EVALUATING FARMERS' PERCEPTIONS TOWARDS EXTENSION SERVICE DELIVERY DURING THE COVID-19 PANDEMIC: A CASE STUDY OF GA-MOTHAPO VILLAGE, LIMPOPO PROVINCE, SOUTH AFRICA

BY

PAUL MOGOWE BOPAPE

A FULL RESEARCH DISSERTATION SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER AGRICULTURAL MANAGEMENT

(AGRICULTURAL EXTENSION)

IN THE

CENTRE FOR RURAL COMMUNITY EMPOWERMENT

SCHOOL OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

FACULTY OF SCIENCE AND AGRICULTURE

UNIVERSITY OF LIMPOPO

SUPERVISOR: PROF. EM ZWANE

2024

DECLARATION

I Paul Mogowe Bopape declare that this research dissertation hereby submitted to the University of Limpopo for Master of Agricultural Management (Agricultural extension) has not previously been submitted by me for a degree at this or any other university, this is my work in design and in execution, and that all material contained herein has been duly acknowledged.

Signed: …… Date: 07/03/2024

MR. PM BOPAPE

DEDICATION

I dedicate this study to my family that taught me that in any situation I must not fail to do my best. I dedicate this accomplishment to my friend Tshepo Mackson Mogale who told me that it is better to work smart and hard to achieve our goals. The study is also dedicated to my cousin Isaac Makwela who played a great role for my achievement through praying for me to successfully complete the study and my cousin Tebogo Bopape who told me that no one in his/her grave can produce ideas that can have impact on living things.

ACKNOWLEDGEMENTS

I would like to express thanks to Almighty God for the protection and for making it possible for me to complete the study.

I wish to express my love and special appreciations to all those who have assisted and supported me in all sorts of ways throughout this study:

Thanks go to Centre for Rural Community Empowerment at the University of Limpopo for supporting that this study takes place.

I would like to send my appreciation to Bakgaga ba Mothapo for granting permission to conduct this study.

Appreciation to my supervisor Prof. EM Zwane for the continuous inspiration, guidance, and interest in my work.

I appreciate My former supervisor Mr. EM Letsoalo for the encouragement and guidance for me to successfully complete this study.

I would like to thank Mrs. NJ Mamabolo who encouraged me take a step to register for degree of master of Agricultural Management (Agricultural extension).

Furthermore, I would like to send my gratitude to Ga-Mothapo farmers who voluntarily participated in the study.

ABSTRACT

Agricultural extension plays an important role in enhancing agricultural productivity and food security. The aim of the study was to evaluate the perceptions of small-scale farmers towards extension service delivery during the COVID-19 pandemic from hard lockdown level 5 to 3, to inform policy makers about the current extension service delivery and its challenges in Ga-Mothapo village. However, during the COVID-19 pandemic, restrictions of movement of people were put in place to control the spread of the virus and this created a challenge for both farmers and extension officers to find alternative ways to communicate and work together. The study was conducted in Ga-Mothapo Village, Limpopo Province, South Africa. The sample size of the study was 73 small-scale farmers that was farmers calculated using Cochran's formula (Cochran, 1977). The primary data was collected through semi-structured questionnaire and face-to-face interviews. The qualitative data was coded with arbitrary numbers that were analysed using statistical package for social science (IBM SPSS) software version 29 (2022). The Likert scale was further used to analyze data that yield descriptive statistics to acquire frequency, percentages, standard deviation, and the mean score. Findings of the study is that majority of small-scale farmers participated in the study were male (56%) and female (44%), 63% of the sample attended secondary school, 72%) of small-scale farmers received financial support in a form of vouchers with a restricted purchase in selected stores. The study also found that information communication technology (ICT) channels were used by small-scale farmers to communicate with customers during COVID-19 pandemic hard lockdowns level 5 to 3. The study recommended the following: the use of Cell phones should be encouraged as primary source of ICT channels to communicate information with the farmers, The Department of Agriculture Land and Rural Development, when supporting farmers in the form of vouchers to buy farm inputs, should not limit the farmers to purchase only to selected stores, furthermore the Government should create a policy that ensures that prices do not go beyond market price and that it should create common storage for small scale farmers.

.

Key words: Small-scale farmers, Extension service, and COVID-19 Pandemic.

TABLE OF CONTENT

Contents **Page**

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVATIONS

Acronym	Name
ANADER	Agence National d'Appui au Developpement Rural
CRCE	Centre for Rural Community Empowerment
DALRRD	Department of Agriculture, Land Reform and Rural development
ICT	Information Communication Technology
LDARD	Limpopo Department of Agriculture and Rural Development
NGOs	Non-Government Organisations
PPEs	Personal Protection Equipment’s
SPSS	Statistical Package for Social Sciences
TREC	Turfloop Research Ethics Committee
ULREC	University of Limpopo Research and Ethics Committee

1. CHAPTER ONE BACKGROUND AND INTRODUCTION

1.1 Background and Introduction

The COVID-19 pandemic was considered a global pandemic by the World Health Organization on March 11, 2020 (WHO, 2020). COVID-19 pandemic lockdown had negative impact on small-scale farmers and the economy of the country (Mthembu *et al.,* 2022). COVID-19 pandemic was intensifying daily, which caused the disruptions and future threats to food supply chain as the COVID-19 regulations changed normal ways of doing things and operating businesses including agribusiness. Tarek and Mohamed, (2022) reported that COVID-19 pandemic affected agriculture sector negatively and affected global economic growth. Agricultural production systems are labour intensive, and they are vulnerable not resist macroeconomic shock such as COVID-19 pandemic (OECD 2020). COVID-19 pandemic was a thread to life's including lives of extension officers and farmers. Agricultural extension is social change programme that extension officers assist farmers to solve their own problems to achieve their farm production goals (Yusuf *et al.,* 2022). Agricultural extensionists are responsible to provide extension service to the farmers. Agricultural extension is registered with South African Council of Natural Science Profession (SACNASP) since 2013, it is recognised as science. Khwidzhili and Worth, (2019) reported that Public agricultural extension services evolved from as early as the beginning of 1900 in South Africa.

Agricultural extension services were universal introduced as an institutional input to improving agricultural productivity and to ensure food security (Baiyegunhi., 2019). Understanding farmers perceptions towards agricultural extension service assist in provision of relevant information and extension service to farmers. Agricultural extension service assist farmers with relevant information for them to solve their own farming problems and to make good farming decisions (Moyo and Salawu, 2018). Effective extension services delivery to farmers contribute to ability to sustain their farm and increase farm productivity. Maoba, (2016) reported that effective agricultural services can contributes towards increase farm in productivity, job creation and

poverty alleviation. Accessibility is crucial in the successful dissemination of agricultural information and overall efficiency of farm production (Hazem *et al.,* 2021). This chapter focused on the following: (1.2) Problem statement, (1.3) Scientific contribution of the study (1.4) Aim, (1.5) Objectives of the study, (1.6) Research questions and (1.7) Significance of the Study. They are arranged respectively in that order.

1.2 Problem statement

Provision of agricultural extension service is a better way to enhance agricultural production (Agholor *et al.,* 2013). However, during the COVID-19 pandemic, restrictions of movement of people were put in place to control the spread of the virus and this created challenge for both farmers and extension officers to find alternative ways to communicate and work together. Both the small-scale farmers and extension officers had limited direct access to each other due to travel limitations and prohibition of public gatherings (Muvhuringi *et al.,* 2021). Furthermore, small-scale farmers were not given permits during hard lockdown in South Africa to continue with their farming activities (Buthelezi, *et al.,* 2020). Even though there are agricultural extension approaches to promote agricultural extension service delivery and agricultural development. The COVID-19 pandemic presented a huge challenge to these extension approaches used for providing service to small-scale farmers. According to Muvhuring *et al.,* (2021), the occurrence of the COVID-19 pandemic disrupted the flow of agricultural commodities to markets and implementation of agricultural extension service. Farmers' perceptions regarding the effectiveness of agricultural extension service performance through extension approaches is limited due to COVID-19 restrictions (Somanje, *et al.,* 2021). These restrictions meant that extension officers had to review the way they provide service to small-scale farmers and adjust their approaches, methods, and tools to suit the pandemic situation.

The question that this study pursued was to what extent did extension officers adjust their approaches for delivering service to satisfy small-scale farmers' needs in Ga-Mothapo village? Hence the study was on the evaluation of farmers' perceptions towards extension service delivery during the COVID-19 pandemic.

1.3 Scientific contribution

The study findings contribute to the Department of Agriculture, Land Reform and Rural development (DALRRD) in understanding the perceptions of farmers towards extension service, improving policies and agricultural extension approaches applied to deliver extension services to the farmers during the time of COVID-19 pandemic. The study findings contribute to the improvement of agricultural extension programmes in institutions of higher learning. The study results are available for Non-Government Organisations (NGOs) that provide agricultural extension service and for the Limpopo Department of Agriculture and Rural Development (LDARD) to implement agricultural project and programmes. The findings of the study contribute knowledge and advice pertaining to extension service delivery during COVID-19 pandemic, and preparing to other possible pandemic that might happen might in the future.

1.4 Research questions:

I) What are the perceptions of small-scale farmers towards extension service delivery during the COVID-19 pandemic from hard lockdowns level 5 to level 3?

II) What is the level of accessibility of agricultural extension service during the COVID-19 pandemic from hard lockdowns level 5 to level 3 by farmers?

III) What are the identified, described methods and information communication technology (ICT) channels that were used to deliver agricultural extension service during the COVID-19 pandemic from hard lockdown level 5 to level 3?

1.5 Aim of the study:

To evaluate the perceptions of small-scale farmers towards extension service delivery during the COVID-19 pandemic from hard lockdowns level 5 to level 3, to inform policy makers about the current extension service delivery and its challenges in Ga-Mothapo village.

1.6 Objectives of the study are as follows:

I) To describe the perception of small-scale farmers towards extension service delivery during the COVID-19 pandemic from hard lockdowns level 5 to level 3.

II) To assess the accessibility of agricultural extension service during COVID-19 pandemic from hard lockdown level 5 to level 3 by farmers.

III) To identify, describe methods and information communication technology (ICT) channels that were used to deliver agricultural extension service during the COVID-19 pandemic from hard lockdowns level 5 to level 3.

1.7 Significance of the study

Agricultural extension plays an important role in enhancing agricultural productivity and food security (IFRI, 2015). The study evaluates farmers perceptions towards agricultural extension service during COVID-19 pandemic hard lockdowns 5 to 3, which can inform policy makers whether farmers were satisfied with the extension service provided and can also influence the amendment of new policy that are appropriate for farmers to maintain farm productivity during hard times. Extension service assist small-scale to sustain their farming activities and increasing agricultural productivity (Sylla *et al.,* 2019). The study shares smallholder farmer's perceptions and how they interacted with extension officers. It is important for them to share their perceptions regarding the extension service they received during the COVID-19 pandemic from agricultural extension officers so that the Department of Agriculture, Land Reform and Rural development (DALRRD) and other stakeholders can re-visit their extension service delivery approaches to increase their farm productivity, income, and market access opportunities. Abdu-Raheem, (2014) reported that extension workers must consider farmers as partners in the development of new techniques and

generating innovations rather than as only the receipts of agricultural extension services which may or may not be suited to their livelihoods and farming activities. The pandemic affects both farmers and extension officers and finding collaborative ways will help agricultural production to improve. The study identifies and describe new ways and methods created and adopted during COVID-19 from hard lockdown level 5 to level 3.

2. CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to provide a short genesis of COVID-19, and to review the experience of countries that were affected with the COVID-19. In December 2019 the first incident of COVID-19 was recorded in Wuhan City in China (Chakraborty and Maity, 2020). The COVID-19 outbreak in Africa had both direct and indirect impact which included but were not limited to illness, deaths of food systems workers and disruption of the food supply chains (Mohamed *et al.,* 2021).

The small-scale farmers livelihoods and food security were adversely affected by COVID-19 pandemic, especially that movement was strictly monitored by the government. There has not been much research in this area that has examined farmers' actual experiences since the COVID-19 pandemic (Wegerif, 2022). This chapter is focused on the extension service delivery during the COVID-19 pandemic in African farmers, challenges faced by extension officers and small holder farmer during COVID-19 pandemic hard lockdown level 5 to level 3 in south Africa. The accessibility of agricultural extension service during the COVID-19 pandemic from hard lockdown level 5 to level 3 by farmers and Information communication technology (ICT) channels that were used to deliver agricultural extension service.

2.2 Extension service delivery during the COVID-19 pandemic

Extreme vulnerability in the agriculture sector has resulted from the COVID-19 pandemic (Dlamini *et al.,* 2021). Agricultural extension services are significant for food security and sustainability in developing countries (Siankwilimba *et al.,* 2022). The COVID-19 pandemic has had a significant impact on agricultural systems' social and economic activities. In the poorest countries, where agricultural production systems are more labour-intensive and have a lower ability to endure a large macroeconomic shock, the virus posed a serious threat to livelihoods and the availability of food (OECD, 2020). During COVID-19 pandemic, the majority of farmers reported having

limited availability to agricultural inputs like seeds, fertilizer, herbicides, fungicides, and insecticides. (Mthembu, 2022). However, Baffoe-Bonnie *et al.,* (2021) reported that channels for assisting farmers in developing countries were established by agricultural extension and advisory extension practitioners to help mitigate some of the effects of COVID-19 pandemic. Small-scale farmers needed all the necessary production inputs as they could not afford to recover from major loses as compared to commercial farmer. A substantial supply-side shock was caused by COVID-19 pandemic restrictions, including friction in agricultural markets, in rural parts of sub-Saharan Africa (Huss, 2021).

Talukdah *et al.,* (2021) pointed out that COVID-19 pandemic caused general transport challenge that affected the agri-food supply chain in Zimbabwe. The COVID-19 crisis showed that small-scale farmers in some African regions, particularly Southern Africa, were not yet prepared for supplementing local communities as farmers lacked the agency and transformative power to create localized food systems that could supply communities with sufficient food (Mthembu, 2022). The Pan-Africa Bean Research Alliance (PABRA) offered information and trainings on digital agronomy through programs run in conjunction with government extension officers (Nchanji and Lutomia, 2021). The Agence National d'Appui au Developpement Rural (ANADER) in Côte d'Ivoire updated its extension service tools and methods with an emphasis on ICTs; utilized the current e-extension system to inform and interact with producers; extension of existing guidance for COVID-19-related issues (FAO. 2020). The support provided by ANADER was critical to the small-scale farmers to sustain their production during COVID-19 pandemic.

2.3 Challenges faced by extension officers and small holder farmers during COVID-19 pandemic hard lockdown level 5 to level 3 in South Africa.

The restrictions, which vary in their level of strictness, have brought unpredictability in the food's production, consumption, and distribution, raising concerns about how they may affect the already serious issues with food security in developing countries (Nchanji *et al.,* 2020). Hard lockdown restrictions were implemented in South Africa

on the 26 of March 2020, to stop the spread of Covid 19 disease. The restriction was made to all areas as determined by the Government. COVID-19 lockdown was done to save life including that of small-scale farmers. They were subjected to regulation which some of them had negative impact to their productivity. When COVID-19 started to have negative impact, small-scale' economic growth and development were hampered by not having access to formal, markets for high-value products (Siankwilimba *et al.,* 2022). Furthermore, there was reduction in demand of farmers produce caused by the restaurant closures, food outlets and hotels during the hard lockdown (Sucheran, 2021).

The threat of enormous spreading of the virus remained serious because of the potential fear as well as the potential risk of human-to-human transmission amongst extension officers and farmers (Yusuf, 2022). Agricultural extension practitioners have found it difficult to reach farmers using traditional methods like field days, on-farm demonstrations, and group training due to COVID-19 guidelines that ban public gatherings and close contact activities (Baffoe-Bonnie *et al.,*2021). The COVID-19 pandemic's effects caused immense suffering on the small-scale farmers who depended on the public agricultural extension services for capacity development and extension services. However, DALRRD (2021) reported that 2020 was a very good year for summer crops, despite the effects of COVID-19 and the steps taken to flatten the curve. This may be because before the lockdown measures were imposed, the crop was almost ready for harvest.

2.4 The accessibility of agricultural extension services by farmers during the COVID-19 pandemic from hard lockdown level 5 to level 3

Farmers' access to agricultural inputs like fertilizers, seeds, and farm equipment were hampered by travel restrictions and restricted mobility (Muvhuringi *et al.,* 2021). Limits on the mobility of people across borders and lockdowns are contributing to labour shortages for agricultural sectors (OECD, 2020). A study by Sasakawa Africa Association (SAA) showed that when the lockdown began, the majority of African farmers did not receive any training from extension officers (SAA, 2020). The lack of

provision of extension service by extension officers during the start of COVID-19 pandemic hard lockdown, might have been created by extension officers who were still scared of the virus and still planning safe approaches to use to assist farmers.

The FAO (2020) reported that due to COVID-19 restrictions, the food and agriculture sector confront difficulties along the value chain which include: provision of agricultural extension service, access to labour shortfalls and agricultural markets. DALRRD (2021) reported that specialist agricultural bank guided by a government mandate to provide financial services, including crop insurance, to established commercial farmers and developing farmers. Closure of informal markets also disrupted the stability of access to agricultural markets (Nchanji and Lutomia, 2021).

Mobile phones were assisting small-scale farmers in the rural remote areas to improve their agricultural activities. However, the availability of affordable gadgets has made it possible for even rural small-scale farmers to own second hand mobile phones and use them to exchange information (Dlamini *et al.,* 2021). Kansiime *et al.,* (2022) argue that there was limited access to mobile phone services which was based on the following reasons: such as low literacy levels, lack of ownership of digital devices and high subscription costs for some services.

2.5 Information communication technology (ICT) channels that were used to deliver agricultural extension service during the COVID-19 pandemic hard lockdowns

In most developing countries, mobile phones have become increasingly important as a tool for agricultural extension and advisory services as a result of the COVID-19 pandemic (Baffoe-Bonnie, 2021). South Africa's knowledgeable and commercial farmers benefited from the use of these possible extension service alternative media mechanisms during this COVID-19 pandemic (Yusuf, 2022). Sipungu, (2016) pointed out that rural small-scale farmers may not be able to have enough money purchasing personal information communication technology (ICT) devices.

The commercial farmers have enough capital and can afford to train their farm workers to use digital devices such as cell phone and laptops efficiently to easily access

extension services during COVID-19 pandemic hard lockdowns. Farmers who experience the hardest hit by the COVID-19 outbreak are the poorest small-scale farmers (FAO, 2020). Governments should make direct investments through digital access and food delivery in input supply chains and short food supply chains (Nchanji and Lutomia, 2021). Despite physical distance and mobility restrictions, information flow was made possible by digital tools and technologies.

2.6 Summary

Securing food and sustaining livelihoods in the developing countries was seriously threatened by the COVID-19 pandemic. Insufficient access to the output market resulted in lower farm income, which in turn caused poor access to food and a slow escape from poverty (Nchanji and Lutomia, 2021). African agriculture is greatly affected by the pandemic and lockdown, in particular the peasant farmers. Depending on the level of strictness, government restrictions create economic hardships through decreased income and economic activity, resulting in hunger and food insecurity.

However, Farmers' access to innovative ideas through the agricultural extension service makes it a vital resource for raising awareness of COVID-19 and preventive measures among farmers. Due to limited mobility, the main areas of disruption in food supply chains were labour, logistics, transportation, and marketing of fresh and perishable goods. The COVID-19 pandemic lockdowns have placed the agriculture sector in an extremely difficult situation that created food supply at serious risk for 2020 and beyond (FAO, 2020).

3. CHAPTER THREE METHODOLOGY OF THE STUDY

3.1 Introduction

This chapter describes the research methodology used in the study. It also identifies the area where the study was conducted, as well as the following: the design method of the study, study population, data collection method which described how data was collected in the study, data analysis methods and ethical considerations.

3.2 Study area

The study was conducted at Ga-Mothapo village located in Capricorn District Municipality, Limpopo Province. Mamakela, Lehlabile, Ga Ramogale, Ga-Magoa, Mantsane, Ga-Thoka, Makgwareng and Ga-Makanye are the communities in Ga-Mothapo village that were included in the study, purposively because of the distance between them is shorter and best for the budget of the study. Agriculture is the primary source of food security for many households in Limpopo Province. Ga-Mothapo is approximately 28 km east of Polokwane with Latitude of -23°52'0.02", and the Longitude: of 29°43'0.01"(Geoview.infor, 2022). Some of the research areas are indicated in Figure 3.1.

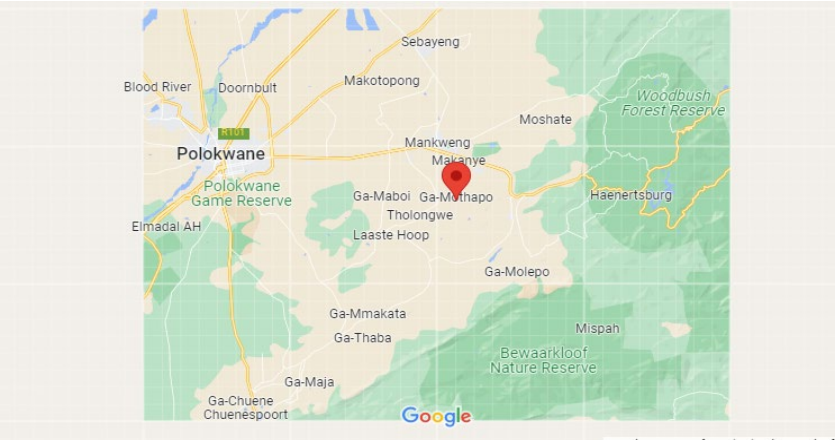

Figure 3.1 Ga-Mothapo village map. Capricorn district, Limpopo Province, South Africa. *Source: google maps*

3.3 Research design

The study used descriptive research design. The primary data was collected through questionnaire and face-to-face interviews. Qualitative data was used to evaluate perceptions of farmers towards agricultural extension service during the COVID-19 pandemic from hard lockdown level 5 to level 3. The purposive sampling method was applied. The researcher purposively selected participants based on the availability of farmers who were voluntary willing to be part of the sample which ensured timeline management of the study. A Likert scale was used to collect data to evaluate accessibility of agricultural extension service in the time COVID-19 pandemic from hard lockdown level 5 to level 3 by farmers and farmers' level of satisfaction regarding agricultural extension service delivery during COVID-19 pandemic. The data collected was analysed using descriptive statistics.

3.4 Study population

The general population size of Ga-Mothapo is estimated to be 11000 (Sengwayo *et al.,* 2013). However, there were no records to outline the exact number of households that were affected by Covid 19. The small-scale farmers in Ga- Mothapo villages were target population of the study.

3.5 Sampling method

Purposive sampling was used to collect data in the study. Sampling can be used to generalize the population based on existing theory (Taherdoost, 2016). Small-scale farmers were purposively selected based on availability of farmers to participate in data collection of the study at the time given by the researcher, who assisted in time management. Sample size of the study was 73 small-holder farmers calculated using Cochran's formula (Cochran, 1977):

n = (z^2 Pq)/e^2

n = Sample size

Z = is Z- Value at 1.96

P = is the estimated proportion of the population at 95%

q = 1- p

e = Sample error 5% (0.05)

Calculations:

$n= (1.96^2 \times 95\% \times (1-95\%))/ 5\%^2$

n= 0.182476/0.0025

n= 72.9904

n= 73 (The sample size of the study)

3.6 Data collection

Semi-structured questionnaire which consists of both closed and open-ended questions were used in collecting data. The questionnaire was designed to gather information on the farmers' perception regarding extension service delivery during the COVID-19 pandemic from hard lockdown level 5 to level 3. Farmers who voluntarily participated in the study were subjected to face-to-face focus group interviews. The questionnaire consisted of three sections. Section A that covered description of methods and communication channels that were being used to deliver extension service during COVID-19 pandemic from hard lockdown level 5 to level 3. Section B comprised of Five points: a Likert-type scale to evaluate perception of the respondents towards the level of accessibility of extension service during COVID-19 pandemic from hard lockdown level 5 to level 3, choosing from options: 1 = highly not accessible, 2 = not accessible, 3 = rarely accessible 4 = accessible and 5 = highly accessible and the level of satisfaction regarding agricultural extension services delivery during COVID-19 pandemic from hard lockdown level 5 to level 3, choosing from options: 1 = Very dissatisfied, 2 = dissatisfied, 3 = Undecided, 4 = satisfied and 5 = Very satisfied. Section C which comprised the socio-economic characteristics.

3.7 Data analysis

Descriptive statistical techniques were used in this study. The qualitative data was coded with arbitrary numbers which were analysed using frequency table and Pie Chart to illustrate socio-economic characteristics of farmers such as the level of education and employment status represented in percentages. The statistical package for social science (IBM SPSS) software version 29(2022) was used to determine means and standard deviations. Likert-type scale data analysed utilizing the mode. The mode is the most appropriate for simple interpretation (McLeod, 2019). Data collected through Likert scale was further analysed with descriptive statistics to acquire frequency, standard deviation, and the mean score.

3.8 Ethical considerations

The researcher conducted the study, following Turfloop Research Ethics Committee (TREC) rules and regulations. The researcher, before commencement of the study informed small-scale farmers about benefits and objectives of the study. Findings of the study were reported back to the framers. The questionnaire and consent form were translated into Sepedi, as it is the language of participants in the study. People usually understand their home language better. A letter of request for permission to conduct the study was written and presented to Ga-Mothapo Traditional Authority before consulting the farmers. Permission to conduct the study was granted the researcher by Ga-Mothapo Traditional Authority before consulting the farmers.

The farmers were encouraged to participate voluntarily and were allowed to withdraw themselves from participating at any given time if they are no longer feeling comfortable with interviews. Farmers who volunteered to participate in the study were given a consent form to sign before commencement of data collection. All participants were given equal respect and treatment. The researcher completely protected participants and ensured their anonymous identity. They were referred as farmers in collective. The clarity to any information about the study was given to participants by

the researcher either in Sepedi, or in English depending on participant's preference language.

4. CHAPTER FOUR FINDINGS AND DISCUSSION OF THE STUDY

4.1 Introduction

The purpose of this chapter is to present and discuss findings of the study. It is organised in the following way: (4.2) Socio-economic characteristics of small-scale farmers, (4.3) Financial support, (4.4) Type of financial support, (4.5) Evaluation of the perception of the farmers towards the level of accessibility extension service and the satisfaction of extension service delivery during the COVID-19 pandemic from hard lockdowns level 5 to level 3, (4.6) The description of methods and information communication technology (ICT) channels that were being used to deliver agricultural extension services during the COVID-19 pandemic from hard lockdowns level 5 to level 3, and (4.7) Methods small-scale farmers used to communicate and to market their farm products during hard lockdown of COVID-19 pandemic hard lockdowns level 5 to 3.

4.2 Socio-economic characteristics of small-scale farmers.

The socio-economics characteristics consists of several variables of which each of them is discussed separately. For example, the age of the respondents is discussed first, followed by age and the education of respondents.

4.2.1 Age of respondents.

The age as part of socio-economic characteristics of small-scale farmers are presented in Table 4.1.

Table 4.1. Gender of respondents

GENDER	FREGUENCY	PERCENTAGES%
Male	41	56
Female	32	44
TOTAL	**73**	**100**

Source: own study

According to Table 4.1, the study found that majority of respondents (56 %) were males with frequency of (41). This result indicates that less women are involved in farming activities as compared to men because women frequency was 32(44%). Nkosi *et al.,* (2022) reported similar findings that there were more men involved in agricultural activities than women. Only (44%) of female small-scale farmers participated in the study. This may be because women historically they had challenges in acquiring agricultural resource as compared to men. Wegerif, (2022) reported that women have more difficulties to access land and attaining secure land rights as compared to men.

4.2.2 Age of respondents

Age in farming plays an important role, It is the observation of the researcher that older farmers are conservative; they are always afraid of change. Young farmers on the other hand are full of energy and are willing to test innovations. Age of respondents is presented in Table 4.2.

Table 4.2. Age of respondents

AGE	FREQUENCY	PERCENTAGE
20 and below	0	0
21-40	23	32
41-60	33	45
61 and above	17	23
TOTAL	**73**	**100**

Source: own study

Table 4.2 illustrates that small-scale farmers were older people in majority as (63%) were 41 and above years. Only (32 %) of small-scale farmers were between the age of (21 to 40) years with the frequency of (23). These results indicate that young people must be encouraged to participate in farming by extension officers to involve more

young people in farming activities. Ntsiapane *et al.,* (2023) There is unwillingness of youth to participate in agricultural activities and there is a need to recruit youth into agriculture to support the agricultural sector. There were no small-scale farmers between at the age of 20 years and below that participated in the study.

4.2.3 Educational status

Farmers who are able to read and write have different perception when it comes to development, The reason is that they can understand even sophisticated innovations. Qwabe *et al.,* (2022) reported that farmers with low education level are unable to thoroughly interpret market information that can assists them in properly planning production and marketing strategies. The educational status of respondents is presented in Table 4.3.

Table 4.3 Educational status

EDUCATIONAL STATUS	Frequency	Percentage
Primary	6	8
Secondary	46	63
Tertiary	21	29
None	0	0
TOTAL	**73**	**100**

Source: Own study

Table 4.3 illustrates that of all small-scale farmers at least 6(8%0 have primary level of education. The standard of small-scale farmers in the study area was good as (92%) them have at least secondary education (63%). The number of those with tertiary was 21(29%). The level of education will assist extension officers to identify extension approaches that can be best used to deliver extension services to small-scale farmers. Ntsiapane *et al., (*2023) reported that educated farmers can easily access government funds and extension service which assist them to improve their farm productivity.

4.2.4 Employment status in other professions

Agriculture is known to create jobs. According to the National Planning Commission of 2010, agriculture is capable of creating more jobs (National Planning Commission, 2010). The Employment status in other professions is presented in Figure 4.1.

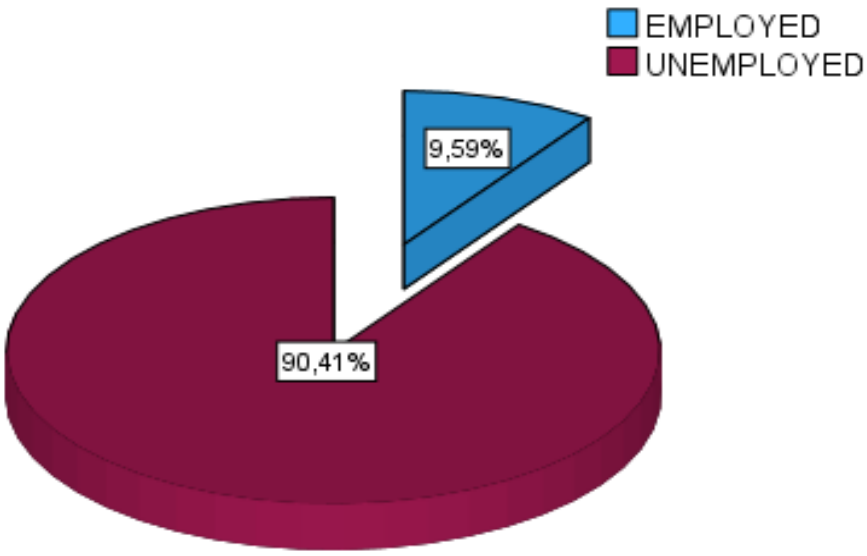

Figure 4.1. illustrates the employment status of small-scale farmers that are employed in other professions.

The results of Figure 4.1, indicate that majority of small-scale farmers are not employed in other profession besides working as farmers; (90%) of the small-scale farmers were unemployed in other professions and only (10%) of small-scale farmers were employed in other professions. Most of the small-scale farmers mentioned that farm income from their farm produce assists them to take care of their families as well as maintaining themselves.

4.2.5 Farm income and production cost

It is the writer's observation that farmers use mechanisms to reduce production thereby increasing their profit. The status of farmers is presented in Table 4.4.

Table 4.4 Farm income and production cost

FARM INCOME	FREQUENCY	PERCENTAGE %
Increase	3	4
Decrease	57	78
Same	13	18
TOTAL	**73**	**100**
FARM PRODUCTION COST		
Increase	73	100
Decrease	0	0
Same	0	0
TOTAL	**73**	**100**

Source: own study

Table 4.4. Illustrates the farm income and production cost of the farm products during COVID-19 lockdown level 5 to 3. For example, on the one hand the top part of Table 4.4. indicates, frequency of (3) and (4%) of small-scale farmers who reported that there was an increase in their farm income. These minority of (4%) small-scale farmers reported that the announcement of COVID-19 pandemic hard lockdown found their farm products ready for markets. Therefore, majority of local people were buying from their farm gates because they were avoiding long distance travel in fear of contracting COVID-19. Muvhuringi *el at.,* (2021). On the other hand, the majority of small-scale farmers who experienced a decrease in farm income during COVID-19 hard lockdowns were reported to be 78%. Wegerif, (2022) reported that during COVID-19 pandemic farmers experienced drop in demand of their produce due to customers loss of income that contributed to their decrease in buying, and as result farmers experienced decrease farm income. They experienced reduction in the numbers of their customers and that extension officers did not assists them with permits to sell their products. As a result of lack of storages, they had to lower perishable products prices below their actual market prices. Table 4.4 further indicated that all small-scale farmers experienced an increase in farm production cost during COVID-19 pandemic

hard lockdown level 5 to 3, due to the increase in the prices of farm inputs such as seeds, fertilizers, feeds, herbicides, and medication for livestock.

Siankwilimba, *et al., (*2022) reported that agricultural inputs prices increased during COVID-19 pandemic, which caused challenge for farmers to sustain in their farm production, while the market of their produce decreased as majority of customers had lost income to buy farm products as a result of the impact of COVID-19 pandemic. Small-scale farmers reported that the need to purchase personal protection equipment's (PPEs) to prevent the spread of COVID-19 pandemic contributed to the increase in farm production cost.

4.3 Financial support

In any business, finances are important for business sustainability such as buying inputs and marketing including agribusiness. The situation of financial support is indicated in Table 4.5.

Table 4.5. Financial support during COVID-19 pandemic hard lockdown level 5 to 3

FINANCIAL SUPPORT	FREQUENCY	PERCENTAGE %
Received	32	44
Not received	41	56
Total	**73**	**100**

Source: Own study

Table 4.5 illustrates that majority of small-scale farmers did not receive financial support during COVID-19 hard lockdown level 5 to 3 with frequency of (41) and (56%). However, Ms. Thoko Didiza the current Minister of Agriculture, Land Reform and Rural Development (DALRRD) announced that R1.2 billion fund from the Department's COVID-19 Agricultural Disaster Fund was put aside to relief small-scale farmers from financially distressed to ensure farm sustainability and to prevent food insecurity

(DALRRD, 2020). The finding explicitly indicated that the Department's COVID-19 Agricultural Disaster Fund did not cover all the small-scale farmers. However, some small-scale farmers during interviews reported that they received farm inputs including feeds, seeds, and fertilizers post COVID-19 hard lockdowns 5 to 3 from extension officers. Table 4.5 further indicated that (44%) presents small-scale farmers received financial support during COVID-19 pandemic hard lockdown level 5 to 3.

4.4 Type of financial support

Respondents were asked to indicate the type of financial support that they have received. The results are indicated in Figure 4.2.

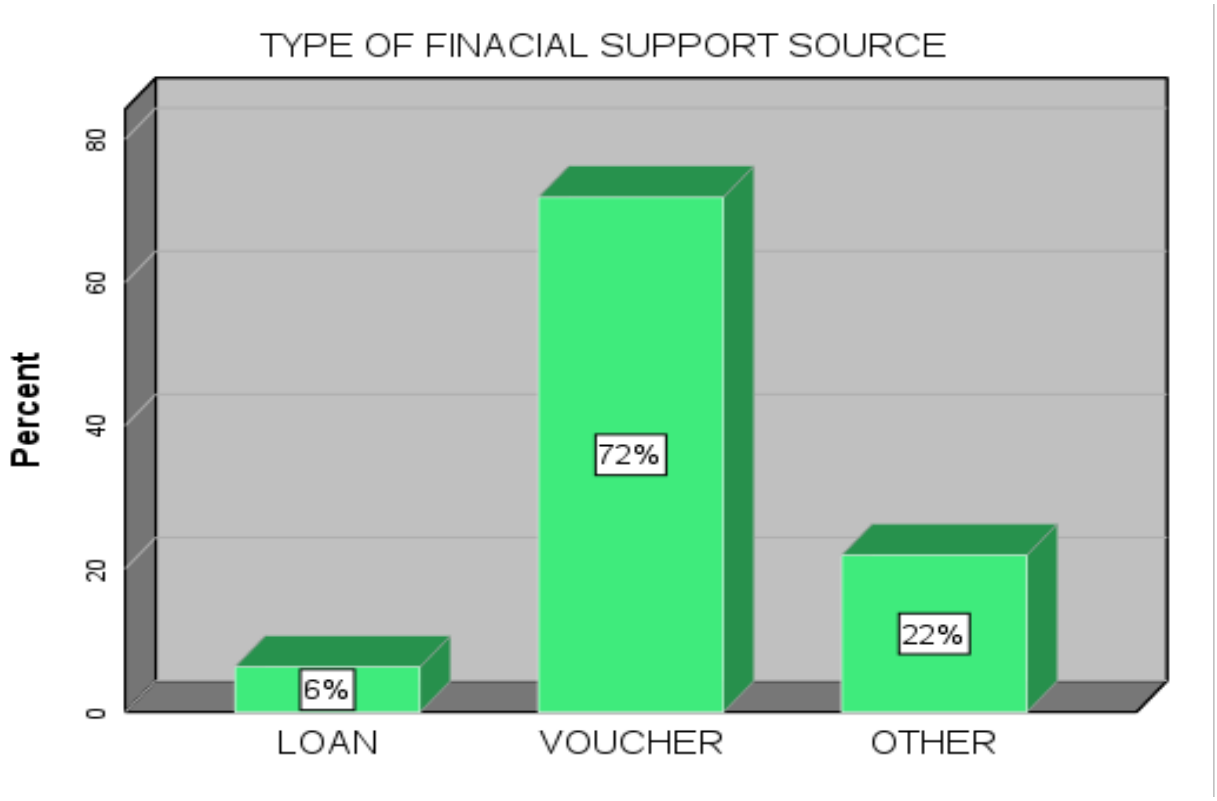

Figure 4.2 Type of financial support.

Figure 4.2 illustrates that (6%) of the small-scale farmers received loan, as financial support to sustain their farmers which also assist them in adopting to new farm operation ways following COVID-19 regulations. The majority (72%) received financial

support from Department of Agriculture, Land Reform and Rural development (DALRRD) in a form of vouchers even though there were compliance about those vouchers such as restriction of stores they can purchase which result enduring long queue and increase in prices above market value of inputs by the stores when paying with vouchers. Small-scale farmers reported that some of the inputs they were not allowed to buy using vouchers which were relevant to their farm production. There were also small-scale farmers who reported that the vouchers assisted them to sustain their farming. Twenty two percent (22%) received financial support from other sources including family members support and non-government organisations (NGOs).

4.5 Evaluation of the perception of the farmers towards the level of accessibility 0f extension service and the satisfaction of extension service delivery during COVID-19 pandemic from hard lockdowns level 5 to level 3.

4.5.1 Accessibility of extension service

Respondents were asked to indicate their level of accessibility; a Five-point Likert scale was used, 1= highly not accessible, 2= not accessible, 3= rarely accessible 4=accessible and 5=highly accessible and the findings are presented in Table 4.6.

Table 4.6. Accessibility of extension service during COVID-19 pandemic hard lockdowns level 5 to 3.

ACCESSIBILITY OF EXTENSION SERVICE	FREQUENCY	PERCENTAGE
Highly not accessible	0	0
Not accessible	11	15
Rarely accessible	47	64
Accessible	15	21
Highly accessible	0	0
TOTAL	**73**	**100**

Source: own study

Table 4.6 indicates that (15%) which is the minority, the small-scale farmers with frequency of (11) using Five-point Likert scale selected option not accessible coded option (2) on the five-point Likert scale. Qwabe *et al.,* (2022) reports that farmers had difficulty access to information about market accessibility. Small-scale farmers reported that extension officers never visited their farms during COVID-19 pandemic hard lockdowns level 5 to 3, and they had never received any extension service. Dlamini *et al.,* (2021) reported that extension officers discontinued to disseminate information and knowledge face- to face during COVID-19 hard lockdowns as a measure to avoid the spread of COVID-19 and that there was no extension service delivery support system. However, Table 4.6. Indicates majority of small-scale farmers (64%) perception towards accessibility of extension service recorded as rarely accessible, which was coded as option (3) using Five-point Likert scale.

Some of small-scale farmers reported that Department of Agriculture, Land Reform and Rural development (DALRRD) and extension officers should have designed programmes to assist them in marketing their farm products as they lost customers because of people losing income and streets hawks were no longer buying their farm products because their operation disrupted by COVID-19 regulation especially during lockdown level 5 and 4.

Table 4.6 further indicates that 21% of small-scale farmers with frequency of (15) reported that extension service was accessible, but farmers would seek them through joining farmers groups and making relationships with other farmers. They also reported that farmers groups assisted with information regarding extension service available from governments and non-government organisations during COVID-19 pandemic hard lockdown level 5 to 3.

4.5.2 Level of satisfaction

The respondents were asked to indicate the level of satisfaction of extension service during COVID-19 pandemic from hard lockdowns level 5 to 3. A Five-point Likert scale was used, to rate the level of satisfaction. These levels were: option 1 very dissatisfied, 2 = dissatisfied, 3 = undecided, 4 = satisfied and 5 = very satisfied. The findings are presented in Table 4.7.

Table 4.7 Level of satisfaction

LEVEL OF SATISFACTION	FREQUENCY	PERCENTAGE
Very dissatisfied	8	11
Dissatisfied	54	74
Undecided	4	5
Satisfied	7	10
Very satisfied	0	0
TOTAL	**73**	**100**

Source: own study

Table 4.7 presents satisfaction of small-scale farmers with the extension services provided to them during COVID-19 pandemic level 5 to 3. Only (10%) of small-scale farmers were satisfied with the extension service they received from agricultural extension officers. Majority of small-scale farmers were not satisfied with the extension service; (11%) small-scale farmers were very dissatisfied and (74%) were dissatisfied with frequency of (54) as indicated in Table 4.7. Small-scale farmers reported that during COVID-19 hard lockdown level 5 to 3, extension officers were not visiting their farms to assist them with their farm challenges. They also reported that extension officers used to visit their farms before COVID-19 hard lockdowns.

COVID-19 pandemic regulation had an impact on agricultural production even though the agricultural sector was considered as essential, the extension officers feared to contract COVID-19 which hindered effective delivery of their service. Frequency (4) and (5%) of small-scale farmers were undecided about extension service because, they had not tried to reach out to extension officers for assistance, but they were aware of agriculture extension services.

4.5.3 The mean, mode, and standard deviation of small-scale farmers opinions on accessibility and satisfaction to extension services.

Table 4.8. Presents the mean, mode, and standard deviation of small-scale farmers opinions on accessibility and satisfaction to extension services

	MEAN	MODE	STANDARD DEVIATION
Satisfaction level	2	2	0,7
Accessibility of extension service	3	3	0.6

Source: Own study

Table 4.8. indicates the level of satisfaction of small-scale farmers towards extension service during covid 19 pandemic hard lockdowns level 5 to 3. Farmer's satisfaction is conceptualized as the fulfilment of farmers expectations towards the quality of extension service (Elias et al., 2015). Table 4.8 indicates that most small-scale farmers were dissatisfied with the extension service, mode (2) indicates that as level of satisfaction was measured using five-point Likert scale and dissatisfied point was coded with (2). Small-scale farmers reported that Department of Agriculture, Land Reform and Rural Development (DARLRRD) did not assist them to access markets and provision of free personal protection equipment's (PPEs) during COVID-19 pandemic hard lockdowns level 5 to level 3.

Table 4.8. indicates level of accessibility of extension service standard deviation of (0,6) which is sightly vary with standard deviation (0,7) of level satisfaction towards extension service. The accessibility of extension service mode of (3) indicates most small-scale farmers perception towards extension services delivery is that are rarely accessible, (3) was coded rarely accessible using Five-point Likert scale to measure level of accessibility.

4.6 The description of methods and information communication technology (ICT) channels that were being used to deliver agricultural extension services during the COVID-19 pandemic from hard lockdowns level 5 to 3.

4.6.1 Methods that were used to communicate with agricultural extension officers during COVID-19 pandemic hard lockdowns level 5 to 3.

Small-scale farmers reported that due to restriction of movements during COVID-19 pandemic, extension officers were stopped visiting their farm and this disrupted verbal communication between them and extension officers. The minority small-scale farmers in the study findings reported that they have been communicating with extension officers using WhatsApp and phone calls. Baffoe-Bonnie *et al.,* (2021) report that during COVID-19 pandemic hard lockdowns, cell phone applications facilitated communication between agricultural extension officers and farmers.

The majority of small-scale farmers reported that the did not have direct individual communication with extension officers during COVID-19 pandemic hard lockdown level 5 to 3. They were only getting information through Radio, Television, and Facebook. Siankwilimba, *et al.,* (2022) reported that during COVID-19 pandemic, farmers were encouraged to participate in agriculture through the use of social media, radio, and television. The small-scale farmers reported that they had challenges with those communication technologies (ICTs) such as the information from radios and television is easy to miss. Some small-scale farmers mentioned that they heard challenges with airtime cost.

4.6.2 Information communication technology (ICT) channel that is preferred to be used to communicate extension service. The results are indicated in Figure 4.3.

Information communication technology channels assist farmers to communicate with extension officers. Their customers and purchased farm inputs online. The researchers believes that ICT channels are most significant to communicate especially when there was barrier in verbal communication. Marsden *et al., (*2023) Information communication technology channels also allowed farmers to make online purchases and market their farm produce which assisted them during COVID-19 pandemic when face to face communication was at high risk. The results of most preferred ICT channel are indicated in Figure 4.3.

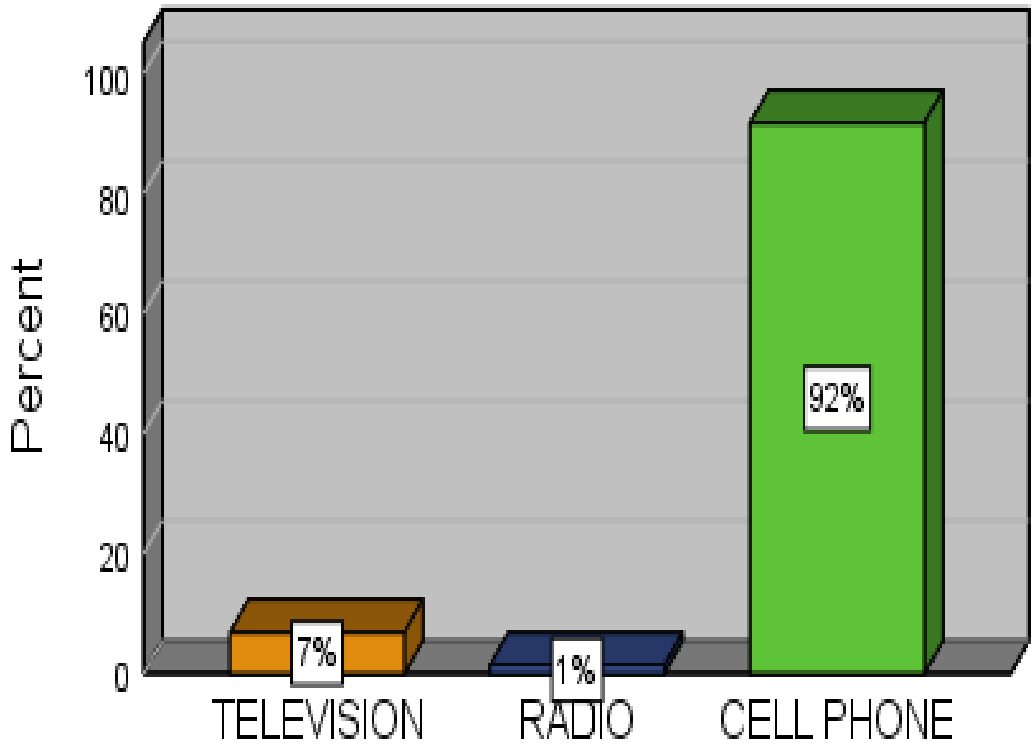

Figure 4.3. Information communication technology (ICT) channel that is preferred to be used to communicate extension service.

Figure 4.3 indicates (1%) of small-scale farmers prefers Radio, which is the least, preferred. Most preferred information communication technology which was used to communicate information on extension service was cell phones with (92%) small-scale farmers preference. Their cell phone preference indicates that most farmers own cell phones. Small-scale farmers also reported that cell phones are better because they are always in their position. Figure 4.3 further shows that (7%) chose television as their most preferred ICT channel. They mentioned that Television exposes them to demonstrations which are not easy to forget. Small-scale farmers that preferred cell phone reported that the programs on television and Radios can be easily missed and sometimes, do not address individual farmer's needs. They reported that high cost of airtime sometimes disadvantages them to effectively sell their products and watching relevant informative agricultural videos on YouTube channels. Therefore, some farmers reported that the Department of Agriculture, Land Reform and Rural

development, (DALRRD) must make free access online channels where information and videos can be assessed without data charges. Some small-scale farmers in their questionnaires responded that to improve communication using ICTs channels between farmers and extension officers, every information about extension service must be sent to them through SMS, even the updates about radio, television programs of anything involving agriculture and farmers.

4.7 Methods small-scale farmers used to communicate and to market their farm products during hard lockdown of COVID-19 pandemic hard lockdowns level 5 to 3.

COVID-19 pandemic disrupted the normal way of doing things which forced people, institutions, and business to adopt to the new normal including agribusinesses. Small-scale farmers reported that during COVID-19 pandemic especially lockdown level 5. Small-scale farmers experienced extreme loss of customers because of COVID-19 regulations. Therefore, they were advertising their farm products on WhatsApp and Facebook groups. Marsden *et al., (*2023) reported that market access was severely hampered by lockdowns during COVID-19 pandemic.

Some farmers reported that during COVID-19 pandemic hard lockdowns, they lost their hawks' customers who were buying their farm products in bulks to re-sell. They reported that they were not given permits both them and hawks. However, some small-scale farmers reported that they adopted method of taking orders online using phone calls, WhatsApp, SMS, and Facebook. They were delivering the orders to their customers doorsteps. They were small-scale farmers who reported that they lost their perishable farm produce because they could not do delivery to other locals due to lack of transports and they did not have enough storage facilities. Jaacks *et al.,* (2021) reported that majority of farmers had to pay high price for transport during COVID-19 pandemic lockdown and lack of storage facilities resulted in for their farm products loss.

5. CHAPTER FIVE SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is based on the summary, conclusion and recommendation of the findings of the study. It also draws conclusions based on the findings regarding small-scale farmers perceptions towards extension service delivery during the COVID-19 pandemic.

5.2 Summary of the findings

The following summary describes the socio-economic characteristics of small-scale farmers from the findings of the study.

The finding of the study indicated that majority of farmers were males as compared to female. Mthembu (*et al.,* 2022) reported similar findings like this study that male farmers were the majority and females, were in minority. In another study that was done in Kenya and Uganda revealed similar findings in that the majority of farmers were males (Monica *et al.,* 2020). The involvement of women in farming actives will promote equality and assists them to support their families and it will improve food security in many households.

The finding of the study indicated that small-scale farmers are dominated by older farmers as opposed to young people. Myeni *et al., (*2019) reported similar findings that there is less involvement of young people in farming. Young people are likely to adopt to modern agricultural farming methods as compared to older farmers, which can improve farm production and ensure food security in relative to world increasing population.

Kom *et al.,* (2022) reported that youth perception towards agricultural activities, it is that agricultural activities are for older people and older farmers are comfortable with traditional farming methods than adopting modern agricultural farming ways. In finding of the study small-scale farmers level of education was high and majority of farmer

attained secondary school. Baiyegunhi, *el at.,* (2019) in a study conducted in KwaZulu-Natal reported that educational level of farmers was low.

The assessment of the study objectives is discussed.

5.2.1.The study objectives:

The study consisted of 3 objectives. The following summary of the findings of the study describes the perception of small-scale farmers towards extension service delivery during the COVID-19 pandemic from hard lockdowns level 5 to level 3 which was the first objective of the study.

In the first objective, it was found that the majority of small-scale farmers were dissatisfied with the extension service because during COVID-19 hard lockdown level 5 to 3, extension officers were not visiting their farms and they did not help them with market access. The reason for this behaviour might be extension officer's fear to contracting COVID-19 during hard lockdown level 5 to 3. Small-scale farmers were not happy about extension officers because they did not assist them to get permits to sell their products.

The emphasis that farmers believe that if extension officers could have assisted them with permits during COVID-19 hard lockdowns, their farm income was not going to decrease as it did. Mthembu *et al.,* (2020) also reported similar findings to the study that small-scale farmers did not have permits to travel to nearby towns and city to access farm inputs. The similarity of studies it is because both the study we done in South Africa. The majority of small-scale farmers in the study experienced a decrease in farm income and increase in farm production cost during COVID-19 hard lockdowns. Wegerif, (2022) reported that COVID-19 caused the reductions in farms incomes and increased expenses in purchasing personal protective equipment's (PPEs). However, most of the farmers did not receive financial support to assists them sustain their farm operation during COVID-19 pandemic level 5 to 3, as it is indicated by the study findings of the study.

5.2.2 Second study objective

The second study objective was the accessibility of agricultural extension service during the COVID-19 pandemic from hard lockdown level 5 to level 3 by farmers.

In the second objective It was found that small-scale farmers perception towards accessibility of extension service recorded as rarely accessible. Small-scale farmers wish the Department of Agriculture, Land Reform and Rural development (DALRRD) and extension officers should have designed programmes that assisted them in marketing their farm products as they lost customers during COVID-19 pandemic hard lockdowns level 5 to 3. Loki *et al.,* (2020) in his study reported similar findings that majority of small-scale farmers did not have easy access to extension services. The study found that only minority of small-scale farmers that managed to acquire financial support during COVID-19 pandemic hard lockdowns level 5 to 3 received loan. Myeni *et al.,* (2019) reported that only minority small-scale farmers had access to credit in South Africa and this very limited access to credit was because of their low income affected by Covid.

The finding of the study has shown that majority of those who received financial support in a form of vouchers received from Department of Agriculture, Land Reform and Rural development. Mtero and Gumede, (2023) reported different findings from this study, that only a handful of farmers received vouchers, while some other farmers who also applied did not receive any thing nor a simple acknowledgement of their applications. The difference of the study's findings might be because of the administration where the small-scale farmers were applying from because this was happening in all provinces. Loki *et al.,* (2020) report that the voucher system did not address the relevant needs of the farmers because there were restricted to purchase available inputs found from selected distributors.

5.2.3 Third study objective

The third study objective was to identify, describe methods and information communication technology (ICT) channels that were used to deliver agricultural extension service during the COVID-19 pandemic from hard lockdowns level 5 to level 3.

The effective information communication technology (ICT) channels used to deliver extension service is significant to improve farm productivity (Ndimbwa *et al.,* 2021). The majority of the small-scale farmers reported that there was no direct individual communication between them and extension officers during that period of COVID-19 hard lockdown level 5 to 3. It was further reported that they were only getting information from Radio, Television, and Facebook. Baffoe-Bonnie *et al.,* (2021) reported that cell phones were used by extension officers to communicate with farmers through SMS, voice recordings, short videos, and WhatsApp groups. In the study it was found that only minority of small-scale farmers were able to communicate with extension officers using cell phone but there was no communication between extension officers and majority of small-scale farmers during COVID-19 pandemic hard lockdowns 5 to 3.

The study indicated that small-scale farmers have less preference to Radio and Television to be used as primary source of information communication technology (ICT) to communicate information about extension service. Yusuf *et al.,* (2022) reported different findings as opposed to our findings for example he found that Radio is an effective medium for communicating extension service to rural farming communities. It was found in the study that small-scale reported that programs on Television and Radios there can be easily missed and sometimes, they do not address individual farmer's needs. Monica *et al.,* (2020) reported same findings that major limitation for farmers to access extension services through Radio and Television it was as result of lack of time for the programs. The majority of the small-scale farmers in the study preferred cell phones as best information communication technology (ICT) channels used to communicate with extension offers and stakeholders that provide extension service.

Dlamini *et al.,* (2021) reported that in developing countries majority of people have access to mobile phones and cell phones are multifunctional. Therefore, that can be considered as one of the reasons that influenced decision of small-scale farmers to have chosen cell phones as most preferred ICT channel to deliver extension service. However, the study found that small-scale farmers have challenge of high cost of

airtime. In a different study, Baffoe-Bonnie, *et al.,* (2021) reported a different finding in that cell phones are significant to deliver relevant information to the farmers at lower cost. The possible difference could be the matter of focus, Bafoe Bonnie, (2021) study was on the extension officers whereas this study was based on the small-scale farmers hence small-scale farmers reported high airtime cost as a challenge.

It was further found in this study that small-scale farmers were using different Information communication (ICT) channels such as WhatsApp, phone calls and Facebook either to sell their farm products or to communicate with their customers during COVID-19 pandemic hard lockdowns level 5 to 3.

5.3 Conclusion

COVID-19 pandemic hard lockdowns level 5 to 3 regulations disrupted small-scale farmers markets and reduce their income due to limited marketing. The provision of extension service to farmers was not sufficient for them to adopt and sustain their farm operations during COVID-19 hard lockdowns level 5 to 3. The study indicated that during COVID-19 pandemic there was an increase in the cost of production, which led to reduced farm income. This has subsequently made it difficult for small-scale farmers to maintain their farm operations. It was unfortunate that such prize never existed. Extension service was rarely accessible, and majority of small-scale farmers did not receive financial support during COVID-19 hard lockdowns level 5 to 3.

Small-scale farmers were dissatisfied about lack of extension service during COVID-19 pandemic and accessibility of extension service is directly proportional to the small-scale farmers satisfaction as it was indicated by standard deviation in the finding of the study. Therefore, the study concludes that improving extension service accessibility will satisfy small-scale farmers. The impact of COVID-19 exposed that small-scale farmer lack storage facilities. The vouchers that were given to farmers during COVID-19 pandemic hard lockdowns level 5 to 3, restricted farmers to purchase at certain stores, which did not address their needs as they were forced to buy only the available inputs in the stores.

The study conclude that cell phones are the most suitable information communication channel (ICT) for extension officers, small-scale farmers, and their customers to communicate. The finding will assist extension officers and other extension providers to ensure that they choose the appropriate communication channels to deliver extension service.

5.4 Recommendations

Based upon the foregoing discussion of the findings in item 5.3 of this study the following recommendations are made:

5.4.1 Adaptation to new ways of working

COVID-19 Pandemic has clearly demonstrated that fast adaptation to new ways of doing things is significant, therefore extension officers must recruit youth to participate in agricultural activities because they can adopt to agricultural innovations better than older farmers can do.

5.4.2 Responsibility of Department of Agriculture

- The Department of Agriculture, Land Reform and Rural development when supporting farmers in the form of vouchers to buy farm inputs, should not limit the farmers to purchase to selected stores.
- Small-scale farmers must prioritize when giving out permits during lockdowns as commercial farmers because they played important part ensuring food security and improve socio-economic status of the people.
- The government must create a policy that allows farmers to get free personal protection equipment's (PPEs) to reduce in farm production cost.
- The use of Cell phones needed to have been encouraged as primary source of ICT channels to communicate information with the farmers such as sending video of farming demonstrations and updating them about different agricultural programs.

5.4.3 Responsibility of Government

- The government must ensure that a policy that ensures that prices do not go above market price value during pandemic should be developed to address such situations.
- It also emerged that smallholder farmers lacked storage facilities. Government could have created common storage facilities. This could have alleviated the problem of having no storage, which could have saved crops from being spoiled.
- It was necessary for governments, DALRRD, banks and Non-Government Organizations (NGOs) to work together in finding solutions to make easy accessibility financial support to small-scale.

REFERENCES

Abdu-Raheem, K.A. (2014). Exploring the Role of Agricultural Extension in Promoting Biodiversity Conservation in KwaZulu-Natal Province. *S.Afri. Agroec. Sust.e F. Syst.* 38(9): 1015-1032.

Baffoe-Bonnie, A., Martin,D. T., and Mrema, F. (2021). Agricultural extension and advisory services strategies during COVID-19 lockdown. *Agric. Envir. Lett.*6: 20056.

Baiyegunhi, L.J.S., Majokweni, Z.P., and Ferrer, S.R.D. (2019). Impact of outsourced agricultural extension program on smallholder farmers' net farm income in Msinga, KwaZulu-Natal. *S. Afri. Tech. Soci.*57.

Buthelezi, N., Karriem, A., Lemke, S., Paganini, N., Stöber, S., and Swanby, H. (2020). Invisible urban farmers and a next season of hunger Participatory co-research during lockdown in Cape Town, South Africa. *Opi. P. Cri. F. Stud.*

Chakraborty, I., and Maity, P. (2020). COVID-19 outbreak: migration, effects on society, global environment and prevention. *Science of the Total Environment*. 728.

Cochran, W.G. (1977). Sampling Techniques. 3rd Edition, John Wiley and Sons, New York.

DALRRD. (2020). A Message to the Agriculture and Food Sector of South Africa.

Dlamini, M.M., Worth, S.H., and Ajayi, O.A. (2021). Towards an efficient post COVID-19 ICT based extension service delivery model for the sugar industry of eSwatini. *S. Afr. J. Agric.* 49 (3): 31-45.

Elias, A., Nohmi, M., Yasunobu, K., and Ishida A. (2015). Farmers' Satisfaction with Agricultural Extension Service and Its Influencing Factors: A Case Study in North West Ethiopia. *J. Agr. Sci. Tech.*17: 39-53.

FAO. (2020). Extension and advisory services: At the frontline of the response to COVID-19 to ensure food security.

Geoview.infor. (2022). https://za.geoview.info › gamothapo,1003139.

Hazem S. K., Bader A.A., Muhammad M., Ahmed H. (2021. Factors influencing farmers' satisfaction with the quality of agricultural extension services. *Evaluation and Program Planning.* 85: 101912.

Huss, M., Brander, M., Kassie, M., Ehlert, U., and Bernauer, T. (2021). Improved storage mitigates vulnerability to food-supply shocks in smallholder agriculture during the COVID-19 pandemic. *Glob. F. Secur.* 28: 100468.

IFRI. (2015). International Food Policy Research Institute. Available online *at:https://www.ifpri.org/topic/agricultural-extension.*

Jaacks, L.M., Veluguri, D., Serupally, R., Roy, R., Prabhakaran, P and Ramanjaneyulu, G.V. (2021). Impact of the COVID-19 pandemic on agricultural production, livelihoods, and food security in India: baseline results of a phone survey. *F. Secur.*13:1323–1339.

Kansiime, M.K., Mugambi, I., Rware , H., Alokit,C., Aliamo,C., Zhang, F., Latzko, J., Yang, P., Karanja, D., and Romne, D. (2022) Challenges and capacity gaps in smallholder access to digital extension and advisory services in Kenya and Uganda. *Front. Agr. Sci. Eng.* 9(4): 642–654.

Kom, Z., Nethengwe, N.S., Mpandeli, N.S., and Chikoore, H. (2022). Determinants of small-scale farmers' choice and adaptive strategies in response to climatic shocks in Vhembe District, South Africa. *Geo.Journal*. 87: 677–700.

Maoba, S. (2016). Farmers' perception of agricultural extension service delivery in Germiston Region, Gauteng province. *S. Afr. S. Afr. J. Agric.* 44 (2): 167 –173.

Marsden, A.R., Zander, K.K., Lassa, J.A. (2023). Smallholder Farming during COVID-19: A Systematic Review Concerning Impacts, Adaptations, Barriers, Policy, and Planning for Future Pandemics. *Lan.* 12: 404.

McLeod, S.A. (2019). Likert scale. Simply Psychology. Available online at: https:// www.simplypsychology.org/likert-scale.html.

Mohamed, E.M.A., Abdallah, S.M.A., Ahmadi, A., and Lucero-Prisno, D.E. (2021) Food Security and COVID-19 in Africa: *Implications and Recommendations. Am. J. Trop. Med. Hyg.* 104: 1613–1615.

Mtero, F., and Gumede, N. (2023). COVID-19 impacts: Household food production, agroecology, rural livelihoods, and alternative food systems. *PLAAS Res. Rep.* 58:39-40.

Mthembu B.E., Mkhize X., and Arthur G.D. (2022). Effects of COVID-19 Pandemic on Agricultural Food Production among Small-scale farmers in Northern Drakensberg Areas of Bergville, South Africa. *Agro.12(2): 531.*

Muvhuringi, P., Bright, Nyamuziwa, T.K., and Chigede N. (2021). The impact of COVID-19 on agricultural extension and food supply in Zimbabwe. *Cog. F.Agric.* 7(1):1918428.

Myeni, L., Moeletsi, M., Thavhana, M., Randela, M., and Mokoena, L. (2019). Barriers Affecting Sustainable Agricultural Productivity of Smallholder Farmers in the Eastern Free State of South Africa. *Sust.*11(11):3003.

National Planning Commission. (2010). publication of the revised green paper: national Planning commission. Government gazette no.32928.

Nkosi, N.Z., Maake, M.M.S., Antwi, M.A., Masafu, M.M. and Rubhara, T.T. (2022) Access to extension and advisory services by emerging livestock farmers in uThungulu district municipality of KwaZulu-Nata. *S. Afr. J. Agric. Ext*. 50(2): 101-116.

Ntsiapane, A.D., Swanepoel, J.W., and Nesamvuni, E.A. (2023). Farmer's Perception on Asset–Based Approach in Agriculture: A Case Study of Smallholder Wool Farming in Thaba Nchu and Botshabelo, Free State Province, South Africa. *S. Afr. J. Agric. Ext.* 51(2): 188-206.

OECD. (2020). Scheme for the Application of International Standards for Fruit and Vegetables, Preliminary Report: Evaluation of the Impact of the Coronavirus (COVID-19) on Fruit and Vegetables Trade. 1.

Paganini, N., Adinata, K., Buthelezi, N., Harris D., Lemke, S., Luis, A., Koppelin, K., Karriem, A., Ncube, F., Aguirre, E.N., Ramba, T., Raimundo, I., Sulejmanovi´c, N., Swanby, H., Tevera, D., and Stöber, D. (2020). Growing and Eating Food during the COVID-19 Pandemic: Farmers' Perspectives on Local Food System Resilience to Shocks in Southern Africa and Indonesia. *Sust*.12: 8556.

Qwabe, Q.N., Swanepoel, J.W., Zwane, E.M. and van Niekerk, J.A. (2022). Nexus between the invisibility of agricultural extension services and rural livelihoods development: Assertions from rural farming communities. *S. Afr. J. Agric. Ext*. 50 (2): 26-41.

SAA. (2020). Assessment of the impact of COVID-19 on food systems in Africa and recommended mitigation measures report.

Sebeho, M. A., and Stevens, J. B. (2019). An overview of perceptions and attitudes towards extension service delivery in Fezile Dabi District, Free State Province. *S. Afr. J. Agric. Ext.* 47(1): 61 – 72.

Sengwayo, D.G., Moraba, M.M., and Motaung, S.C.K.M. (2013). Prevalence of raised body mass indices and the association with high blood pressure and hyperglycaemia in the rural black population of Ga-Mothapo village, Capricorn District of Limpopo Province. *S. Afri. Acade.Fam. Prac*. 55:6.

Siankwilimba, E., Hiddlestone-Mumford, J., Mudenda, B.H., Mumba, C., Hoque, E. (2022). COVID-19 and the Sustainability of Agricultural Extension Models. *Inter.l J. App. Chem. and Bio. Sci*. 3(1): 1-20.

Somanje, A.N., Mohan, G., and Osamu Saito. (2021). Evaluating farmers' perception toward the efectiveness of agricultural extension services in Ghana and Zambia. *Agric. F. Secur.*10:53.

Sucheran, R. (2021). Preliminary economic impacts of the COVID-19 pandemic on the Hotel Sector in South Africa. *Afr. J. Hospit. Tour. and Leisu.* 10(1): 115–30.

Sylla, A.Y., Al-Hassan, R.M., Egyir I.S., and Anim-Somuah, H. (2019). Perceptions about quality of public and private agricultural extension in Africa: Evidence from farmers in Burkina Faso*. Cog.F. Agric*. 5:1.

Taherdoost, H. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *Inter. J. Acade. Res. Man.5 (*2): 2296-1747.

Talukdah, B., vanLoon, G. W., Hipel, K. W., and Orbinski, J. (2021). COVID-19's implications on agri-food systems and human health in Bangladesh*. Curr.Res. Envir. Sust*. 3.

Tarek, S., and Mohamed, G.E. (2022). Impact of COVID-19 lockdown on small-scale farming in North Eastern Nile Delta of Egypt and learned lessons for water conservation potentials. *Ain Shams Eng. J.*13(4):101649.

Wegerif M. (2022). The impact of COVID-19 on black farmers in South Africa. Department of Anthropology and Archaeology, University of Pretoria, Tshwane, South Africa. *Agre* .61 (1): 52–66.

WHO. (2020). Director-General's opening remarks at the media briefing on COVID-19.

Yusuf, S.F.G., Popoola, O.O., and Yusuf, F.T.O. (2022). Harnessing the use of alternative media for South Africa's agricultural extension service. *S. Afr. J. Agric. Ext.* 50 (2): 137-155.

APPENDIX A: QUESTIONNAIRE

QUESTIONNAIRE

On

EVALUATING FARMERS' PERCEPTIONS TOWARDS EXTENSION SERVICE DELIVERY DURING THE COVID-19 PANDEMIC: A CASE STUDY OF GA-MOTHAPO VILLAGE, LIMPOPO PROVINCE, SOUTH AFRICA.

By

PAUL MOGOWE BOPAPE

PARTICIPANT NUMBER: _____

LOCATION: _____

SECTION A:

This covers the description of methods and information communication technology (ICT) channels that were being used to deliver agricultural extension services during the COVID-19 pandemic from hard lockdown level 5 to level 3 as well as the needs of the respondents.

INSTRUCTION:

This questionnaire is divided into three sections, in all three sections where there is an option to choose from, please write a cross inside the box you choose as an option. E.g.

Yes	1
No	2

1. which are the methods you were using to communicate with agricultural extension officers during covid-19 pandemic?

……
……
……
……

2. Which are the challenges with the methods of communication used during covid-19 pandemic between you, farmers and extension officers?

……
……
……
……...

3. What do think can be done to improve communication between farmers and extension officers?

……
……
……

4. Which of the following information communication technology (ICT) channel you prefer most to effectively used for agricultural information delivery?

Television	1
Radio	2
Cell phones	3

5. Why do you prefer the information communication technology (ICT) you have chosen from the above question?

……
……
……
……

6. Which are the challenges you are facing with the use of information communication technology (ICT) channels used to deliver extension service?

   ……
   ……
   ……

7. What is needed to improve the use of ICT for effective agricultural information delivery?

   ……
   ……
   ……

8. Are you aware of any social media platform/s used during covid-19 pandemic to communicate extension service?

Yes	1
No	2

9. which is/ are the social media platform/s used for agricultural extension service during covid-19 pandemic?

……
……
……

10. Are there any challenges with the use of those social media platforms?

Yes	1
No	2

11. If yes, which are they?

……

……

……..

12. What do think could be done to improve social media platforms?

……

……

……

13. How were you communicating with you customers during covid-19 pandemic?

……

……

14. Were you able to meet the demands of customers during covid-19 pandemic?

Yes	1
No	2

SECTION B:

This section is comprised of a five points likert scale to evaluate the perception of respondents towards the level of accessibility. Farmers level of satisfaction of extension service during Covid-19 pandemic from hard lockdown level 5 to level 3.

INSTRUCTION:

When selecting option on Five Likert scale, select only one option. E.g.1= highly not accessible, 2= not accessible, 3= rarely accessible 4=accessible and 5=highly accessible.

1	2	3	4	5

15. Did they give you permit as small-scale farmers to continue with your farming activities under hard lockdown in South Africa?

Yes	1
No	2

16. If no, why did they not give you permits to continue with your farm activities because agriculture was regarded as essential during hard lockdown?

……
……
……

17. What was the level of accessibility of extension service during covid-19 pandemic? Using Five-point Likert scale select only one option: 1= highly not accessible, 2= not accessible, 3= rarely accessible 4=accessible and 5=highly accessible.

1	2	3	4	5

18. Why did you select the option you selected in the above question?

……
……
……

19. What is it needed to be done to improve the accessibility of extension service?

……
……
……
……

20. What was the level of satisfaction of extension service during covid-19 pandemic? Using Five-point Likert scale select only one option: 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Undecided, 4 = satisfied and 5 = Very satisfied.

1	2	3	4	5

21. Why did you select that level of satisfaction of extension service during Covid-19 pandemic in the above question?

……
……
……

22. What should have been done to improve extension service in support of farmers to maintain and improve their farm productivity during the Covid-19 pandemic?

……
……
……
……
……

SECTION C:

SOCIO-ECONOMIC CHARACTERISTICS

INSTRUCTION:

This questionnaire is divided into three sections, in all three sections where there is option to choose from, please write a cross inside the box you choose as an option. E.g.

Yes	1
No	2

23. How did Covid-19 affect your income per month?

……

……

24. How did Covid-19 affect cost of your farm production?

……

……

……

25. What methods did you use to market your farm products during hard lockdown of Covid-19 pandemic restriction?

……

……

26. Are you employed in other profession? If yes, specify the profession.

Yes	1
No	2

……

……

27. Did you get financial support to assist you with your production during Covid-19 pandemic?

Yes	1
No	2

28. If your answer was “Yes”, what kind of financial assistance was it?

Loan	1
voucher	2
Other	3

If any other, specify.

……....

29. What is your level of education?

Primary school	1
Secondary school	2
Tertiary school	3
None	4

30. what is your gender?

Male	1
Female	2

31. What is your average age? select the options below

20 and below	1
21-40	2
41-60	3
61 and above	4

THANK YOU, FOR YOUR PARTICIPATION AND THE BEST OF LIFE.

APPENDIX B: TRANSLATED SEPEDI QUESTIONNAIRE

LENANEO LA DIPOTŠIŠO

HLOGOTABA:

GO LEKODIŠA DIKGOPOLO TŠA BALEMI MABAPI LE KABO YA DITIRELO TŠA KATOLOŠO NAKONG YA LEUBA LA COVID-19: THUTO YA MOHLALA WA MOTSE WA GA-MOTHAPO, PROVINCE YA LIMPOPO, AFRIKA BORWA.

KA

PAUL MOGOWE BOPAPE

PALO YA MOTŠEAKAROLO: _____

LEFELO: _____

Karolo ya A:

Se se akaretša tlhalošo ya mekgwa le dikanale tša thekinolotši ya kgokagano ya tshedimošo (ICT) tšeo di bego di šomišwa go aba ditirelo tša katološo ya temo nakong ya leuba la COVID-19 go tloga go lockdown ye thata ya maemo a 5 go fihla maemong a 3 gammogo le dinyakwa tša ba arabetšego.

Taelo:

Lenaneopotšišo le le arotšwe ka dikarolo tše tharo, dikarolong ka moka tše tharo moo e lego kgetho ya go kgetha go tšwa go tšona hle ngwala sefapano ka gare ga lepokisi leo o le kgethago bjalo ka kgetho.

Mohlala:

Ee	1
Aowa	2

32. Ke mekgwa efe yeo o e šomišitšwego go boledišana le bahlankedi ba katoloso ya temo nakong ya leuba la Covid-19?

……
……
……
……

33. Ke ditlhohlo dife ka mekgwa ya kgokagano yeo e šomišitšwego nakong ya leuba la Covid-19 magareng ga lena balemi le bahlankedi ba katološo?

……
……
……
……...

34. Naa o nagana gore go ka dirwa eng go kaonafatša kgokagano magareng ga balemirui le bahlankedi ba katološo?

……
……
……

35. Ke efe ya mokero wo o latelago wa thekinolotši ya kgokagano ya tshedimošo (ICT) yeo o e ratago kudu go feta yeo e šomišwago ka mo go atlegilego bakeng sa kabo ya tshedimošo ya temo?

Thelebišene	1
Radio	2
Megala ya cellular	3

36. Ke ka lebaka la eng o rata thekinolotši ya kgokagano ya tshedimošo (ICT) yeo o e kgethilego go tšwa potšišong ye e lego ka mo godimo?

……
……
……
……

37. Ke ditlhohlo dife tšeo o lebanego le tšona ka dikanale tša thekinolotši ya kgokagano ya tshedimošo ya tšhomišo (ICT) tšeo di šomišwago go aba tirelo ya katoloso?

    ……
    ……
    ……

38. Ke eng seo se nyakegago go kaonafatša tšhomišo ya ICT bakeng sa kabo ya tshedimošo ya temo ye e šomago gabotse?

    ……
    ……
    ……

39. Naa o tseba ka sefala/dipolelo tša ditaba tša leago tšeo di šomišwago nakong ya leuba la Covid-19 go kgokaganya tirelo ya katoloso?

Ee	1
Aowa	2

40. Tirelo ya katološo ya temo yeo e šomišwago sefala/dipolelo tša ditaba tša leago nakong ya leuba la Covid-19 ke eng?

……
……
……

41. Ke ditlhohlo dife goba efe ka tšhomišo ya diforamo tšeo tša ditaba tša leago?

Ee	1
Aowa	2

42. Ge e ba ee, ke ditlhohlo dife ka tšhomišo ya diforamo tša ditaba tša leago?

……
……
……..

43. Naa o nagana gore go ka dirwa eng go kaonafatša diforamo tša ditaba tša leago?

……
……
……

44. Naa le boledišana bjang lena le bareki nakong ya leuba la Covid-19?

……
……

45. Naa o be o sa kgona go fihlelela dinyakwa tša bareki nakong ya leuba la Covid-19?

Ee	1
Aowa	2

KAROLO YA B:

Karolo ye e akaretšago sekala sa likert sa dintlha tše hlano go sekaseka temogo ya ba arabetšego go leba maemong a phihlelelo ya maemo a balemirui a kgotsofalo ya tirelo ya katološo nakong ya leuba la Covid-19 go tloga go lockdown ye thata maemong a 5 go fihla maemong a 3.

Taelo:

Ge o kgetha kgetho go sekaleng sa Likert ya Hlano, kgetha kgetho e tee fela.

Mohlala:

1= ga e fihlelelege kudu, 2= ga e fihlelelege, 3= e fihlelelwa ka sewelo 4=e fihlelelwa le go 5=e fihlelelwa kudu.

1	2	3	4	5

46. Naa ba le file tumelelo bjalo ka balemirui ba bannyane go tšwela pele ka mediro ya lena ya bolemirui ka fase ga lockdown ye thata ka Afrika Borwa?

Ee	1
Aowa	2

47. Ge e le gore aowa, ke ka lebaka la eng ba sa go fe mangwalo a tumelelo ya go tšwela pele ka mediro ya gago ya polasa ka ge temo e be e tšewa bjalo ka ya bohlokwa nakong ya lockdown ye thata?

……
……
……
……

48. Naa maemo a phihlelelo ya tirelo ya katoloso ke efe nakong ya leuba la Covid-19? Ka go šomiša sekala sa Likert sa dintlha tše hlano kgetha kgetho e tee fela: 1= ga e fihlelelege kudu, 2= ga e fihlelelege, 3= e fihlelelwa ka sewelo 4=e fihlelelwa 5=e fihlelelwa kudu.

1	2	3	4	5

49. Ke ka lebaka la eng o kgethile kgetho yeo o e kgethilego potšišong ye e lego ka mo godimo?

……
……
……

50. Ke eng seo se swanetšego go dirwa go kaonafatša phihlelelo ya tirelo ya katološo?

……
……
……
……

51. Naa maemo a kgotsofalo ya tirelo ya katološo nakong ya leuba la Covid-19 ke afe? Ka go šomiša sekala sa Likert sa dintlha tše hlano kgetha kgetho e tee fela: 1 = Ga ke kgotsofale kudu, 2 = Ga a kgotsofala, 3 = Ga se ka tšea sephetho, 4 = ga se a kgotsofala le 5 = Ga a kgotsofala kudu.

1	2	3	4	5

52. Ke ka lebaka la eng o kgethile maemo ao a kgotsofalo ya tirelo ya katološo nakong ya leuba la Covid-19 potšišong ye e lego ka mo godimo?

……
……
……

53. Ke eng seo se nyakegago go dirwa go kaonafatša tirelo ya katološo go thekga balemirui go hlokomela le go kaonafatša tšweletšo ya bona ya dipolasa nakong ya leuba la Covid-19?

……
……
……
……
……

KAROLO YA C:

DIKA TŠA LEAGO-EKONOMI

Taelo:

Lenaneopotšišo le le arotšwe ka dikarolo tše tharo, dikarolong ka moka tše tharo moo e lego kgetho ya go kgetha go tšwa go tšona hle ngwala sefapano ka gare ga lepokisi leo o le kgethago bjalo ka kgetho.

Mohlala:

Ee	~~1~~
Aowa	2

54. Naa Covid-19 e ama bjang letseno la gago ka kgwedi?

……
……

55. Naa Covid-19 e ama bjang ditshenyagalelo tša tšweletšo ya gago ya polasa?

……
……
……

56. Ke mekgwa efe yeo o e šomišitšego go bapatša ditšweletšwa tša gago tša polasa nakong ya hard lockdown ya thibelo ya leuba la Covid-19?

……
……
……

57. Na o thwetšwe mo profešeneng ye nngwe? Ge e ba ee, hlalosa profešene yeo.

Ee	1
Aowa	2

……

……

58. Naa o hweditše thekgo ya ditšhelete go go thuša ka tšweletšo ya gago nakong ya leuba la Covid-19?

Ee	1
Aowa	2

59. Ge e le gore karabo ya gago e be e le “Ee”, e be e le thušo ya mohuta mang ya ditšhelete?

matshonisa	1
vouchara	2
Se sengwe	3

Ge e le sesengwe se supetse

……....

.....

60. Maemo a gago a thuto ke afe?

Sekolo sa tlasana	1
Sekolo sa sekondari	2
Sekolo sa maemo a godimo	3
Ga se ka ya sekolong	4

61. Bong bja gago ke bofe?

Monna	1
Mosadi	2

62. Palogare ya mengwaga ya gago ke efe? kgetha dikgetho tša ka tlase

20 le ka fase	1
21 -40	2
41 -60	3
61 le go feta	4

RE LEBOGA, KA GO TŠEA KAROLO. RE LE LAKALETSA MAHLATSE BOPHELONG.

APPENDIX C: CONSENT FORM

CONSENT TO PARTICIPATE IN RESEARCH

TITLE OF RESEARCH:

EVALUATING FARMERS' PERCEPTIONS TOWARDS EXTENSION SERVICE DELIVERY DURING THE COVID-19 PANDEMIC: A CASE STUDY OF GA-MOTHAPO VILLAGE, LIMPOPO PROVINCE, SOUTH AFRICA

Dear Participant,

You are requested to participate in above mentioned research study conducted by Mr. Bopape PM (Centre for Rural Community Empowerment, University of Limpopo). You were selected as a participant in this study because you are one of the members small-scale in Ga-Mothapo village.

1. PURPOSE OF THE STUDY

This research project aim is to evaluate the perceptions of small-scale farmers towards agricultural extension service delivery during the COVID-19 pandemic to inform policy makers about the current agricultural extension service delivery and its challenges in a Ga-Mothapo village.

2. PROCEDURES

As the investigator I would like you volunteer to participate in this study where I would request you to do the following things:

- Agree to be interviewed in person by me.

Request you to respond to questions towards extension service delivery during the Covid-19 pandemic.

Extension service delivery during COVID-19 pandemic and preparing for other possible pandemic that might happen in future.

3. CONFIDENTIALITY

Information obtained from the participants during the study will remain confidential and will be disclosed only with your permission. Confidentiality of all the research data will be maintained by the investigator and identity of the respondents will not be revealed in the research report.

4. PARTICIPATION AND WITHDRAWAL

You can choose whether to participate in this study or not. If you volunteer not to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any question you don't want to but still remain in the study. The investigators may withdraw you from this research if circumstances arise which warrant doing so arise.

5. IDENTIFICATION OF INVESTIGATORS

In situation where you have some questions or concerns about the research, please feel free to contact the investigators and the supervisors as follows:

Investigator: Mr. PM Bopape

E-mail: paulbopape65@gmail.com

Contacts: 076 328 3250

Supervisor: Prof. EM Zwane

E-mail: elliot.zwane@ul.ac.za

Contacts: 082 868 7173

Office Tel. (015) 268 3847

6. SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Mr. PM Bopape I was given opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent voluntarily to participate in this study. I have been given a copy of this form.

_____

Name of Subject/Participant

_____ _____

Signature of Subject/Participant Date:

7. SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [name of the subject/participant. He/she was encouraged and given ample time to ask me any questions.

Signature of Investigator: Date:

APPEDIX D: ETHICAL CLEARANCE

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 4713, Fax: (015) 268 2306, Email: moore.hutamo@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: **20 June 2023**

PROJECT NUMBER: **TREC/351/2023: PG**

PROJECT:

Title:	Evaluating farmers' perceptions towards extension service delivery during the COVID-19 Pandemic: A case study of Ga-Mothapo Village, Limpopo Province, South Africa.
Researcher:	PM Bopape
Supervisor:	Prof. EM Zwane
Co-Supervisor/s:	N/A
School:	Agricultural and Environmental Sciences
Degree:	Master of Agricultural Management in Agricultural Extension

PROF D MAPOSA
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number **REC-0310111-031**

Note:

i) **This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.**

ii) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.**

iii) **PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.**

APPEDIX E: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

PO BOX 911

SOVENGA

0727

EMAIL: paulbopape65@gmail.com

CONTACT NUMBER :0763283250

Subject: Request for permission to conduct research for Master of Agricultural Management in Agricultural Extension.

Madam/Sir

I am student Mr. PM Bopape a master's student from university of Limpopo under the School of Agriculture and Environmental Sciences, Centre for Rural Community Empowerment (CRCE). I am hereby kindly requesting for permission to conduct a research study in Capricorn district.

The research is titled "***Evaluating farmers' perceptions towards extension service delivery during the Covid-19 pandemic: a case study of Ga-Mothapo village, Limpopo Province, South Africa***". All ethical issues will be carefully considered and Farmers that will volunteer to participate in the study will be given consent form to sign before the commencement of data collection. I am planning to conduct research study this year.

Thank you in advance, hoping that my request will be given attention.

Sincerely yours

Bopape PM

BAKGAGA
BA MOTHAPO TRADITIONAL COUNCIL

BAKGAGA
BA MOTHAPO TRADITIONAL COUNCIL

No. 117 Moshate Village
Ga-Mothapo
Cel: 076 286 1398

P.O Box 22
Tholongwe
0734

ENQ: MAUNATLALA L.E

CELL:0818144268

Email: bakgagabamothapo@gmail.com

DEPARTMENT OF CO-OPORATIVE GOVERNANCE
HUMAN SETTLEMENT AND TRADITIONAL AFFAIRS
BAKGAGA BA MOTHAPO
TRADITIONAL COUNCIL
04 SEP 2023
P.O. BOX 22, THOLONGWE, 0734
CAPRICORN DISTRICT SUPPORT CENTRE

TO WHOM IT MAY CONCERN

PERMISSION TO CONDUCT RESEARCH FOR MASTER OF AGRICULTURAL MANAGEMENT IN AGRICULTURAL EXTENSION IN RESPECT OF MR BOPAPE PAUL MOGOWE, STUDENT NO: .

The Bakgaga ba MOTHAPO TRADITIONAL COUNCIL here by acknowledges the above student to conduct research for Master of Agricultural Management in Agricultural Extension from university of Limpopo under the School of Agriculture and Environmental Sciences, Centre for Rural Community Empowerment (CRCE).

The research is titled "**Evaluating farmers' perceptions towards extension service delivery during the covid-19 pandemic: a case study of Ga-Mothapo village, Limpopo Province, South Africa**".

Hope you find this in order

Sincerely yours

SECRETARY	COUNCILOR	KGOSHIGADI
MAUNATLALA L.E	MOTHAPO M.R	MOTHAPO M.R.M

2023-09-04

Not Valid Without a Stamp