (14)
2–10 ha	38% (5)	38% (5)	23% (3)	31% (13)
>10 ha	33% (2)	33% (2)	33% (2)	13% (6)
Total	44% (14)	38% (13)	19% (6)	100%

Source: Field survey 2024

5.2 Information Dissemination: Theory vs. Reality

The following section discusses the gaps in the emerging themes between farmers' experiences and what should ideally occur according to established theories. These gaps include the differences between theory vs. reality in the following: awareness of government programmes, effectiveness of activities leading to adoption, technology, and best practice. In addition, the differences between theory and reality are looked at in terms of administrative and technical support, monitoring and engagement, equity and fairness.

5.2.1. Awareness of government programmes

Extension officers are important in information dissemination. There is a need to disseminate information about government programmes, new agricultural technologies, and best practices. However, farmers lack awareness of key government programmes such as Siyazondla and CASP. Farmers reported irregular visits and poor follow-up support after initial visits.

This inconsistency in outreach leads to information gaps. Farmers rely on informal networks like WhatsApp or peer groups for updates, which can allow the sharing of original communications

and discussing them. This can be empowering as it demonstrates innovation and agency by taking the command of spreading information themselves. This way of disseminating information can also foster collaboration and enhance the ability to access timely and relevant updates. Although peer groups can be useful, extension officers should be the primary source of reliable and timely information. This is a clear deviation from the theoretical expectation and can lead to unsatisfactory extension work.

5.2.2. Effectiveness of activities leading to adoption, technology, and best practice

Extension officers are important in information dissemination. Worley, Peake, & Fuhrman (2025) has emphasized the role extension officers play as change agents who facilitate the adoption of new practices by providing timely and relevant information to farmers. Effective communication and regular interaction between extension officers and farmers are crucial for the successful adoption of agricultural innovations. Farmers reported irregular visits and poor follow-up support after initial visits. This inconsistency in outreach leads to information gaps.

Although peer groups can be useful, the primary source of reliable and timely information should be extension officers (Worley, Peake, & Fuhrman, 2025). This is a clear deviation from the theoretical expectation and can lead to unsatisfactory extension work.

5.3 Administrative and Technical Support: Theory vs. Reality

Farmers had mixed experiences regarding administrative and technical support. Although some expressed some appreciation for the extension support they received when completing applications, farmers were frustrated over unfulfilled promises regarding technical support and delays in receiving inputs.

The Agricultural Knowledge and Information Systems (AKIS) framework emphasises the role of extension officers in supporting farmers with administrative and technical support. Completing applications for government programmes can be demanding for smallholder farmers, particularly those with little or no education. Moreover, farmers need consistent technical advice on crop and livestock management and facilitation of access to inputs such as seeds and fertilisers. This has implications for the effectiveness of technical advice and inputs, as agricultural production is affected by seasons and ensuring timely and consistent advice and delivery of inputs is

important. According to Waldron, Vsanthakumar, & Arulraj (1997), the failure to practically implement the AKIS framework is an indication of poor or non-existent collaboration between farmers and extension officers. The findings are also consistent with Birner et al., (2023), who noted the need to strengthen collaboration among extension officers, farmers, and other stakeholders for holistic and effective delivery of extension services.

5.4 Monitoring and Engagement

The results reveal a feeling of neglect whereby farmers are not visited regularly, with little follow-up on the visits made. Moreover, there are also instances where farmers work independently, with minimal guidance or support. Although the Farmer Field School (FFS) approach emphasises the need for regular, constant monitoring and engagement between extension officers and farmers, this seems not to be the case for these farmers. The lack of engagement contradicts the FFS approach, which stresses the importance of continuous interaction and support (Suvedi & Vander Stoep, 2016). Moreover, participatory learning has been replaced by farmers working independently. This may result in a lack of trust in extension work as farmers find alternative means of support. Pretty (2020) noted how crucial regular follow-ups and monitoring are in ensuring that farmers are implementing the recommended practices. Loki et al., (2019) also note the need for regular monitoring and engagement to build trust and improve the effectiveness of extension services.

5.5 Equity and Fairness: Theory vs. Reality

The findings point to a concerning trend of favouritism and unequal distribution of support, where farmers with smaller land sizes and those in more remote areas tend to be sidelined. This was not only evident in the farmers' voices, many of whom expressed feeling left out or overlooked, but is also reflected in the data. As shown in Table 5.2, farmers with smaller plots (less than 2 hectares) were mostly involved in crop and mixed farming. They reported receiving less support, especially when compared to livestock farmers with larger plots. This pattern is echoed in the qualitative insights captured in Table 4.4.1, where several respondents described being bypassed for assistance, despite having similar or greater needs. These disparities suggest that resource allocation may be influenced more by visibility or location than by actual need, raising important questions about fairness in service delivery. However, this is against the

sustainable livelihoods framework's principles, which emphasise equal access to resources and support services (Ngaka & Zwane, 201; Sennuga, Ope-Oluwa, & Whiteley, 2023). This deepens farmers' sense of exclusion and gradually erodes their trust in extension services, making them less likely to engage with future initiatives. According to Chambers and Conway (2022), equity is important for achieving sustainable agricultural development.

The findings show emerging patterns that indicate some of the challenges that smallholder farmers face regarding accessing agricultural government-supporting programmes, as well as the gaps in the delivery of extension services. Table 4.4 shows a summary of these patterns along with supporting key findings and theoretical links, as well as implications. The patterns identified in this study emerged through systematic coding and analysis of farmer interviews, supported by theoretical frameworks. While the implications drawn from these patterns provide meaningful insight into possible outcomes, they are presented cautiously. Rather than stating definitive impacts, each implication reflects a reasoned interpretation of recurring participant experiences.

These are framed to highlight areas that may require further inquiry or targeted intervention, with the understanding that complex systemic relationships may require additional testing to confirm causality. The patterns highlight the importance of the need for more participatory, consistent, and equitable approaches to extension services. Moreover, they also demonstrate a need for targeted interventions to address barriers.

Table 5.3 Emerging Patterns in Extension Service Delivery

Theoretical Link	Theoretical Premise	Key Findings	Pattern	Implications
Agricultural Knowledge and Information Systems (AKIS) framework (Birner et al., 2023)	Connects farmers, researchers, agricultural educationists, and extensionists, encouraging them to promote learning and generate and use agriculture-related technology and knowledge	Complex application processes, unfulfilled promises, lack of clarity on eligibility	Administrative and Procedural Barriers	Administrative hurdles appear to discourage some farmers from fully engaging with available programmes, especially those with lower literacy levels.
Sustainable Livelihoods Framework (Chambers & Conway, 2022)	Might thus be viewed as a manner of thinking about the aims, scope, and priorities of development in order to accelerate progress.	Poor roads, lack of transportation; limited access to irrigation and fencing	Infrastructure and Accessibility Challenges	Poor infrastructure may be creating logistical difficulties for both farmers and extension officers, limiting the reach and quality of services.
Agricultural Knowledge and Information Systems (AKIS) framework (Birner et al., 2023)	Emphasis on the flow of knowledge within stakeholder contexts, networks, or platforms. This can result in increased access to knowledge, learning through interaction.	Farmers rely on WhatsApp, peer networks, and indigenous knowledge	Over-Reliance on Informal Networks	Informal networks often fill gaps left by formal extension work, but may unintentionally exclude less-connected farmers or spread inaccurate information.
Sustainable Livelihoods Framework (Chambers & Conway, 2022)	Acts as a tool for examining the livelihoods of the impoverished while illustrating the primary influencing elements.	Uneven distribution of services; some villages neglected	Regional Disparities in Service Delivery	Geographic disparities in extension services may contribute to unequal opportunities across communities, warranting closer examination of coverage strategies.

Continued on next page.

Theoretical Link	Theoretical Premise	Key Findings	Pattern	Implications
Diffusion of Innovations Theory (Worley, Peake, & Fuhrman, 2025)	Providing timely and relevant information to facilitate the diffusion and adoption of agricultural innovations and technologies, a step toward building confidence and decision-making capacity.	Poor communication of programmes like Siyazondla and CASP.	Inconsistent Information Dissemination	Inconsistent communication may limit awareness and timely participation, especially among farmers who rely heavily on formal channels.
Sustainable Livelihoods Framework (Sennuga, Ope-Oluwa, & Whiteley, 2023)	A comprehensive approach to enhancing the lives of those living in poverty. It acknowledges that poverty is a multifaceted problem that calls for a viewpoint that takes into account every facet of an individual's existence.	Favouritism and bias in resource allocation; some groups prioritised over others	Inequitable Resource Distribution	Patterns of unequal resource access could be influencing perceptions of fairness and potentially affecting farmer morale and engagement.
Farmer Field School (FFS) approach (Suvedi & Vander Stoep, 2016)	Provides practical group learning, improving local communities' ability to observe, critically analyze, and make better decisions.	Infrequent visits; lack of follow-up; farmers feel unsupported	Limited Outreach and Engagement	Limited visits and follow-ups may hinder trust-building between farmers and extension services, which could impact participation in future programmes.

5.6. Linkages between the emerging patterns and socioeconomic factors

This section focuses on linking the socioeconomic factors with emerging patterns.

5.6.1. The relationship between inconsistent information dissemination and education level and age

There is an apparent relationship between the inconsistency of disseminating information and farmers' education and age level. Information about government programmes does not reach farmers on time, and this tends to be more pronounced among older and less educated farmers. These farmers often depend on extension officers to make direct visits. Thus, the irregularity in extension visits affects these farmers the most. A farmer explained, *“I rely on WhatsApp because extension officers rarely visit”* (Interview 11, 17 September 2024). Another farmer missed a key program because *“I heard about Siyazondla after the season ended”* (Interview 4, 22 August 2024). Education level has implications for navigating bureaucratic processes, creating barriers for farmers. A farmer shared, *“They told me to type a letter, but I do not know how. I am illiterate”* (Interview 9, 12 September 2024). This could perpetuate the cycle of exclusion among elderly and less-educated farmers.

5.6.2. Inequitable Resource Distribution and type of farming activity and gender

The type of farming has an influence on the allocation and distribution of resources. The way resources are allocated among farmers is influenced by the type of farming. There was biased attention as livestock received more visits from extension officers, particularly sheep farmers. A farmer reported, *“Extension officers only visit during sheep-shearing season. Crop farmers are ignored”* (Interview 3, 19 August 2024). Crop farmers were left to be on their own as they faced challenges related to infrastructure. A crop farmer stated, *“My cabbages wilted because there's no irrigation. No one taught me about pests”* (Interview 13, 25 September 2024). Moreover, male and female farmers are affected differently by farming conditions. For example, female farmers were faced with mobility and time constraints. A farmer explained, *“Transportation is a huge problem. We wait for buses that come late, and we can't afford taxis”* (Interview 16, 16 October 2024).

Moreover, female farmers often have other household duties, affecting time allocation towards farming activities. This trend marginalises a certain group of farmers and could influence natural resource allocation, such as land-altering farming activities among small-scale farmers.

5.6.3. Infrastructure and Administrative Barriers and Land Size

Infrastructure and administrative challenges are also more pronounced among certain groups of farmers. This affects farmers with smaller land holdings and those in remote areas. Thus, poor infrastructure and administrative processes limit farmers' access to agricultural programmes. Women face mobility challenges, while illiterate farmers struggle with paperwork. A farmer noted, *"I can't attend meetings—no transport"* (interview 8, 5 September 2024), while another stated, *"I filled forms but never got inputs"* (Interview 2, 19 August 2024). A farmer remarked, *"Farmers with big fields get priority. My 1.5-hectare garden is overlooked"* (Interview 1, 19 August 2024).

5.6.4 Regional Disparities and Land Size

Regional disparities in resource distribution are also apparent, as farmers in remote areas are systematically excluded from participating in programmes. Small-scale farmers are the most affected as they are often deemed unviable despite their contribution towards food and nutrition security. A participant from a neglected village stated, *"Our village is ignored; resources go to Alice town"* (Interview 15, 16 October 2024). Some of the experiences of the farmers were systemic and affected all socioeconomic groups of farmers equally.

5.6.5. Systemic Failures and Farmer Experiences

The systemic issues that cut across socioeconomic groups include broken promises, favouritism and digital exclusions. Thus, these issues are deep-seated and have emerged as recurring themes. For instance, a farmer stated, *"Benefits go to those who know the right people"* (Interview 16, 16 October 2024), while another recounted,

"They assessed my needs 3 years ago and vanished." Another farmer asked, *"How can I access WhatsApp groups without a smartphone?"* (Interview 16, 16 October 2024). Another farmer stated, *"I only hear about programmes on the radio. When I call for help, they tell me to go to East London, but I have no money for transport"* (Interview 10, 17 October 2024). Even farmers

with higher education are faced with systemic challenges. One highly educated farmer mentioned,” *Even with my degree, I've never been assisted. Extension officers don't respond*” (Interview 13, 25 September 2024). Even larger landholders faced bureaucratic delays, as noted by one farmer: *“I have 15 hectares but can't get a tractor. The department's processes are too slow”* (Interview 3, 19 August 2024)

Table 5. 4 Link between socioeconomic factors and emerging patterns

Interview	Age	Gender	Education	Land Size	Farming Type	Emerging Pattern	Farmer Experience Summary
1	73	Female	Standard 7	1.5 ha + 0.5 ha	Vegetable and Poultry	Inconsistent Information Dissemination	Never received info or inputs; stated: “We are pretty much in the dark.”
2	65	Male	Standard 8	10 ha + 5 ha	Vegetable and Poultry	Inequitable Resource Distribution	Inputs given to the chairperson’s relatives; his side of the village excluded.
3	74	Male	Standard 6	15 ha + 1.5 ha	Livestock and Vegetable	Inequitable Resource Distribution	Only sheep farmers received visits; they felt neglected despite farming multiple commodities.
5	69	Male	Standard 5	15 ha + 8 ha	Livestock and Crops	Inconsistent Information Dissemination	Missed extension opportunities;

Interview	Age	Gender	Education	Land Size	Farming Type	Emerging Pattern	Farmer Experience Summary
							other farmers held secret meetings.
6	38	Male	Grade 12	1.5 ha + 0.5 ha	Poultry	Inconsistent Information Dissemination	No visits; only found out via WhatsApp; abandoned program efforts.
7	28	Female	Masters	15 ha + 1 ha	Vegetable (retail scale)	Infrastructure and Administrative Barriers	Despite being highly educated, missed Siyazondla; transport and admin hurdles noted.
10	64	Male	Unknown	7 ha + 1 ha	Vegetable and Livestock	Regional Disparities	Relied on radio only; assessed 3 years ago, no follow-up.
13	54	Female	Degree	1.5 ha garden	Vegetable (subsistence)	Regional Disparities and Systemic Failures	Felt neglected; no programme awareness despite government employment.
14	61	Female	Std 10	1 ha	Vegetable (Nursery)	Inconsistent Dissemination (partial)	Got inputs via PESI, but many peers excluded; noted illiteracy

Interview	Age	Gender	Education	Land Size	Farming Type	Emerging Pattern	Farmer Experience Summary
							hinders applications.
15	27	Female	N6	5 ha + 2.5 ha	Poultry and Seasonal Veg	Resource Inequity + Admin Barriers	Missed CASP deadlines; said info comes “after deadlines or through Facebook.”
16	35	Female	Std1 10	1.5 ha	Poultry and seasonal veg	Inconsistent Information Dissemination	No programme awareness, no inputs received, feeling neglected, lack of information and knows nothing about programmes

Source: Field survey 2024

5.7 Short and direct chain relationships among patterns

There are observable relationships among the identified patterns. These reveal how a cycle of inefficiency and inequity can be created by one challenge affecting another. Table 5.5 presents more immediate, observable relationships between key emerging patterns, before building toward more complex or extended chains of influence.

Table 5.5 Short and direct relationships among patterns

Relationship	Key Link	Implication
Inconsistent Information Dissemination ↔ Over-Reliance on Informal Networks	Poor communication forces farmers to rely on informal networks	Farmers miss out on critical programmes; informal networks may spread misinformation
Limited Outreach and Engagement ↔ Inequitable Resource Distribution	Infrequent visits lead to biased resource allocation	Perpetuates inequalities; marginalised farmers receive less support
Administrative and Procedural Barriers ↔ Infrastructure Challenges	Poor infrastructure exacerbates administrative barriers	Farmers in remote areas are disproportionately affected
Inequitable Resource Distribution ↔ Regional Disparities	Favouritism in resource allocation deepens regional disparities	Widens the gap between regions; neglected areas receive less support
Limited Outreach and Engagement ↔ Administrative Barriers	Lack of engagement increases administrative challenges	Farmers are unable to navigate application processes
Over-Reliance on Informal Networks ↔ Regional Disparities	Poor extension services in some regions lead to reliance on informal networks	Widens regional disparities; farmers in neglected areas lack reliable information

Source: field survey, 2024

Inconsistent information dissemination creates overreliance on informal social networks. Although informal communications and networks are important through social media platforms,

such as WhatsApp, it is important for extension officers to maintain constant formal communication with farmers. Consistent formal communication provides reliable and complete information and can build trust between farmers and extension officers about government programmes (Atinaf, Anteneh & Kifle, 2025). Research is still ongoing on the use and effectiveness of social media platforms for extension service delivery.

But Inconsistent information dissemination and overreliance on informal social networks could cause farmers with poor or no access to informal networks can be marginalised further, creating a cycle where farmers miss out on important government programmes and extension services.

Limited outreach and engagement contribute to inequitable resource distribution. Prioritising certain groups of farmers, such as those with larger land holdings and or nearby, over others tends to create inequitable access to information and government programmes. Equitable access to government resources is important for sustainable development (Chambers & Conway, 2022). However, equitable distribution of resources is biased by limited outreach, leading to marginalisation of some farmers as their livelihood development opportunities are hindered. There are also infrastructural challenges that inhibit administrative and procedural barriers.

Bad roads and transportation infrastructure make it difficult for meetings to occur between farmers and extension officers. Moreover, farmers often lack digital tools to complete applications. There is a need to improve rural infrastructure and find better ways to reduce the burden of administrative tasks to improve accessibility to extension services.

5.8. Long and complex chain relationships among patterns

The short chains lead to longer chains through intricate connections. These long chains are presented in Table 5.6 together with some theoretical support about their formation. These include inconsistent information dissemination leading to over-reliance on informal networks, creating regional disparities and inequitable resource distribution. Below, the longer chains of relationships, showing how one pattern leads to another, and how these chains impact small-scale farmers, are outlined.

The inconsistent information dissemination may cause farmers to depend on informal networks such as WhatsApp groups and peer networks. There may be regional disparities due to reliance on informal networks, as farmers in more connected areas may have better access to information compared to those in remote regions. Consequently, this may cause inequitable resource distribution as farmers in neglected regions may receive less extension support. According to Loki et al., (2023), access to extension services improves the performance of farmers, but inconsistent dissemination of information tends to worsen inequality among farmers.

Mdoda (2023) has also highlighted the importance of having equal access to extension services to promote sustainable agricultural development. Moreover, equitable resource distribution can be achieved through the formation of smallholder cooperatives as this can improve their participation in agri-food value chains (Zantsi, 2021).

Table 5.6 Longer chain relationships of emerging Patterns

Chain	Key Link	Implication
Inconsistent Information Dissemination → Over-Reliance on Informal Networks → Regional Disparities → Inequitable Resource Distribution	Poor communication forces farmers to rely on informal networks, leading to regional disparities and inequitable resource distribution	Farmers in neglected regions are left without reliable information or access to resources, perpetuating inequalities
Limited Outreach and Engagement → Administrative Barriers → Infrastructure Challenges → Over-Reliance on Indigenous Knowledge	Lack of engagement leads to administrative and infrastructural challenges, forcing farmers to rely on indigenous knowledge	Farmers in remote areas are left without formal support, relying on less reliable sources of information

Source: field survey, 2024

Limited outreach and engagement by extension officers may cause administrative barriers. Farmers often face difficulties navigating complex application processes for government programmes. Poor roads and lack of transportation exacerbate farmers' administrative challenges,

hindering effective communication and support. This increases the farmers' reliance on indigenous knowledge and informal networks. According to Aliber (2021), infrastructure must be improved to facilitate better access to extension services and reduce reliance on indigenous knowledge. Moreover, Loki et al., (2020) have also highlighted the effect of limited outreach on farmers' willingness to pay for extension services. However, cultural innovations and aspirations can help bridge the limited outreach and engagement among smallholder farmers (Zantsi, 2020).

Longer chains show that the challenges that smallholder farmers face in accessing extension services are interconnected in nature. Each chain reveals how one challenge can affect another, resulting in a cycle of inefficiency and inequality in extension service delivery. For instance, overreliance on informal networks is a consequence of inconsistent information dissemination, which worsens regional disparities and inequity in the distribution of resources. This is similar to how poor infrastructure causes administrative barriers and forces farmers to depend on Indigenous knowledge and informal networks. This evidence of challenges that smallholder farmers face provides insights to policymakers and extension service providers to develop holistic solutions that can address the root causes of these challenges.

5.9 Chapter summary

This chapter gave a comprehensive analysis of the data collected and analysed, and interpreted the data as the basis of the study. This was achieved by presenting respondents' socioeconomic characteristics. The interpretation of the data from the second half reveals respondents' perceptions of the efficacy of extension officers in executing Agricultural government initiatives. The chapter analysed respondents' understanding of agricultural programmes in the municipality and identified key challenges for extension officers in raising awareness about government programmes and the challenges small-scale farmers face in accessing information about the programmes.

CHAPTER 6: DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

6.1. Summary

The study sought to assess the contribution of agricultural government support programmes for small-scale farmers in the Eastern Cape, South Africa, by first identifying the role extension officers play in agricultural government programmes. Secondly, the challenges faced by small-scale farmers in accessing agricultural government-supporting programmes were identified.

This study employed a qualitative research design, utilising thematic content analysis to explore farmers' experiences and perceptions. Data was collected through open-ended questionnaires and semi-structured interviews with 16 small-scale farmers in the Raymond Mhlaba Municipality, Eastern Cape. Thematic analysis involved four key steps: identifying relevant data extracts, coding responses, grouping codes into categories, and developing broader themes. This process helped uncover roles played by extension officers and the challenges farmers face in accessing government programmes. Socioeconomic factors, including age, gender, education level, farming type, and land size, were also considered to examine how these characteristics influence access to support.

Regarding the role of extension officers, the study revealed that extension officers play an important role in program awareness, administrative and technical support, stakeholder collaboration, and information dissemination. However, in the farmers' reality, their support was perceived as inconsistent, favouring certain groups (e.g., livestock farmers), with minimal follow-ups and irregular visits. Farmers relied on informal networks like WhatsApp due to gaps in formal outreach. Some praised initiatives like PESI, but others were unaware of programmes like Siyazondla and CASP.

With regard to the challenges that Farmers face, the study revealed infrastructural barriers (poor roads, limited irrigation), communication gaps, administrative hurdles (complex applications, unmet promises), inequity in resource distribution, and insufficient technical support. Women and elderly farmers, particularly those with limited education and small land size, experienced systemic exclusion.

6.2. Conclusions and Recommendations

Therefore, while extension officers are well-positioned to bridge the gap between farmers and government support, inconsistencies in outreach and biases in service delivery undermine their potential impact. Formal engagement needs strengthening to support all farmers equitably. Specifically, while farmers must form farmer cooperatives to strengthen their collective voice and ensure consistent engagement with extension services, policymakers should standardise outreach protocols and performance evaluation for extension officers to ensure fair service delivery. Future research should investigate digital extension platforms and their integration with formal services to improve outreach and engagement.

Therefore, systemic and logistical challenges impede smallholder access to government agricultural programmes. These limitations marginalise vulnerable groups and undermine trust in public extension services. Farmers should systematically document and report challenges to local forums to advocate for improved services and support. Policy should prioritise infrastructure development (e.g., road access, digital communication) and streamline administrative procedures to enhance inclusivity. Future studies should examine the links between farmer characteristics (e.g., education, gender, land size) and exclusion from government programmes.

While extension services are vital to support rural smallholders, there are still gaps in delivery and equity, limiting their potential. Ensuring more participatory, consistent, and inclusive extension strategies is essential for sustainable agricultural development in the rural Eastern Cape. Participatory extension approaches that empower farmers as co-creators of knowledge should be promoted. Moreover, there is a need to address regional disparities by ensuring every village receives scheduled visits and digitally empower farmers by providing training on mobile communication tools for agricultural support.

As outlined in Chapter One of this research, the study's primary results address each of the following objectives:

The objective of the study was to conduct an in-depth exploration of the experiences of small-scale farmers with Agricultural government supporting programmes on their farming livelihoods in and around Alice, Amathole District, Eastern Cape, South Africa

According to this study, the majority of small-scale farmers in and around Alice, Amathole District, are largely unaware of key agricultural government support programmes aimed at improving farming livelihoods, such as Siyazondla, CASP, and other cropping and livestock improvement initiatives. Farmers commonly reported feeling excluded from these schemes, claiming a severe lack of information and awareness about available assistance. While a small number of respondents admitted obtaining some advantages, such as inputs or training, the data reveal that the vast majority have never gotten any tangible help from these government initiatives. This lack of involvement not only reduces agricultural output but also exacerbates existing disparities and undermines the original goal of such programmes.

Objective one: To identify the role played by extension officers in government-supported programmes.

Farmers view agricultural extension as a series of set communication facilitations that are necessary to enhance and provide support to address difficult situations. Agricultural extension officers are government employees who work closely with farmers to provide them with agricultural extension services, including relevant knowledge and skills to enhance agricultural output. This term is used in the context of South Africa. Distributing knowledge and agricultural information, providing technical assistance, and facilitating connections between farmers and other economic stakeholders are the primary responsibilities of agricultural extension agents.

The study leads to the conclusion that extension officers are ineffective in their duty for this specific goal. Extension agents do not visit small-scale farmers often enough, which leaves them feeling undermined and unsupported. Farmers also pointed out that they frequently feel excluded and that extension agents do not adequately inform them about programmes designed to further their growth. Small-scale farmers frequently lament that they do not receive enough information and support from extension agents due to factors such as a lack of extension officers, scarce resources, inadequate training, poor communication tools, and a gap between the information provided and the needs of the farmer.

Objective two: To identify challenges faced by small-scale farmers in accessing government support programmes in rural areas.

Smallholder farmers face several obstacles that prevent them from thriving. Among the challenges they encounter include inadequate infrastructure, erratic weather patterns, antiquated farming methods, and restricted access to financial resources. Smallholder farmers provide the majority of food, but they confront several obstacles that limit production, profitability, and sustainability.

The study concerning this particular objective concludes that small-scale farmers face Limited access to resources for on-farm infrastructure, equipment, and inputs, which impedes their capacity to utilise their land and increase output. At the marketing level, smallholder farmers confront challenges in gaining sustainable market access. Whether through informal marketplaces, local supermarkets, fresh produce markets, or corporate clients, the primary difficulty remains low pricing and considerable volatility. This creates a vicious loop, limiting smallholder farmers to unprofitable and unsustainable techniques. These challenges add to the difficulty of accessing programmes for them.

Small-scale farmers are unable to access government programmes due to factors such as complex and slow application processes, bureaucracy and policy issues, a lack of finance and credit, inadequate rural infrastructure, insufficient technical and business skills, favouritism from extension officers, and a lack of mobile phones, as some information is shared via cell phones. Farmers are unable to use modern digital technologies due to poor network infrastructure, a lack of digital literacy, and restricted access to ICT and training programmes. When a lack of literacy is involved, the farmer is even further alienated leading to dependency on others for interpretation and possibly confusion about available programmes, eligibility conditions, and application processes.

Objective three: To determine the awareness of government supporting programmes among small-scale farmers.

Government assistance schemes, such as the Siyazondla homestead programme, the Comprehensive Agricultural Support Programme, the cropping programme, and the livestock development scheme programme, are intended to increase small-scale farmers' production, income, and resilience. However, in many locations, farmers are uninformed or confused about

these prospects, limiting the effectiveness of the schemes. The study reveals that, despite the presence of government programmes targeted at assisting small-scale farmers, knowledge of these programmes remains dangerously low, mainly owing to poor communication, inadequate extension services, and cumbersome bureaucratic procedures. As a result, many farmers miss out on vital opportunities for subsidies, financing, and training. Increasing awareness through targeted outreach, streamlined application processes, and increased community participation is crucial to boost program adoption and agricultural output.

Poor communication channels.

Information frequently fails to reach remote places.

Extension personnel may not use channels that are available to farmers.

Inadequate Extension Services

There are too few extension officers to cover distant farming areas.

Lack of follow-up or persistent interaction with farmers.

Insufficient training and information days

Low literacy and education levels.

Program materials may be written in formal language or not translated into the local vernacular, leading to confusion among farmers regarding application and qualification processes.

Digital divide.

Many projects are advertised as being controlled online, excluding farmers who lack cell phones or internet access.

Lack of faith in the government

Experience with unsuccessful or political programmes might make farmers cautious.

This study was intentionally grounded in key theoretical frameworks that have shaped contemporary thinking on agricultural development. The Agricultural Knowledge and Innovation Systems (AKIS) framework helped position farmers as active participants in knowledge exchange rather than passive recipients. The Sustainable Livelihoods Framework (SLF) provides a holistic lens for understanding how assets, vulnerability, and institutional support interact to affect farmers' outcomes. Diffusion of Innovations Theory explained how farmers adopt new practices, especially within uneven contexts of access and influence. Agriflection contributed a reflective, farmer-centred perspective, while the roles of NGOs and the Farmer Field School approach demonstrated how facilitation, learning methods, and organisational intermediaries shape farmer agency and innovation.

Together, these frameworks guided the study to focus specifically on farmers' lived experiences of government support, barriers shaping their engagement with extension services, and opportunities for strengthening farmer-led learning and innovation. This theoretical and literature-based grounding ensured that the findings were both contextually relevant and analytically rigorous.

By placing these perspectives in conversation with real farmer experiences in Raymond Mhlaba Municipality, the study highlights how systemic, cultural, and institutional factors intersect in practice. Ultimately, this research contributes new insights into how extension support can be redesigned to become more adaptive, accountable, and genuinely responsive to the realities of small-scale farmers.

6.2.1 Integration of Theoretical Frameworks

The study's results, conceptualise the challenges providing insight from farmers' experiences with government support programmes. The study was able to investigate various aspects of program delivery, adoption, and impact through the integration of Diffusion of Innovations Theory, the Sustainable Livelihoods Framework (SLF), the Agricultural Knowledge and Information Systems (AKIS) Framework, and the Farmer Field School (FFS) approach.

The findings indicate that structural problems, institutional inefficiencies, and limited resources hinder the successful implementation of government programs, which aligns with Institutional

Theory and AKIS insights. Farmers' dependence on informal networks, such as WhatsApp and radio, reveals weaknesses in knowledge flow and coordination. SLF reveals additional discrepancies in access to resources and assistance, demonstrating that farmers with better relationships or bigger holdings benefit disproportionately. Meanwhile, the FFS method and Diffusion of Innovations Theory describe how participatory interventions and innovation uptake are often unequal, benefitting well-connected farmers while leaving others behind.

The conceptual frameworks depicted in Figures 2.4 and 3.4, as well as the synthesis in Table 3.4.1, helped connect farmers' lived experiences to programme design and delivery methods. This integration explains why specific support mechanisms fail to reach their intended users, how structural and contextual constraints prevent adoption, and why injustices persist. By directly connecting empirical observations to theoretical perspectives, the study shows that policy and program recommendations such as strengthening institutional capacity, enhancing extension services, improving monitoring systems, and implementing participatory approaches are both empirically grounded and theoretically informed. As a result, the integrated methodology situates the study within the broader academic discourse on the continued exclusion of small-scale farmers from the development agenda, while also providing actionable recommendations for more inclusive and responsive extension, supporting the availability, accessibility, and affordability of programmes for small-scale farmers.

6.2.2 Link between the literature and primary study findings

The findings of this field survey, Aliber (2021) and (Dhillon and Moncur, 2023; Ndlovu and Masuku (2021) all attest that small-scale rural farmers face numerous obstacles: limited financial resources, unfavourable weather, difficulty obtaining credit, difficulty navigating the technology and management skills for increased production and accessing markets. This convergence is supported by the fact that both the research findings and the literature review suggest that governments should establish organisations to help small-scale farmers by providing them with access to markets, financial aid, inputs, credit, farmer training programmes, skill development, and extension and advisory services.

In contrast, government intervention initiatives are designed to improve the lives, productivity, and general development of small-scale farmers. These projects are meant to provide vital resources, such as inputs (e.g., seeds and fertilisers), technical training, market connections, financial assistance, and infrastructure development. In theory, such initiatives aim to improve smallholder agriculture, alleviate poverty, and contribute to food security.

There is an apparent disparity between policy aims and actual outcomes on the ground. Many small-scale farmers confront ongoing hurdles that prevent them from fully participating in and benefiting from these programmes. Farmers frequently complain about restricted access to information about potential support, delays in input delivery, bureaucratic inefficiencies, exclusion from program participation, and a lack of follow-up or monitoring by implementing agencies. These concerns indicate that, while the programmes themselves may be well-intended, their design and delivery mechanisms frequently fall short. Structural flaws, such as poor coordination between government agencies, limited stakeholder input during planning, insufficient funding, and top-down approaches, impair the efficacy of interventions. As a result, many small-scale farmers feel alienated or ignored, limiting the programme's capacity to achieve its intended benefits.

6.2.3 Recommendations for better practice

To remedy these weaknesses, institutional structures and operational paths for implementing these initiatives must be strengthened. This involves increasing openness and communication, including farmers in programme design and assessment, strengthening local capacity, and guaranteeing the timely delivery of support services. Furthermore, systems for monitoring, feedback, and accountability should be strengthened to ensure that concerns are handled quickly and programmes are continually improved. Furthermore, for government initiatives to be truly transformational, they must not only exist on paper but also be responsive, inclusive, and efficiently administered in practice. Only then can small-scale farmers see concrete gains in their livelihoods and make meaningful contributions to national development goals.

Policies must transcend theoretical frameworks and become useful, inclusive, and responsive instruments for rural transformation if government initiatives are to improve the lives of small-scale farmers significantly. Governments can foster an environment that supports smallholder

agriculture and promotes sustainable development, poverty alleviation, and national food security by implementing these suggestions.

Roadmap for Better Practice in Supporting Small-Scale Farmers (way forward)

Based on the findings, problems, and theoretical insights from SLF, AKIS, FFS, and Diffusion of Innovations, a prioritised path for strengthening government assistance programmes is provided.

Enhance institutional capacity and coordination.

Address systemic deficiencies in government programmes.

Ensure that extension officers have enough staffing, training, and resources.

Improve communication and cooperation among national, provincial, and local agricultural authorities.

Increase farmer awareness and outreach.

To communicate programme information, use numerous communication channels (for example, local radio, WhatsApp, and community gatherings).

Simplify programme applications and eligibility requirements.

Promote participatory and inclusive approaches.

Use Farmer Field School-style participatory learning to achieve equal participation.

To eliminate inequities, prioritise outreach to marginalised or less well-connected farmers.

Improve Access to Resources and Support Services.

Offer inputs (seeds, fertilisers), loans, and infrastructural assistance.

Facilitate training and skill development tailored to the specific needs of small-scale farmers.

Monitor and evaluate program impact.

Set up effective monitoring methods to measure participation, adoption, and outcomes.

Use feedback to enhance programme delivery and response iteratively.

Based on this roadmap, government agricultural assistance programmes should employ a coordinated, participatory, and resource-sensitive approach that emphasises institutional building, farmer awareness, equitable access, and ongoing monitoring. This technique will increase programme efficacy, eliminate inequities, and improve livelihoods for small-scale farmers in rural communities.

Departmental Policy and Programme Recommendations

To enhance the Department's effectiveness in supporting small-scale farmers, service delivery regulations should include a clearly defined exit strategy that limits the duration of assistance and prohibits farmers from receiving government aid multiple times, thereby ensuring equitable access to support. Furthermore, departmental regulations should specify the number of years of assistance for which farmers contribute on a sliding scale, ensuring responsibility and sustainability in the maintenance of infrastructure and projects. Furthermore, the Department should conduct a comprehensive evaluation of its programmes and efforts to identify the socioeconomic impact on rural areas. Empowering local governments and agricultural offices to create and manage grassroots aid projects will improve responsiveness to local needs while reducing bureaucratic delays. To increase coordination, a national database of small-scale farmers, complete with information such as land size, crop kinds, and resource requirements, would guarantee that assistance is targeted, equitable, and transparent. Establishing local service centres that provide inputs, extension support, training, finance, and market information will also help smallholders overcome access constraints.

Furthermore, allocating and distributing money based on measurable outcomes such as yield increases, income growth, and participation rates would foster accountability at all administrative levels. A dedicated rural development budget should be established, compelling provinces to allocate a certain percentage of their resources to agricultural and rural programmes,

acknowledging the sector's crucial role in household livelihoods. Finally, the Department must ensure that extension officers are well-trained, adequately resourced, and continuously developed, with access to modern tools, transportation, digital technologies, and hands-on training in climate-smart and participatory agricultural practices, in order to keep extension services relevant, responsive, and effective.

6.2.4 Recommendations for Further Research

Building on the exploratory aspect of this work, future research should use more rigorous and extensive methodological techniques to provide generalizable and comparative findings. Mixed-methods and quantitative designs are recommended for measuring the relationships between extension support, market access, infrastructure, digital innovation, and farmer outcomes. Probability sampling across multiple municipalities would improve representativeness compared to the single-site purposive sample used here. Longitudinal research is also necessary to evaluate farmers' development over time and analyse the long-term success of government programmes, exit plans, and farmer-led cooperatives in promoting sustainability and resilience.

Additional studies should examine the adoption and impact of digital agricultural technologies, the governance and performance of cooperatives, and farmers' climate vulnerability and sustainability practices. Economic and logistical evaluations of infrastructure and transportation restrictions would provide greater insight into the structural hurdles that small-scale farmers face. Finally, comprehensive policy and institutional assessments are required to identify implementation gaps and determine whether existing agricultural support frameworks effectively improve inclusive, resilient, and sustainable rural lives.

REFERENCES

- Abubakar, A.H., 2024. *Farmer information literacy and agricultural productivity: A case of rice farmers in Kano State, Nigeria*. Doctoral dissertation, Kenyatta University. Available at: <https://ir-library.ku.ac.ke/handle/123456789/28952>
- Adams, A. & Jumpah, E.T., 2021. Agricultural technologies adoption and smallholder farmers' welfare: Evidence from Northern Ghana. *Cogent Economics and Finance*, 9(1), p.2006905. <https://doi.org/10.1080/23322039.2021.2006905>
- Adamsone-Fiskovica, A. & Grivins, M., 2022. Knowledge production and communication in on-farm demonstrations: Putting farmer participatory research and extension into practice. *The Journal of Agricultural Education and Extension*, 28(4), pp.479–502. <https://doi.org/10.1080/1389224X.2021.1953551>
- Afrad, S.I., Wadud, F. & Babu, S.C., 2019. Reforms in agricultural extension service system in Bangladesh. In: *Agricultural extension reforms in South Asia*, pp.13–40. Academic Press. <https://doi.org/10.1016/B978-0-12-818752-4.00002-3>
- Alex, G., Byerlee, D., Collion, M.H. & Rivera, W., 2004. Extension and rural development: Converging views on institutional approaches. *World Bank Agriculture and Rural Development Discussion Paper* 4. Available at: <http://documents.worldbank.org/curated/en/474761468329360966>
- Alexander, S., Alexander, K., Vladimir, P. & Irina, T., 2018. Cooperation in rural Russia: Past, present and future. *Mir Rossii. Sociologiya. Etnologiya*, 27(1), pp.65–89. <https://doi.org/10.17323/1811-038X-2018-27-1-65-89>
- Aliber, M. & Hall, R., 2010. *Development of evidence-based policy around small-scale farming*. Report commissioned by the Programme to Support Pro-Poor Policy Development, Pretoria, on behalf of the Presidency. Available at: https://static.pmg.org.za/docs/100526plaas_1.pdf

Aliber, M., 2021. Assessment of socio-economic characteristics that determine farmers' access to agricultural extension services in Eastern Cape, South Africa. *South African Journal of Agricultural Extension*, 49(1), pp.198–209. <https://doi.org/10.17159/2413-3221/2021/v49n1a10908>

Anunobi, C.P. & Anunobi, C.V., 2018. *Improving rural farmers' access to information through ICT-based extension information services*. Nnamdi Azikiwe University. Available at: <http://creativecommons.org/licenses/by/4.0>

Arcaya, M.C., Arcaya, A.L. & Subramanian, S.V., 2015. Inequalities in health: definitions, concepts, and theories. *Revista Panamericana de Salud Pública*, 38, pp.261–271. <https://dx.doi.org/10.3402/gha.v8.27106>

Atinaf, M., Anteneh, S. & Kifle, M., 2023. A holistic understanding of information and communication technology for development through context, resilience, and sustainability: Evidence from a local agriculture extension information service in Ethiopia. *The Electronic Journal of Information Systems in Developing Countries*, 89(4), p.e12260. <https://doi.org/10.1002/isd2.12260>

Beharielal, T., Thamaga-Chitja, J. & Schmidt, S., 2022. Socioeconomic characteristics associated with farming practices, food safety and security in the production of fresh produce—a case study including small-scale farmers in KwaZulu-Natal (South Africa). *Sustainability*, 14(17), p.10590. <https://doi.org/10.3390/su141710590>

Benor, D., 2022. Training and visit extension: Back to basics. In: *Agricultural Extension Worldwide*, pp.137–148. Routledge. <https://doi.org/10.4324/9781003273202>

Birner, R., Davis, K., Pender, J., Nkonya, E., Anandajayasekeram, P., Ekboir, J. & Cohen, M., 2023. From best practice to best fit: A framework for designing and analyzing pluralistic agricultural advisory services. *IFPRI Discussion Paper*, 00907, pp.1–29. <https://doi.org/10.2499/bestfitibrb04>

Birner, R., Klerkx, L., Adolwa, I. & Asres, A., 2023. *Agricultural knowledge and innovation systems: Concepts, frameworks and empirical applications*. Springer, Cham.

Blundell, R., Costa Dias, M., Joyce, R. & Xu, X., 2020. COVID-19 and inequalities. *Fiscal Studies*, 41(2), pp.291–319. <https://doi.org/10.1111/1475-5890.12232>

Boettiger, S., Denis, N. & Sanghvi, S., 2017. *Successful agricultural transformations: Six core elements of planning and delivery*. McKinsey and Company. Available at: <https://www.mckinsey.com/>

Bonephace, E., Gui, X. & Makawia, P., 2022. Assessment of awareness of farmers on agricultural information services in Mara Region, Tanzania. *Library Philosophy and Practice (e-journal)*, 7126. <https://digitalcommons.unl.edu/libphilprac/7126>

Bonye, S.Z., Alfred, K.B. & Jasaw, G.S., 2012. Promoting community-based extension agents as an alternative approach to formal agricultural extension service delivery in Northern Ghana. *Asian Journal of Agriculture and Rural Development*, 2(1), pp.76–95. <https://doi.org/10.22004/ag.econ.197944>

Buisson, M.C., Saikia, P. & Maitra, S., 2020. Community water management and agricultural extension services: Effects, impacts and perceptions in the coastal zone of Bangladesh (Vol. 8). *IWMI*. <https://doi.org/10.5337/2020.202>

Busungu, C., Gongwe, A., Naila, D.L. & Munema, L., 2019. Complementing extension officers in technology transfer and extension services. *Granthaalayah*, 7(6), pp.1–12. <https://doi.org/10.29121/granthaalayah.v7.i6.2019.802>

Butt, T.M., Hassan, Z.Y., Mehmood, K. & Muhammad, S., 2018. Role of rural women in agricultural development and their constraints. *Journal of Agricultural and Social Sciences*, 6(3), pp.53–56. <https://www.fspublishers.org/>

Carelsen, C.P.R., Ncube, B. & Fanadzo, M., 2021. Classification and characterisation of smallholder farmers in South Africa: A brief review. *South African Journal of Agricultural Extension*, 49(2), pp.97–106. <https://doi.org/10.17159/2413-3221/2021/v49n2a12821>

Castro-Arce, K. & Vanclay, F., 2020. Transformative social innovation for sustainable rural development: An analytical framework to assist community-based initiatives. *Journal of Rural Studies*, 74, pp.45–54. <https://doi.org/10.1016/j.jrurstud.2019.11.010>

Chambers, R. & Conway, G., 1992. *Sustainable rural livelihoods: Practical concepts for the 21st century*. IDS Discussion Paper 296, IDS, Brighton. <https://doi.org/10.4236/nr.2014.513071>

Chambers, R. & Conway, G.R., 1992. *Sustainable rural livelihoods: Practical concepts for the 21st century*. IDS Discussion Paper 296, Institute of Development Studies, Brighton.

Chandra, A., McNamara, K.E. & Dargusch, P., 2017. The relevance of political ecology perspectives for smallholder Climate-Smart Agriculture: A review. *Journal of Political Ecology*, 24(1), pp.821–842. <https://doi.org/10.2458/v24i1.20969>

Chepape, R.M. & Maoba, S., 2020. Impact of agricultural developmental programmes on smallholder farmers of Bronkhorstspuit region in Tshwane metropolitan municipality, Gauteng Province. *South African Journal of Agricultural Extension*, 48(1), pp.31–41. <https://doi.org/10.17159/2413-3221/2020/v48n1a524>

Cheteni, P. & Mokhele, X., 2019. Small-scale livestock farmers' participation in markets: Evidence from the land reform beneficiaries in the central Karoo, Western Cape, South Africa. *South African Journal of Agricultural Extension*, 47(1), pp.118–136. <https://doi.org/10.17159/2413-3221/2019/v47n1a494>

Christensen, C.M., Ojomo, E., Gay, G.D. & Auerswald, P.E., 2018. The third answer: How market-creating innovation drives economic growth and development. *Innovations: Technology, Governance, Globalization*, 12(3–4), pp.10–26. Available at SSRN: <https://ssrn.com/abstract=3509248>

Cieslik, K., Barford, A. & Vira, B., 2022. Young people not in employment, education or training (NEET) in Sub-Saharan Africa: Sustainable development target 8.6 missed and reset. *Journal of Youth Studies*, 25(8), pp.1126–1147. <https://doi.org/10.1080/13676261.2021.1939287>

Clarkson, G., Dorward, P., Poskitt, S., Stern, R.D., Nyirongo, D., Fara, K., Gathenya, J.M., Staub, C.G., Trotman, A., Nsengiyumva, G. & Torgbor, F., 2022. Stimulating small-scale farmer innovation and adaptation with participatory integrated climate services for agriculture (PICSA): Lessons from successful implementation in Africa, Latin America, the Caribbean and South Asia. *Climate Services*, 26, p.100298. <https://doi.org/10.1016/j.cliser.2022.100298>

Cubos, J.T. & Vargas, D., 2021. Agricultural information access of farmers through rural radio agricultural radio programs. *SSRN Electronic Journal*. Available at: <https://doi.org/10.2139/ssrn.3784724>

Davis, K., Nkonya, E., Kato, E., Mekonnen, D.A., Odendo, M., Miiro, R. & Nkuba, J., 2012. Impact of farmer field schools on agricultural productivity and poverty in East Africa. *World Development*, 40(2), pp.402–413. <https://doi.org/10.1016/j.worlddev.2011.05.019>

Davis, K.E. & Terblanche, S.E., 2016. Challenges facing the agricultural extension landscape in South Africa, quos vadis?. *South African Journal of Agricultural Extension*, 44(2), pp.231–247. <http://dx.doi.org/10.17159/2413-3221/2016/v44n2a428>

De Haan, L.J., 2012. The livelihood approach: A critical exploration. *Erdkunde*, 66(4), pp.345–357. <https://doi.org/10.3112/erdkunde.2012.04.05>. Available at: <https://www.erdkunde.uni-bonn.de/article/view/2715>

De Satgé, R. & Phuhlisan, N.P.C., 2020. A review of support services for smallholder and small-scale agricultural producers. Available at: <https://www.academia.edu/43830979>

Dehalwar, K.S. & Sharma, S.N., 2024. Exploring the distinctions between quantitative and qualitative research methods. *Think India Journal*, 27(1), pp.7–15. <https://doi.org/10.5281/zenodo.10553000>

Department of Agriculture, Forestry and Fisheries (DAFF), 2019. National policy on food and nutrition security. Pretoria: Government of the Republic of South Africa. Available at: www.daff.gov.za

Department of Agriculture, Land Reform and Rural Development (DALRRD), 2021. The comprehensive rural development programme framework. Available at: <https://old.dalrrd.gov.za/>

Department of Planning, Monitoring and Evaluation, 2018. National food and nutrition security plan 2018–2023. Available at: <http://www.dspace.fs.gov.za/xmlui/handle/123456789/166>

Department of Rural Development and Agrarian Reform, 2020. Eastern Cape rural development strategy. Bhisho: DRDAR. Available at: <https://provincialgovernment.co.za/>

Dhillon, R. & Moncur, Q., 2023. Small-scale farming: A review of challenges and potential opportunities offered by technological advancements. *Sustainability*, 15(21), p.15478. <https://doi.org/10.3390/su152115478>

Emran, S.A., Krupnik, T.J., Aravindakshan, S., Kumar, V. & Pittelkow, C.M., 2021. Factors contributing to farm-level productivity and household income generation in coastal Bangladesh's rice-based farming systems. *PLOS ONE*, 16(9), p.e0256694. <https://doi.org/10.1371/journal.pone.0256694>

Espi, G., Leibbrandt, M. & Ranchhod, V., 2020. *The relationship between employment history and COVID-19 employment outcomes in South Africa*. NIDS-CRAM Reports and Publications. Available at: <https://cramsurvey.org/>

Fabregas, R., Kremer, M. & Schilbach, F., 2019. Realizing the potential of digital development: The case of agricultural advice. *Science*, 366(6471), p.eaay3038. <https://doi.org/10.1126/science.aay3038>

Faqih, A. & Aisyah, S., 2019, October. Communication in agricultural extension services toward farmer empowerment. In: *Journal of Physics: Conference Series*, 1360(1), p.012016. IOP Publishing. Available at: <https://iopublishing.org/contacts/>

Faxon, H.O., 2023. Small farmers, big tech: Agrarian commerce and knowledge on Myanmar Facebook. *Agriculture and Human Values*, pp.1–15. <https://doi.org/10.1007/s10460-023-10446-2>

Food and Agriculture Organization (FAO), 2011. The role of women in agriculture. Available at: <https://www.fao.org/family-farming/detail/en/c/273446/>

Food and Agriculture Organization (FAO), 2019. FAO – Adapt: Framework programme on climate change adaptation. Rome: Food and Agriculture Organization of the United Nations. Available at: <https://www.fao.org/>

Friis-Hansen, E. & Duveskog, D., 2019. Transforming rural livelihoods through Farmer Field Schools: A synthesis of case studies from East Africa. *World Development*, 123, p.104611. <https://doi.org/10.1016/j.worlddev.2019.104611>

Gadisi, M., Owusu-Sekyere, E. & Ogundeji, A.A., 2020. Impact of government support programmes on household welfare in the Limpopo province of South Africa. *Development Southern Africa*, 37(6), pp.937–952. <https://doi.org/10.1080/0376835X.2020.1757414>

Giller, K.E., Delaune, T., Silva, J.V., van Wijk, M., Hammond, J., Descheemaeker, K., van de Ven, G., Schut, A.G., Taulya, G., Chikowo, R. & Andersson, J.A., 2021. Small farms and development in sub-Saharan Africa: Farming for food, for income or for lack of better options?. *Food Security*, 13(6), pp.1431–1454. <https://doi.org/10.1007/s12571-021-01209-0>

Gomez, Y., Paloma, S., Riesgo, L. & Louhichi, K., 2020. The role of smallholder farms in food and nutrition security. Springer Nature, p.251. https://doi.org/10.1007/978-3-030-42148-9_1

Government of South Africa (GoSA), 2018. Draft national food and nutrition security plan for South Africa 2018–2023. Available at: <http://www.dspace.fs.gov.za/xmlui/handle/123456789/166>

Grossmann, K., Jiglau, G., Dubois, U., Sinea, A., Martín-Consuegra, F., Dereniowska, M., Franke, R., Guyet, R., Horta, A., Katman, F. & Papamikrouli, L., 2021. The critical role of trust in experiencing and coping with energy poverty: Evidence from across Europe. *Energy Research*. <https://doi.org/10.1016/j.erss.2021.102064>

Hajdu, F., Neves, D. & Granlund, S., 2020. Changing livelihoods in rural Eastern Cape, South Africa (2002–2016): Diminishing employment and expanding social protection. *Journal of Southern African Studies*, 46(4), pp.743–772. <https://doi.org/10.1080/03057070.2020.1773721>

Hall, A., Sulaiman, R., Clark, N. & Yoganand, B., 2003. From measuring impact to learning institutional lessons: An innovation systems perspective on improving the management of international agricultural research. *Agricultural Systems*, 78(2), pp.213–241. [https://doi.org/10.1016/S0308-521X\(03\)00127-6](https://doi.org/10.1016/S0308-521X(03)00127-6)

Hamasalih, C.M. & Layeeq, T.M., 2023. The importance of agricultural extension program in technology transfer for rural farmers: A review. *Zagazig Journal of Agricultural Research*, 50(3), pp.387–394. <https://doi.org/10.1080/13676261.2021.1939287>

Hamid, R.M. & Al-Taiy, H.K., 2024. Some downward accountability requirements in agricultural extension. *Journal of Kirkuk University for Agricultural Sciences*, 15(4). Available at: <https://iasj.rdd.edu.iq/journals/>

Hennink, M. & Kaiser, B.N., 2022. Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, 292, p.114523. <https://doi.org/10.1016/j.socscimed.2021.114523>

Iles, K., Ma, Z. & Erwin, A., 2020. Identifying the common ground: Small-scale farmer identity and community. *Journal of Rural Studies*, 78, pp.25–35. <https://doi.org/10.1016/j.jrurstud.2020.06.018>

Inkoom, E.W., Dadzie, S.K.N. & Ndebugri, J., 2020. *Promoting improved agricultural technologies to increase smallholder farm production efficiency: Ghanaian study of cassava farmers*. Available at: <http://hdl.handle.net/123456789/4347>

Jones, L., Pykett, J. & Whitehead, M., 2022. Revisiting sustainable livelihoods: The need for integrating political economy in livelihood analysis. *Journal of Development Studies*, 58(4), pp.651–668. <https://doi.org/10.1080/00220388.2022.2087953>

Joubert, R., 2013. The skills needed to make SA farming more profitable. *Farmers Weekly*, 16. Available at: <https://www.farmersweekly.co.za/agri-business/agribusinesses/the-skills-needed-to-make-sa-farming-more-profitable/>

Kaiser, N. & Barstow, C.K., 2022. Rural transportation infrastructure in low- and middle-income countries: A review of impacts, implications, and interventions. *Sustainability*, 14(4), p.2149. <https://doi.org/10.3390/su14042149>

Kamara, A., Conteh, A., Rhodes, E.R. & Cooke, R.A., 2019. The relevance of smallholder farming to African agricultural growth and development. *African Journal of Food, Agriculture, Nutrition and Development*, 19(1), pp.14043–14065. <https://doi.org/10.18697/ajfand.84.BLFB1010>

Khaisi, C.G., 2022. *The role of community participation in Local Economic Development (LED) projects to alleviate poverty in the City of Ekurhuleni*. Doctoral dissertation, University of Johannesburg, South Africa. Available at: <https://hdl.handle.net/10210/503024>

Khapayi, M. & Celliers, P.R., 2016. Factors limiting and preventing emerging farmers to progress to commercial agricultural farming in the King William's Town area of the Eastern

Cape Province, South Africa. *South African Journal of Agricultural Extension*, 44(1), pp.25–41.
<https://doi.org/10.17159/2413-3221/2016/v44n1a374>

Khwidzhili, R.H. & Worth, S., 2019. Evaluation of South Africa's public agricultural extension in the context of sustainable agriculture. *South African Journal of Agricultural Extension*, 47(1), pp.20–35. <https://doi.org/10.17159/2413-3221/2019/v47n1a486>

Klerkx, L., Van Mierlo, B. & Leeuwis, C., 2012. Evolution of systems approaches to agricultural innovation: Concepts, analysis and interventions. In: Darnhofer, I., Gibbon, D. & Dedieu, B. (eds.) *Farming Systems Research into the 21st Century: The New Dynamic*. Dordrecht: Springer, pp.457–483. https://doi.org/10.1007/978-94-007-4503-2_20

Kogen, L., 2024. Qualitative thematic analysis of transcripts in social change research: Reflections on common misconceptions and recommendations for reporting results. *International Journal of Qualitative Methods*, 23, p.16094069231225919.
<https://doi.org/10.1177/16094069231225919>

Koutsouris, A. & Zarokosta, E., 2020. Supporting bottom-up innovative initiatives throughout the spiral of innovations: Lessons from rural Greece. *Journal of Rural Studies*, 73, pp.176–185.
<https://doi.org/10.1016/j.jrurstud.2019.10.046>

Krantz, L., 2001. *The sustainable livelihood approach to poverty reduction*. SIDA: Division for Policy and Socio-Economic Analysis, 44, pp.1–38. Available at: <https://www.researchgate.net/publication/> [Accessed 4 December 2025].

Krell, N.T., Giroux, S.A., Guido, Z., Hannah, C., Lopus, S.E., Caylor, K.K. & Evans, T.P., 2021. Smallholder farmers' use of mobile phone services in central Kenya. *Climate and Development*, 13(3), pp.215–227. <https://doi.org/10.1080/17565529.2020.1748847>

Kumar, R., 2023. Farmers' use of the mobile phone for accessing agricultural information in Haryana: An analytical study. *Open Information Science*, 7(1), p.20220145. <https://doi.org/10.1515/opis-2022-0145>

Kushitor, S.B., Drimie, S., Davids, R., Delport, C., Hawkes, C., Mabhaudhi, T., Ngidi, M., Slotow, R. & Pereira, L.M., 2022. The complex challenge of governing food systems: The case of South African food policy. *Food Security*, 14(4), pp.883–896. <https://doi.org/10.1007/s12571-022-01258-z>

Langyintuo, A., 2020. Smallholder farmers' access to inputs and finance in Africa. In: *The role of smallholder farms in food and nutrition security*, pp.133–152. <https://doi.org/10.1007/978-3-030-42148-9>

Lau, J.D., Kleiber, D., Lawless, S. & Cohen, P.J., 2021. Gender equality in climate policy and practice hindered by assumptions. *Nature Climate Change*, 11(3), pp.186–192. <https://doi.org/10.1038/s41558-021-00999-7>

Leeuwis, C. & Aarts, N., 2011. Rethinking communication in innovation processes: Creating space for change in complex systems. *Journal of Agricultural Education and Extension*, 17(1), pp.21–36. <https://doi.org/10.1080/1389224X.2011.536344>

Leeuwis, C. & van den Ban, A.W., 2004. *Communication for rural innovation: Rethinking agricultural extension*, 3rd ed. Oxford: Blackwell Science. Available at: <https://research.wur.nl/en/publications/communication-for-rural-innovation-rethinking-agricultural-extension/>

Lele, U., Masters, W.A., Kinabo, J., Meenakshi, J.V., Ramaswami, B., Tagwireyi, J. & Goswami, S., 2016. *Measuring food and nutrition security: An independent technical assessment and user's guide for existing indicators*. Rome: Food Security Information Network, Measuring Food and Nutrition Security Technical Working Group, p.177. Available at: <http://www.fsincop.net/topics/fns-measurement>

Li, X., Liu, J. & Huo, X., 2021. Impacts of tenure security and market-oriented allocation of farmland on agricultural productivity: Evidence from China's apple growers. *Land Use Policy*, 102, p.105233. <https://doi.org/10.1016/j.landusepol.2020.105233>

Lidzhegu, Z. & Kabanda, T., 2022. Declining land for subsistence and small-scale farming in South Africa: A case study of Thulamela local municipality. *Land Use Policy*, 119, p.106170. <https://doi.org/10.1016/j.landusepol.2022.106170>

Loki, O., Aliber, M. & Sikwela, M.M., 2019. Factors influencing land reform beneficiaries' willingness to pay for extension services in Eastern Cape and KwaZulu-Natal, South Africa. *South African Journal of Agricultural Extension*, 47(4), pp.29–45. <https://doi.org/10.17159/2413-3221/2019/v47n4a524>

Loki, O., Mdoda, L. & Aliber, M., 2023. Assessing the contribution and impact of access to extension services toward sustainable livelihoods and self-reliance in Eastern Cape Province, South Africa. *African Journal of Food, Agriculture, Nutrition and Development*, 23(4), pp.45–58. <https://doi.org/10.18697/ajfand.119.22990>

Loki, O., Mudhara, M. & Pakela-Jezile, Y., 2020. Factors influencing farmers' use of different extension services in the Eastern Cape and KwaZulu-Natal Provinces of South Africa. *South African Journal of Agricultural Extension*, 48(1), pp.84–98. <https://doi.org/10.17159/2413-3221/2020/v48n1a528>

Maake, M.M.S. & Antwi, M.A., 2022. Farmers' perceptions of effectiveness of public agricultural extension services in South Africa: An exploratory analysis of associated factors. *Agriculture and Food Security*, 11(1), p.34. <https://doi.org/10.1186/s40066-022-00372-7>

Mabaso, S.M., 2014. *Impact of agricultural development projects on poverty alleviation in Amajuba district municipality (KZN)*. Doctoral dissertation, University of Fort Hare. Available at: <https://www.semanticscholar.org/author/Siphesihle-Merit-Mabaso/107939238>

Maginga, T.J., 2019. *Development of horticulture extension support system for the smallholder farmers: A case of Tanzania*. Doctoral dissertation, Nelson Mandela African Institution of Science and Technology (NM-AIST). <https://doi.org/10.58694/20.500.12479/261>

Mahlombe, C., 2018. *The role of agricultural development projects in poverty reduction in the OR Tambo District Municipality of the Eastern Cape Province South Africa*. Doctoral dissertation, University of Pretoria. Available at: <http://hdl.handle.net/2263/70394>

Makapela, M., 2018. *Effectiveness of agricultural extension organization in rural areas: The case of Amathole District Municipality (Eastern Cape)*. Doctoral dissertation, University of South Africa. Available at: <https://uir.unisa.ac.za/handle/10500/20225>

Makaula, Z., 2021. Information and communication technologies (ICT) towards agricultural development in rural areas: Case of smallholder farmers in Umzimvubu local municipality of the Eastern Cape Province in South Africa. *South African Journal of Agricultural Extension*, 49(1), pp.81–90. <https://doi.org/10.17159/2413-3221/2021/v49n1a10779>

Makofane, M. & Gray, M., 2007. Factors hindering the successful outcome of rural community projects. *Social Work/Maatskaplike Werk*, 43(3). <https://doi.org/10.15270/43-3-269>

Maoba, S., 2016. Farmers' perception of agricultural extension service delivery in Germiston Region, Gauteng Province, South Africa. *South African Journal of Agricultural Extension*, 44(2), pp.167–173. <https://doi.org/10.17159/2413-3221/2016/v44n2a>

Marumo, T., 2022. Critical considerations for South Africa's National Development Plan (NDP) Vision 2030 to achieve Sustainable Development Goals (SDGs) One and Two: Lessons from sustainable agriculture. University of Johannesburg (South Africa). Available at: <https://hdl.handle.net/10210/503226>

Masuka, B., Matenda, T., Chipomho, J., Mapope, N., Mupeti, S., Tatsvarei, S. & Ngezimana, W., 2016. Mobile phone use by small-scale farmers: A potential to transform production and

marketing in Zimbabwe. *South African Journal of Agricultural Extension*, 44(2), pp.121–135.
<https://doi.org/10.17159/2413-3221/2016/v44n2a406>

Maulu, S., Hasimuna, O.J., Mutale, B., Mphande, J. & Siankwilimba, E., 2021. Enhancing the role of rural agricultural extension programs in poverty alleviation: A review. *Cogent Food and Agriculture*, 7(1), p.1886663. <https://doi.org/10.1080/23311932.2021.1886663>

Mbatha, M.W., 2024. The provision of agricultural extension services to rural farmers as a strategy to improve agricultural practices in South Africa. *South African Journal of Agricultural Extension*, 52(1), pp.1–15. <https://doi.org/10.17159/2413-3221/2024/v52n1a12717>

Mburu, P., 2013. Factors influencing access to agricultural information by smallholder farmers through ICT channels in Deiya Location, Kiambu County. University of Nairobi. Available at: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/60836>

Mcata, B., 2019. Garden ownership as a solution to food insecurity in urban areas of South Africa: Case of food gardens in Alice town, Eastern Cape province. *Journal of Agribusiness and Rural Development*, 53(3). Available at: <http://hdl.handle.net/20.500.11910/14954>

McCampbell, M., Schumann, C. & Klerkx, L., 2022. Good intentions in complex realities: Challenges for designing responsibly in digital agriculture in low-income countries. *Sociologia Ruralis*, 62(2), pp.279–304. <https://doi.org/10.1111/soru.12359>

Mdoda, L., 2023. Analysis of profitability of smallholder irrigated food plots in the Eastern Cape Province of South Africa. *Sustainability*, p.1374908.
<https://doi.org/10.17306/J.JARD.2019.01265>

Mizik, T., 2023. How can precision farming work on a small scale? A systematic literature review. *Precision Agriculture*, 24(1), pp.384–406.
<https://link.springer.com/article/10.1007/s11119-022-09934-y>

Mncina, S.D. & Agholor, A.I., 2021. Comprehensive agricultural support programme as the prime mover of agricultural development agenda in South Africa. *South African Journal of Agricultural Extension*, 49(1), pp.122–140. <https://doi.org/10.17159/2413-3221/2021/v49n1a10782>

Mokgomo, M.N., Chagwiza, C. & Tshilowa, P.F., 2022. The impact of government agricultural development support on agricultural income, production and food security of beneficiary small-scale farmers in South Africa. *Agriculture*, 12(11), p.1760. <https://doi.org/10.3390/agriculture12111760>

Mpandeli, S. & Maponya, P., 2014. Constraints and challenges facing the small scale farmers in Limpopo Province, South Africa. *Journal of Agricultural Science*, 6(4), p.135. <http://dx.doi.org/10.5539/jas.v6n4p135>

Mtega, W.P., 2018. The usage of radio and television as agricultural knowledge sources: The case of farmers in Morogoro region of Tanzania. Available at: <http://ijedict.dec.uwi.edu/>

Municipal Demarcation Board / National Treasury (IDP document), 2018. Raymond Mhlaba Local Municipality Integrated Development Plan 2018/19. Pretoria: National Treasury (MFMA).

Musunguzi, P., Baker, D. & Villano, R.A., 2023. Interrelationships amongst critical success factors and rural social enterprises' performance in a developing country context. *Journal of Rural Studies*, 100, p.102995. <https://doi.org/10.1016/j.jrurstud.2023.03.003>

Musyoka, E. (2020) The challenges of our smallholder farmers. Bayer, Internal communication/email, October 2020. Unpublished.

Mutero, J., Munapo, E. & Seaketso, P., 2016. Operational challenges faced by smallholder farmers: A case of Ethekwini Metropolitan in South Africa. *Environmental Economics*, 7(2), pp.40–52. [https://doi.org/10.21511/ee.07\(2\).2016.4](https://doi.org/10.21511/ee.07(2).2016.4)

Muzekenyi, M., Zuwarimwe, J. & Kilonzo, B.M., 2021. Analysis of technical efficiency of small-scale commercial farmers in Vhembe district. *South African Journal of Agricultural Extension*, 49(1), pp.91–104. <https://doi.org/10.17159/2413-3221/2021/v49n1a10780>

Myeni, L., Moeletsi, M., Thavhana, M., Randela, M. & Mokoena, L., 2019. Barriers affecting sustainable agricultural productivity of smallholder farmers in the Eastern Free State of South Africa. *Sustainability*, 11(11), p.3003. <https://doi.org/10.3390/su11113003>

National Treasury Republic of South Africa, 2020. National Treasury Republic of South Africa. Available at: <https://www.treasury.gov.za/>

Ncube, B.L., 2017. Institutional support systems for small-scale farmers at New Forest irrigation scheme in Mpumalanga South Africa: constraints and opportunities. *South African Journal of Agricultural Extension*, 45(2). <http://dx.doi.org/10.17159/2413-3221/2017/v45n2a395>

Ndimbwa, T., Ndumbaro, F. & Mwantimwa, K., 2019. Delivery mechanisms of agricultural information and knowledge to smallholder farmers in Tanzania: A meta-analysis study. *University of Dar es Salaam Library Journal*, 14(2), pp.87–98. Available at: <https://www.researchgate.net/publication/341241736>

Ndlovu, C. & Masuku, M., 2021. Small-scale farming and access to market: Challenges and opportunities in South Africa. *Journal La Sociale*, 2(5), pp.50–63. <https://doi.org/10.37899/journal-la-sociale.v2i5.491>

Ngaka, M.J. & Zwane, E.M., 2018. The role of partnerships in agricultural extension service delivery: A study conducted in provincial departments of agriculture in South Africa. *South African Journal of Agricultural Extension*, 46(1), pp.14–25. <https://doi.org/10.17159/2413-3221/2018/v46n1a399>

Ngarava, S., Mushunje, A. & Chaminuka, P., 2020. Qualitative benefits of livestock development programmes: Evidence from the Kaonafatso ya Dikgomo (KyD) scheme in South

Africa. *Evaluation and Program Planning*, 78, p.101722.
<https://doi.org/10.1016/j.evalprogplan.2019.101722>

Niehof, A., Gartaula, H. & Quetulio-Navarra, M., 2018. Conclusion: Diversity and dimensions of food wellbeing. In: *Diversity and Change in Food Wellbeing*, pp.279–291. Wageningen: Wageningen Academic. https://doi.org/10.3920/978-90-8686-864-3_14

Norton, G.W. & Alwang, J., 2020. Changes in agricultural extension and implications for farmer adoption of new practices. *Applied Economic Perspectives and Policy*, 42(1), pp.8–20. <https://doi.org/10.1002/aepp.13008>

Novkovic, S., Puusa, A. & Miner, K., 2022. Co-operative identity and the dual nature: From paradox to complementarities. *Journal of Co-operative Organization and Management*, 10(1), p.100162. <https://doi.org/10.1016/j.jcom.2021.100162>

Ntshangase, N.L., Muroyiwa, B. & Sibanda, M., 2018. Farmers' perceptions and factors influencing the adoption of no-till conservation agriculture by small-scale farmers in Zashuke, KwaZulu-Natal Province. *Sustainability*, 10(2), p.555. <https://doi.org/10.3390/su10020555>

Nwafor, C.U., Ogundeji, A.A. & Nwafor, I.C., 2021. Review of agricultural extension and advisory services in Sub-Saharan African countries: Progress with private sector involvement. *Journal of Agribusiness and Rural Development*, 3. <https://doi.org/10.17306/J.JARD.2021.01413>

Nyabvudzi, R.M., 2021. *The development of a public-private partnership framework to support smallholder farmers in South Africa*. Master's thesis, University of Pretoria. Available at: <https://repository.up.ac.za>

Nyamba, S.Y. & Mlozi, M.R., 2012. Factors influencing the use of mobile phones in communicating agricultural information: a case of Kilolo District, Iringa, Tanzania. *University of Dar es Salaam Library Journal*, 14(2), pp.87–98. Available at: <https://www.suaire.sua.ac.tz/handle/123456789/1786>

O'Sullivan, C.A., Bonnett, G.D., McIntyre, C.L., Hochman, Z. & Wasson, A.P., 2019. Strategies to improve the productivity, product diversity and profitability of urban agriculture. *Agricultural Systems*, 174, pp.133–144. <https://doi.org/10.1016/j.agry.2019.05.007>

OlumuyiwaAkinrole, O., 2014. Impacts of Agricultural Development Programme (ADP) on rural dwellers in Nigeria: A study of Isan-Ekiti. *International Research Journal of Finance and Economics*, 128. Available at: <http://www.internationalresearchjournaloffinanceandeconomics.com>

Otieno, E.O., Gweyi, J.O. & Oduor, N.O., 2022. Revolutionizing crops and soil resources' resilience to climate change: A case for best-fit agronomic practices in low and high input systems. In: *Agriculture, Livestock Production and Aquaculture: Advances for Smallholder Farming Systems, Volume 2*, pp.15–31. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-93262-6_2

Paltasingh, K.R. & Goyari, P., 2018. Impact of farmer education on farm productivity under varying technologies: Case of paddy growers in India. *Agricultural and Food Economics*, 6(7). <https://doi.org/10.1186/s40100-018-0101-9>

Pandey, N., de Coninck, H. & Sagar, A.D., 2022. Beyond technology transfer: Innovation cooperation to advance sustainable development in developing countries. *Wiley Interdisciplinary Reviews: Energy and Environment*, 11(2), p.e422. <https://doi.org/10.1002/wene.422>

Pappa, E., Koutsouris, A., Ingram, J., Debruyne, L., Cooreman, H. & Marchand, F., 2018. Structural aspects of on-farm demonstrations: Key considerations in the planning and design process. *International Journal of Agricultural Extension*, 6(3), pp.79–90. Available at: <https://journals.esciencepress.net/index.php/IJAE/article/view/2681/1324>

Parvizian, F., Hosseinnajad, G.H. & Lashgarara, F., 2011. Investigating the role of radio and television programs on the improvement of agricultural extension. *American Journal of Scientific Research*, 16(1), pp.6–14. Available at: <http://www.eurojournals.com/ajsr.htm>

Patel, L., Mthembu, S. & Graham, L., 2020. *The national minimum wage in the agriculture and domestic work sectors: report of a qualitative study of stakeholder responses to the national minimum wage*. Johannesburg: Centre for Social Development in Africa, University of Johannesburg. Available at: <https://cdn.dearsouthafrica.co.za/wp>

Phezisa, B., 2016. *A situational survey of Siyazondla homestead food production programme and food security, poverty alleviation in selected communities of Nkonkobe Local Municipality of the Eastern Cape*. Available at: <http://hdl.handle.net/10353/2392>

Popping, R., 2015. Analyzing open-ended questions by means of text analysis procedures. *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique*, 128(1), pp.23–39. <https://doi.org/10.1177/0759106315597389>

Pretty, J., 2020. *Regenerating agriculture: Policies and practice for sustainability and self-reliance*. Earthscan, 26(5), pp.1274–1275. <https://doi.org/10.2307/2625143>

Province of the Eastern Cape, 2021. Available at: <https://provincialgovernment.co.za/>

Purnima, K.S., Bhagyalakshmi, K. & Lalitha, A., 2018. Role performance of extension functionaries of agriculture and allied departments of South India. *Indian Research Journal of Extension Education*, 18(4), pp.45–49. Available at: <https://api.seea.org.in/uploads/pdf/2018-58-45-49.pdf>

Quandt, A., Salerno, J.D., Neff, J.C., Baird, T.D., Herrick, J.E., McCabe, J.T., Xu, E. & Hartter, J., 2020. Mobile phone use is associated with higher smallholder agricultural productivity in Tanzania, East Africa. *PloS One*, 15(8), p.e0237337. <https://doi.org/10.1371/journal.pone.0237337>

Rafael, B.M., 2023. The importance of agricultural development projects: A focus on sustenance and employment creation in Kenya, Malawi, Namibia, Rwanda, and Uganda. *Journal of Agricultural Chemistry and Environment*, 12(2), pp.152–170. <https://doi.org/10.4236/jacen.2023.122013>

Rahman, A., Ali, R., Kabir, S.N., Rahman, M., Al Mamun, R. & Hossen, A., 2020. Agricultural mechanization in Bangladesh: Status and challenges towards achieving the sustainable development goals (SDGs). *AMA, Agricultural Mechanization in Asia, Africa and Latin America*, 51(4), pp.106–120. <https://doi.org/10.4236/as.2022.132011>

Rahman, A.A. & Yousif, O., 2016. Role of private agricultural extension sector in Gezira State, Sudan. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, 25(1), pp.281–288. Available at: <http://asrjetsjournal.org/>

Raidimi, E.N. & Kabiti, H.M., 2019. A review of the role of agricultural extension and training in achieving sustainable food security: A case of South Africa. *South African Journal of Agricultural Extension*, 47(3), pp.120–130. <https://doi.org/10.17159/2413-3221/2019/v47n3a520>

Reddy, R., 2022. Innovations in agricultural machinery: Assessing the impact of advanced technologies on farm efficiency. *Journal of Artificial Intelligence and Big Data*, 2(1), pp.10–31586. <https://doi.org/10.31586/jaibd.2022.1156>

Robinson, D.K.R., Borrás, S. & Boon, W.P.C., 2024. Reimagining diffusion: Eight building blocks for reconceptualising the generalisation of innovation into society. *Technological Forecasting and Social Change*, 213, p.123844. <https://doi.org/10.1016/j.techfore.2024.123844>

Rogers, E.M., 1962. *Diffusion of innovations*. New York: Free Press. Available at: <https://archive.org/details/diffusionofinnovations1962>

Röling, N., 2019. The agricultural research-technology transfer interface: A knowledge systems perspective. In: *Making the Link*, pp.1–42. CRC Press. <https://doi.org/10.1201/9780429044410-1>

Röling, N.G. & Engel, P.G.H., 1991. The development of the concept of agricultural knowledge and information systems (AKIS): Implications for extension. In: W.M. Rivera & D.J. Gustafson (eds.) *Agricultural Extension: Worldwide Institutional Evolution and Forces for Change*, Amsterdam: Elsevier, pp.125–137. Available at: <https://research.wur.nl/en/publications/the-development-of-the-concept-of-agricultural-knowledge-and-info>

Ruggiero, S., Busch, H., Hansen, T. & Isakovic, A., 2021. Context and agency in urban community energy initiatives: An analysis of six case studies from the Baltic Sea Region. *Energy Policy*, 148, p.111956. <https://doi.org/10.1016/j.enpol.2020.111956>

Sarmah, B. & Lama, S., 2017, December. Radio as an educational tool in developing countries: Its evolution and current usages. In: *International Conference on Developmental Interventions and Open Learning for Empowering and Transforming Society*, 14. Available at: <https://www.researchgate.net/publication>

Scoones, I., 1998. *Sustainable rural livelihoods: A framework for analysis*. IDS Working Paper 72. Brighton: Institute of Development Studies. Available at: <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/3390>

Scoones, I., 2009. Livelihoods perspectives and rural development. *Journal of Peasant Studies*, 36(1), pp.171–196. <https://doi.org/10.1080/03066150902820503>

Sennuga, S.O., Ope-Oluwa, A.A. & Whiteley, A.C., 2023. Evolution of agricultural extension models in Sub-Saharan Africa: A critical review. *Spectacular Journals*, 8(1), pp.29–51. Available at: <https://ssrn.com/abstract=3794328>

Shava, E. & Thakhathi, D.R., 2016. Challenges in the implementation of community development projects in the Eastern Cape province, South Africa. *Journal of Human Ecology*, 56(3), pp.363–373. <https://doi.org/10.1080/09709274.2016.11907073>

Silong, A.K.F. & Gadanakis, Y., 2020. Credit sources, access and factors influencing credit demand among rural livestock farmers in Nigeria. *Agricultural Finance Review*, 80(1), pp.68–90. <https://doi.org/10.1108/AFR-10-2018-0090>

Singh, R., Tiwari, S. & Saroj, A., 2023. Contribution of rural women to enhance organic and sustainable farming: A review. *International Journal of Scientific and Development Research*, 8(4), pp.160–170. Available at: <https://www.ijedr.org/papers/IJSDR2304160.pdf>

Sinha, S., 2008. Lineages of the developmentalist state: Transnationality and village India, 1900–1965. *Comparative Studies in Society and History*, 50(1), pp.57–90. <https://doi.org/10.1017/S0010417508000054>

Staal, B.M., 2019. *Land reform in South Africa: A case study of the Witzenberg Pals initiative* (Doctoral dissertation, Stellenbosch University). Available at: <http://hdl.handle.net/10019.1/105727>

Statistics South Africa (StatsSA), 2020. *Census 2020*. Available at: <http://www.statssa.gov.za/>

Steinke, J., Ortiz-Crespo, B., van Etten, J. & Müller, A., 2022. Participatory design of digital innovation in agricultural research-for-development: Insights from practice. *Agricultural Systems*, 195, p.103313. <https://doi.org/10.1016/j.agsy.2021.103313>

Sulandjari, K., Putra, A., Sulaminingsih, S., Adi Cakranegara, P., Yusroni, N. & Andiyan, A., 2022. Agricultural extension in the context of the Covid-19 pandemic: Issues and challenges in the field. *Caspian Journal of Environmental Sciences*, 20(1), pp.137–143. <https://doi.org/10.22124/cjes.2022.5408>

Šūmane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., des Ios Rios, I., Rivera, M., Chebach, T. & Ashkenazy, A., 2018. Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture. *Journal of Rural Studies*, 59, pp.232–241. <https://doi.org/10.1016/j.jrurstud.2017.01.020>

Suvedi, M. & Vander Stoep, G., 2016. Improving the monitoring and evaluation of agricultural extension programs. *MEAS Discussion Paper*, 5, pp.1–20. Available at: www.meas-extension.org

Suvedi, M. & Vander Stoep, G.A., 2016. Improving the monitoring and evaluation of agricultural extension programs: Learning from the Farmer Field School approach in Nepal. *MEAS Discussion Paper*. Michigan State University, East Lansing. Available at:

<https://meas.illinois.edu/wp-content/uploads/2017/02/Suvedi-2016-Extension-Evaluation-MEAS-Discussion-Paper.pdf>

Tabari, H., 2020. Climate change impact on flood and extreme precipitation increases with water availability. *Scientific Reports*, 10(1), p.13768. <https://doi.org/10.1038/s41598-020-70816-2>

Tamsah, H. & Yusriadi, Y., 2022. Quality of agricultural extension on productivity of farmers: human capital perspective. *Uncertain Supply Chain Management*, 10(2), pp.625–636. <https://doi.org/10.5267/j.uscm.2021.11.003>

Tanklevska, N., Cherniavska, T., Skrypnyk, S., Boiko, V. & Karnaushenko, A., 2023. Financing of Ukrainian agricultural enterprises: correlation–regression analysis. *Scientific Horizons*, 8, pp.127–???. <https://doi.org/10.48077/scihor8.2023.127>

Taylor, M. & Bhasme, S., 2018. Model farmers, extension networks and the politics of agricultural knowledge transfer. *Journal of Rural Studies*, 64, pp.1–10. <https://doi.org/10.1016/j.jrurstud.2018.09.015>

Toroitich, C.J., 2021. *The association between agricultural extension services and food security among small-holder farming households in Uasin Gishu County, Kenya* (Doctoral dissertation, University of Eldoret). Available at: <http://erepository.uoeld.ac.ke/bitstream/handle/123456789/1127/CAROLINE%20JEMELI%20TOROITICH.pdf>

Ugochukwu, N.C. & Chinyelu, N.I., 2020. A review of agricultural extension and advisory services in sub-Saharan African countries: progress with private sector involvement. *Journal of Agribusiness and Rural Development*, (5772). <https://doi.org/10.17306/J.JARD.2021.01413>

Ullah, A., Saqib, S.E. & Kächele, H., 2022. Determinants of farmers' awareness and adoption of extension-recommended wheat varieties in the rainfed areas of Pakistan. *Sustainability*, 14(6), p.3194. <https://doi.org/10.3390/su14063194>

Umeh, O.J., Igwe, K.C. & Anyim, A., 2018. Farmers' knowledge of the role of extension services in Akwa-Ibom State, Nigeria. *Journal of Agricultural Extension*, 22(3), pp.87–96. <https://doi.org/10.4314/jae.v22i3.9>

Van den Berg, H. & Jiggins, J., 2007. Investing in farmers: the impacts of Farmer Field Schools in relation to integrated pest management. *World Development*, 35(4), pp.663–686. <https://doi.org/10.1016/j.worlddev.2006.05.004>

Vidanapathirana, N.P., 2019. Agricultural information systems and their applications for development of agriculture and rural community: a review study. In: *Proceedings of the 35th Information Systems Research Seminar in Scandinavia (IRIS 2012)*, pp.1–14. Available at: <https://www.researchgate.net/publication>

Waldron, M.W., Vsanthakumar, J. & Arulraj, S., 1997. Improving the organization and management of extension. Available at: <https://www.fao.org/4/W5830E/w5830e0f.htm>

World Bank Group, 2021. *Local Economic Development: Developing and Implementing Local Economic Development Strategies and Action Plans*. Washington, DC: World Bank. Available at: <https://documents.worldbank.org/>

World Bank, 2018. *Agriculture and Development: A Brief Review of the Literature*. Washington, DC: World Bank Printers. Available at: <https://documents.worldbank.org/curated/en/474761468329360966>

Worley, B., Peake, J. & Fuhrman, N., 2025. Challenging the linear approach: Effective and efficient communication of agricultural innovations. *Journal of Southern Agricultural Education Research*, 107(3), pp.2–15. Available at: <http://jsaer.org/2025/03/20/>

Worth, S.H., 2006. Agriflection: A learning model for agricultural extension in South Africa. *Journal of Agricultural Education and Extension*, 12(3), pp.179–193. <https://doi.org/10.1080/138922406009>

Wyche, S. & Steinfield, C., 2016. Why don't farmers use cell phones to access market prices? Technology affordances and barriers to market information services adoption in rural Kenya. *Information Technology for Development*, 22(2), pp.320–333. <https://doi.org/10.1080/02681102.2015.1048184>

Yar, F.G.M. & Yasouri, M., 2024. Rural development challenges in addition to effective solutions to overcome obstacles. *Zhongguo Kuangye Daxue Xuebao*, 29(3), pp.79–90. Available at: <https://orcid.org/0000-0002-3041-8809>

Zadawa, A.N. & Omran, A., 2020. Rural development in Africa: Challenges and opportunities. In: *Sustaining Our Environment for Better Future: Challenges and Opportunities*, pp.33–42. https://doi.org/10.1007/978-981-13-7158-5_3

Żmija, K. et al., 2020. Small farming and generational renewal in the context of food security challenges. *Global Food Security*, 26, p.100412. <https://doi.org/10.1016/j.gfs.2020.100412>

Zulu, N.P., 2018. *Impact of Capital Structure on Profitability: The case of the Land and Agricultural Development Bank of South Africa* (Doctoral dissertation, University of South Africa). Available at: <https://ir.unisa.ac.za/handle/10500/21643>

Appendix 1: Interview guide (Semi structure Questionnaire)

Topic: Assessing the contribution of Agricultural Government supporting programmes for small-scale farmer's livelihoods in the Amathole District rural areas in the Eastern Cape, South Africa.

Isihloko: Uhlolo lwegalelo leenkqubo zikaRhulumente zoLimo ezixhasa impiliso yamafama asakhasayo akwiindawo zasemaphandleni kwiSithili saseAmathole eMpuma Koloni, eMzantsi Afrika.

NB: THE INFORMATION PROVIDED WILL BE FIRMLY CONFIDENTIAL.

QAPHELA: IINKCUKACHA EZINIKIWEYO ZIYA KUBA YIMFIHLO NGOKUNGQONGQO.

☐ Interview guides for small-scale farmers on agricultural government supporting programmes/

☐ Isikhokelo sodliwanondlebe samafama asakhasayo seenkqubo zikarhulumente zolimo ezixhasayo

☐ INSTRUCTIONS: Elaborate where required./

☐ IMIYALELO: Cacisa apho kuyimfuneko.

☐ Survey questionnaire/

☐ Ikhweshine yesaveyi

☐ Researcher/ ☐ Umphandi: Ziyanda Jubisa

Identification/ Ukuzazisa

Name of the District/ Igama leSithili.....

Municipality/ UMasipala.....

Name of the village/ Igama lelali.....

Date of the interview/ Umhla wodliwanondlebe.....

Interviewer/ Umenzi wodliwanondlebe.....

INTERVIEW GUIDES/ IZIKHOKELO ZODLIWANONDLIBE

Brief personal information/ Iinkcukacha zomntu ngamnye ezimfutshane

Name of farmer/ Igama lomfama.....

Gender:/female/ obhinqileyomale: owasebuhlanti.....

Age/ Iminyaka yobudala.....

Marital status/ Utshatile?/ Akutshatanga?.....

What is the size of your arable land (fields?)/ Ungakanani umhlaba wakho owulimayo (amasimi?).....

What size is your home garden/

Ingakanani igadi yakho?.....

What is your educational level?/ Athini amabanga emfundo yakho?
.....

Interview Guide/ IsiKhokelo soDliwanondlebe

Objective 1: To identify the role played by extension officers in agricultural government programmes /

Injongo 1: Ukwalatha indima edlalwa ngamagosa ezolimo kwiinkqubo zikarhulumente zolimo:

1.1 In your understanding as a small-scale farmer can you describe the primary responsibilities of extension officers within agricultural government programmes and how they contribute to the success of these initiatives?

- Ngokolwazi lwakho njengomfama osakhasayo ungakhe uchaze imisebenzi esisiseko yamagosa ezolimo kwiinkqubo zikarhulumente zolimo kunye nendlela abafaka igalelo ngayo kwimpumelelo yala maphulo?

1.2 What specific strategies or methods do extension officers employ to engage with farmers and stakeholders within agricultural communities, ensuring effective dissemination of government programmes and information?

- Ngawaphi amacebo okanye iinkqubo ezingqalileyo ezisetyenziswa ngamagosa ezolimo ukubandakanya amafama nabathathinxaxheba kwiindawo zoluntu

oluyinxalenye yezolimo, ukuqinisekisa ukusasazwa ngempumelelo kweenkqubo zikarhulumente nolwazi?

1.3 Could you provide examples of successful agricultural government programmes where extension officers played a pivotal role and elaborate on their impact on improving agricultural practices or livelihoods within the targeted communities?

- Unganika imizekelo yeenkqubo zolimo zikarhulumente ezithe zayimpumelelo apho amagosa ezolimo athe adlala indima ebalulekileyo ucacise ngempembelelo yabo ekuphuculeni imisebenzi yezolimo okanye impiliso kwiindawo zoluntu ekujoliswe kuzo?

1.4 How do extension officers collaborate with other stakeholders, such as local government agencies, agricultural associations, and non-governmental organisations, to enhance the reach and effectiveness of government programmes in rural areas?

- Ingaba amagosa ezolimo ayasebenzisana nabanye abathathinxaxheba, abanjengeearhente zikarhulumente wezasekhaya, amaqumrhu ezolimo, nemibutho engekho phantsi kukarhulumente, ukuphucula ukufikelela neenkqubo zikarhulumente kakuhle kwiindawo ezisemaphandleni?

1.5 In your opinion, what are some key challenges or obstacles extension officers face in implementing agricultural government programmes, and how do they navigate these challenges to achieve desired outcomes?

- Ngokwembono yakho, yeyiphi inxalenye yemingeni okanye izithintelo ezikhulu amagosa ezolimo ajamelene nazo ekusunguleni iinkqubo zezolimo zikarhulumente, yaye ingaba bayisombulula njani le mingeni ukufezekisa iziphumo ezinqwenelekayo?

Objective 2: To identify challenges faced by small-scale farmers in accessing agricultural government-supporting programmes in rural areas

Injongo 2: Kukuqaphela imingeni ekujanyelwene nayo ngamafama asakhasayo ekufikeleleni kwiinkqubo zolimo zikarhulumente kwiindawo zasemaphandleni

2.1 What are some of the common obstacles or difficulties encountered by small-scale farmers when attempting to access agricultural government-supporting programmes in rural areas, based on your experience or observations?

- Yeyiphi inxalenye yezithintelo ezixhaphakileyo okanye ubunzima ekuhlenganwa nabo ngamafama asakhayo xa kuzanywa ukufikelela kwiinkqubo zokuxhasa ezolimo zikarhulumente kwiindawo ezisemaphandleni, ngokubhekisele kumava akho okanye ngokwendlela oqaphela ngayo?

2.2 Can you discuss any specific barriers that small-scale farmers face in understanding or navigating the application process for agricultural government-supporting programmes and how these challenges impact their ability to participate?

- Ungakhe uxoxe ngazo naziphi izithintelo ezithe ngqo amafama ajamelene nazo ekwenzeni isicelo seenkqubo zezolimo zikarhulumente nendlela le mingeni echaphazela ngayo ukukwazi kwabo ukuthatha inxaxheba?

2.3 From your perspective, what key logistical or infrastructural challenges hinder small-scale farmers' access to government-supporting agricultural programmes in remote or underserved rural communities?

- Ngokwembono yakho, yeyiphi imingeni emikhulu kumalungiselelo okanye yezophuhliso lweziseko ethintela ukufikelela kwamafama asakhayo kwiinkqubo zokuxhasa ezolimo zikarhulumente kwiindawo ekunzima ukuzifikelela okanye kuluntu lwasemaphambandleni olungahoyekanga?

2.4 Have you encountered any issues related to awareness or information dissemination among small-scale farmers regarding agricultural government-supporting programmes' availability and eligibility criteria? If so, how do these factors affect farmers' engagement with these initiatives?

- Ingaba wakhe wahlangana nayo nayiphi na imiba enxulumene nokusasazwa kolwazi okanye iinkcukacha phakathi kwamafama asakhasayo ebhekisele ekufumanekeni kwenkxaso yeenkqubo zolimo zikarhulumente nemigqaliselo engokufaneleka ukuba wamkelwe kubulungu? Ukuba kunjalo, ingaba ezi meko zikuchaphazela njani ukuzibandakanya kula maphulo?

2.5 In your interactions with small-scale farmers, what are the most significant financial, administrative, or bureaucratic hurdles they face when accessing and benefiting from agricultural government-supporting programmes in rural areas?

- Kwintsebenziswano yakho namaafama asakhasayo, yeyiphi eyona miqobo mikhulu kakhulu bajamelene nazo kwezemali, kwezolawulo, okanye kwezolibaziseko ngabasemagunyeni xa befikelela naxa bezuza kwiinkqubo zezolimo zikarhulumenteni ezisemaphandleni?

2.6 What challenges did you face in your crop/vegetable production and animal production? Did the programmes cater to those challenges?

- Yeyiphi imingeni owathi wajamelana nayo ngethuba lokulinywa kwezityalo/imifuno okanye ukwandisa imfuyo? Ingaba ezi nkqubo zaye zayisombulula loo mingeni?

Objective 3: To determine the awareness of Agricultural government supporting programmes for small-scale farmers

Injongo 3: Ukuqinisekisa ukwaziswa kweenkqubo ezixhasa ulimo zikarhulumente kumafama asakhasayo

1.6 Can you describe the awareness among small-scale farmers regarding agricultural government-supporting programmes in your area based on your interactions or observations?

- Ungakwazi ukuchaza ulwazi abanalo abangamafama asakhasayo ngokubhekisele kwiinkqubo zokuxhasa zezolimo zikarhulumente kwindawo okuyo ngokubhekisele kwintsebenziswano okanye kwindlela oqaphela ngayo?

1.7 How do small-scale farmers typically access information about agricultural government-supporting programmes, and what channels or platforms are most effective in reaching them?

- Ingaba amafama asakhasayo ngokwesiqhelo alufumana phi ulwazi ngeenkqubo zokuxhasa zezolimo zikarhulumente, yaye ngawaphi amajelo okanye amaqonga asebenza kakuhle kakhulu ekufikeleleni kubo?

1.8 What are some common misconceptions or gaps in understanding that small-scale farmers may have regarding the availability or benefits of agricultural government-supporting programmes, and how do these impact their participation?

- Zeziphi ezinye zezinto eziziimposiso ezixhaphakileyo okanye umsantsa kulwazi ekungenzeka ukuba amafama anazo ngokubhekisele ekufumanekeni okanye kuncedo oluza neenkqubo zokuxhasa zezolimo zikarhulumente, nendlela ezi zinto ezichaphazela uthathonxaxheba lwabo?

1.9 Have you encountered any instances where small-scale farmers were unaware of specific government programmes to support their agricultural activities? If so, what strategies or interventions have effectively increased their awareness?

- Ingaba wakhe wahlangana nazo nokuba zeziphi na iimeko apho amafama asakhasayo angenalwazi khona ngeenkqubo zikarhulumente ezithile zokuxhasa imisebenzi yezolimo yabo? Ukuba kunjalo, ngawaphi amacebo okanye ungenelelo ngoncedo oluye lwandisa ngempumelelo ulwazi lwabo?

1.10 From your experience, what role do local extension officer services or community organisations play in disseminating information and raising awareness about government-supported programmes among small-scale farmers in rural areas?

- Ngokwamava akho, yintoni indima edlalwa ngamagosa eenkonzo zezolimo okanye imibutho yoluntu ekusasazeni iinkcukacha nokwazisa ngeenkqubo ezixhaswa ngurhulumente phakathi kwamafama asakhasayo kwiindawo zasemaphandleni?

1.11 How did you know about the Siyazondla programme, comprehensive agricultural support programme, cropping programme, livestock improvement scheme programme?

- Ufikelele ekwazini njani ngenkqubo uSiyazondla, inkqubo yokuxhasa ezolimo ebanzi, inkqubo yotyalo lwezilimo, inkqubo yeskim sophuculo lwemfuyo?

3.7 What value did the programme bring to your life?

- Lixabiso lantoni eliye laziswa yile nkqubo ebomini bakho?

3.8 What inputs did you receive from the programme?

- Yintoni elulwazi oyizuzileyo kuyo le nkqubo?

3.9 What skills did you receive from the programmes?

- Zeziphi izakhono ozizuzileyo kwezi nkqubo?

3.10 Were your needs assessed prior being made aware about the programmes?

- Ingaba izidingo zakho ziye zahlolwa phambi kokuba waziswe ngezi nkqubo?

3.11 How was the programme communicated to you as a farmer ?

- Uye wafumana ukuyaziswa njani wena le nkqubo njengomfama?

3.12 How did you get selected for the programme?

- Uye wakhethwa njani wena ukuze ube yinxalenye yale nkqubo?

3.13

Are there any other agricultural government supporting programmes that have been introduced to you besides the ones mentioned above? What were the benefits?

- Ingaba zikhona ezinye iinkqubo zokuxhasa ezolimo zikarhulumente eziye zaziswa kuwe ngaphandle kwezi zichazwe ngentla? Ziintoni ezibe luncedo?

THANK YOU

ENKOSI

Appendix 2: Consent to access data base of farmer beneficiaries



rural development and agrarian reform

Department:
Rural Development and Agrarian Reform
PROVINCE OF THE EASTERN CAPE

DIRECTORATE - EXTENSION AND ADVISORY SERVICES: RAYMOND MHLABA LM

6 Ingle street • Agriculture building • Private Bag x 1315 • Alice • 5700 • REPUBLIC OF SOUTH AFRICA

Tel: 040 653 1153 • **Cel:** [REDACTED] • **E-mail:** [REDACTED]m • **Website:**
www.drdar.gov.za

MEMORANDUM

TO:	ZIYANDA JUBISA (UKZN)
FROM:	SILINGA. S: ASSISTANT DIRECTOR RAYMOND MHLABA LM
DATE:	10 MAY 2024
SUBJECT:	APPROVAL TO CONDUCT RESEARCH

Dear sir/ madam

I Mr Sivuyile Silinga, the assistant director of the department of rural development and agrarian reform, Raymond Mhlaba , Alice serves to confirm that Ziyanda Jubisa with topic

: Assessing the contribution of agricultural government supporting programmes for small- scale farmers in rural areas of the Amathole District, Eastern Cape, South Africa, under supervision of Dr Karen Caister May conduct research on the premises of **DRDAR** or make use of the department's database of the small-scale farmers who are beneficiaries of the agricultural government supporting programmes.

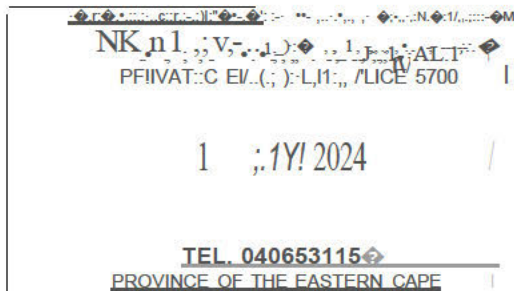
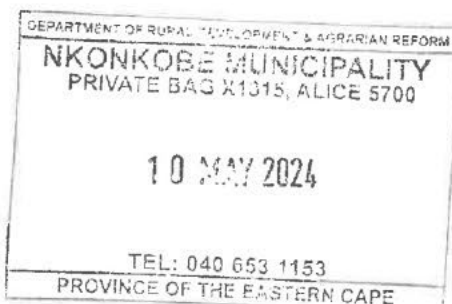
This is to indicate that the department grants access to the contact of the farmers and being well aware that this project involves interviewing farmers who volunteers to participate in the research project.

The department understands that invitations to participate in this study will be extended to all the farmers and that participation in this study is on a voluntary Basis. It's also further understood that all data collected will done with duly informed consent from each participating beneficiary. APPROVAL TO CONDUCT RESEARCH: ZIYANDA JUBISA (UKZN)

The department of rural development and agrarian reform support these planned activities.


Mr. S SILINGA
ASSISTANT DIRECTOR: RAYMOND MHLABA LM

DATE: 10/05/2024



Appendix 3 : Informed consent email/Letter, Request for research participant

Dear Sir/Madam

Date: May 2024

I hope this message finds you well. My name is Ziyanda Jubisa, and I am a Master's student in Agricultural Extension, Rural, and Resource Management at the University of KwaZulu-Natal, Pietermaritzburg campus, South Africa.

I am conducting a study that seeks to assess the contribution of Agricultural government supporting programmes on small-scale farmer's livelihoods in the rural areas of the Amathole district in the Eastern Cape, South Africa.

I would like to interview you as a way of gathering information that will make this study a success.

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as the opinions of a key informant unless you give me permission to use your name.
- The interview may last for about 1 hour and may be split depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and kept for at least 5 years.
- You have a choice to participate, not participate or stop participating in the interview. You can withdraw at any time, but I would really appreciate it if you supported me to the end.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- In the interests of ensuring I hear everything you say, I wish to record our interview as well as take notes and photographs

I can be contacted at: Email: z[REDACTED]il. Cell: +[REDACTED]	My supervisor can contacted at: Email : <u>Caister@ukzn.a</u> Phone: 033 260 5121	You may also contact the Research O through: Mrs M Manjoo (Administrator) SAEES Higher Degrees Research Office, E-mail: <u>manjoom@ukzn.ac.za</u>
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Thank you for your contribution to this research.

[REDACTED]

Appendix 4: Evidence of Consent

DECLARATION by Respondents

I hereby confirm that I understand the contents of the letter and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Date	Signature of participant
19-08-2024	Signature of Participant / Utyikityo lomthathinxaxheba 19 August 2024 Date / Umhla
19-08-2024	Signature of Participant / Utyikityo lomthathinxaxheba 19 August 2024 Date / Umhla
19-08-2024	Signature of Participant / Utyikityo lomthathinxaxheba 19 August 2024 Date / Umhla
22-08-2024	Signature of Participant / Utyikityo lomthathinxaxheba 22 August 2024 Date / Umhla
22-08-2024	Signature of Participant / Utyikityo lomthathinxaxheba 22 August 2024 Date / Umhla
28-08-20	Signature of Participant / Utyikityo lomthathinxaxheba 28 August 2024 Date / Umhla
05-09-2024	Signature of Participant / Utyikityo lomthathinxaxheba 05 September 2024 Date / Umhla
10-09-2024	Signature of Participant / Utyikityo lomthathinxaxheba 10 September 2024 Date / Umhla

Date	Signature of participant
17-09-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>17 September 2024</u>
24-09-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>24 September 2024</u>
24-09-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>24 September 2024</u>
16-10-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>16/10/2024</u>
16-10-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>16/10/2024</u>
17-09-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>17 September 2024</u>
22-10-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>22/10/2024</u>
22-10-2024	 Signature of Participant / Utyikityo lomthathinxaxheba Date / Umhla <u>22/10/2024</u>

Appendix 5 : Ethical Clearance



26 July 2024

Ziyanda Jubisa (220067535)
School of Agri Earth & Env Sc
Pietermaritzburg Campus

Dear Z Jubisa,

Protocol reference number: HSSREC/00007272/2024

Project title: Assessing the contribution of agricultural government programmes for small-scale farmers of the rural areas of the Amathole district in the Eastern Cape, South Africa

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 04 July 2024 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

Incidents of adverse events and serious adverse events (AEs and SAEs) should be reported in writing to HSSREC, the study sponsors, and any regulatory authority (where appropriate), within 7 working days of the occurrence for local sites and 14 days for all other South African sites.

This approval is valid until 26 July 2025.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)
/nng

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: hssrec@ukzn.ac.za Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

Appendix 6: Demonstration of thematic analysis: Interview responses as raw data – codes-An example of method.

Method of capturing interviews:

Interviews were recorded on the researcher's phone. Researcher transcribed these by hand onto paper, then digitized the written notes, translating into English and checking against phone recording to clarify as needed.

Step 1. Tagging the transcribed raw data by interview themes and then allocating codes

TRANSCRIPTS Note that personal data has been removed to prevent identification of the farmer in this interview. Color coding: Roles : Challenges ; Awareness of Govt Programmes

DATE xxxxx

Interview No. XX

The respondent is an XXXXXXXXX who lives at XXXXXXX village in Raymond Mhlaba municipality, Amathole district. XXXXXXXXXXXX. XXXX utilizes 1.5 hectares of arable land. XXXXXXX home garden is 0.5 hectares. XXXXX educational level is XXXXX. XXXX produces both vegetables and poultry.

Step 1) Text from Translated notes colour coded for interview themes	Step 2) Codes used for roles played by govt. programmes
The respondent stated the primary responsibility of extension officers, in XXXX understanding is to instruct and inform them about the Agricultural Government programmes, then after assist them with their agricultural activities. When it comes to strategies and methods that extension officers employ to engage with them as farmers, XXXX stated that they do come around in the village hall and summon farmers to educate them about Agricultural production, how to cultivate, how to expand yield, how to position your seedlings. XXXX stated that extension officers conduct information days to give technical advice and to disseminate information. The	Expectations of Extension Farmer Education Farmer Education

respondent stated that extension officers have brought them seedlings to cultivate, but XXXX has not seen any collaboration with other stakeholders. XXXX explained that they sometimes cannot get to extension officers due to their poor roads and lack of resources, including transportation, but XXXX also hinted that they are eager to learn more from the extension officers. XXXX said that as small-scale farmers, the biggest challenges they face when trying to access the Agric Gov Program are not knowing about the programmes, not knowing that they exist, and not knowing where to go to get information about the programmes, they are pretty much in the dark. In addition, the respondent emphasized the problem of farmers' illiteracy and their lack of knowledge about which offices to contact in order to receive assistance, claiming that when they go out and knock on these offices, they are sent around to go and get assistance from someone else. XXXX hinted that they need help and to benefit from the programmes, and that it has been a very long time since XXXX has received anything from any programme. Other program, such as the PESI program, XXXX also mentioned that on this particular program when they receive vegetable seedlings, they are the old, expired seedlings that don't produce food, like potatoes. XXXX mentioned a time when they were assembled as farmers to group themselves and make a list to receive inputs, but they never received anything. XXXX also stated that even the youth are struggling to start cultivating in the fields due to a lack of tractors to plough for them, and they are not receiving any guidance on where to go to request tractors. The biggest infrastructure challenge that farmers face is fencing; there are many fields that require fencing, so as farmers they face theft and livestock damaging cultivated fields so there is no yield or production." XXXX also mentioned that XXXX faces challenges like weeds and pests in XXXX vegetable/crop production, and XXXX said that based on her interactions with other farmers, there is a lack of knowledge and awareness within the Agricultural government programmes. XXXX also pointed out that in rural	Input Distribution Limited Outreach Limited Outreach Program awareness Program awareness Administrative support No follow through Input distribution No follow through Stakeholder collaboration Programme Awareness
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communities, farmers with gardens are not taken seriously as the farmers with open bigger fields, and that farmers with larger plots are the ones who are taken into consideration. XXXX has no knowledge of any of the programmes and has never received any benefits; however, XXXX does know that for the PESI program, they were summoned and their ID copies were taken to be assessed, and they received an R3000 voucher to spend at Mthiza on pig feed, poultry feed, and medication.	Resource Bias/equity challenge Programme Awareness Input Distribution
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Step 2. Codes used for tagging extracts from transcribed content

Interview number	Extract related to role of extension officers	Code phrase assigned to extract (some may have more than one)
1	"Extension officers inform us about government programmes and provide seedlings, but there's no follow-up after initial assistance."	Programme Awareness Failure to pursue/ no follow through
2	"They assist with the application process, but the programmes rarely deliver on their promises."	Administrative Support Failure to pursue/ no follow through
3	"Extension officers prioritise certain groups, like sheep farmers, while others are neglected. They should be fairer in their services."	Resource Allocation Bias
4	"They conduct training and meetings but fail to inform farmers about important programmes like Siyazondla and CASP."	Training Organization Limited Outreach
5	"Extension officers should consult farmers more frequently. Currently, they are hard to reach and unresponsive."	Program Awareness Limited Outreach
6	"Farmers rely on WhatsApp for information because extension officers rarely visit or provide updates."	Limited Outreach
7	"When extension officers visit, they organize information days and give advice, but their outreach is inconsistent."	Stakeholder Collaboration Limited Outreach
8	"Extension officers collaborate with stakeholders but fail to make farmers aware of opportunities on time."	Stakeholder Collaboration Limited Outreach

Interview number	Extract related to role of extension officers	Code phrase assigned to extract (some may have more than one)
9	“The officers are responsible for raising awareness, but they often fail to ensure farmers understand the programmes.”	Programme Awareness Failure to pursue/ no follow through
10	“Extension officers take pictures of farms and ask about needs, but there’s no follow-up to address those needs.”	Administrative Support Failure to pursue/ no follow through
11	“Extension officers are supposed to educate and guide farmers, but their presence is minimal, leaving farmers to work independently.”	Farmer Education Limited Outreach
12	“The officers should monitor farms regularly, but in our area, they are inaccessible.”	Limited Outreach
13	“Extension officers are expected to organize workshops and improve farmers’ skills, but they are often unprepared or absent.”	Farmer Education Failure to pursue/ no follow-through
14	“Extension officers have helped with programmes like PESI by providing inputs and organising community meetings.”	Stakeholder Collaboration Input Distribution
15	“They collaborate with local government and other organizations, but favouritism in resource distribution undermines their efforts.”	Stakeholder Collaboration Resource Allocation Bias/ Equity Challenges
16	“Their role should include offering technical advice and follow-ups, but they focus more on administrative tasks and ignore farmers' needs.”	Farmer Education Limited Outreach