

The contributions of smallholder farmers toward household food security in Chabelane village, Limpopo province, South Africa

Malebo Gratitude RAMATSHEKGISA¹  • Dhee NAIDOO¹ 

¹ Department of Anthropology, Archaeology and Development Studies, Faculty of Humanities, University of Pretoria, South Africa

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Correspondence:

Malebo Gratitude RAMATSHEKGISA

E-mail: gratitudemalebo@gmail.com

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Abstract

Although South Africa is considered to be food secure at the country level, large numbers of households within the country remain food insecure (De Cock et al. 2013). Food inaccessibility in many rural areas of South Africa has manifested itself in many formats but has positioned poor households to struggle to meet their basic household requirements and be more vulnerable to food insecurity. Details of such food insecurity, however, may differ (De Cock et al. 2013; D'Haese et al. 2013). This study aimed to investigate the contributions of smallholder farmers toward household food security in Chabelane Village, in Limpopo Province, South Africa. A quota sampling method was used to select 20 smallholder farmers in Chabelane Village. Data was collected through semi-structured interviews and the analysis of data was done using thematic analysis. This study has highlighted the prevalence of food security status among smallholder farmers. Household food security in rural areas is a significant matter, as it is necessary to have appropriate access to healthy foods that lead to active life. Furthermore, the study highlighted the smallholder farmers' agricultural practices which are crop farming and livestock farming. Moreover, increased food supply, job opportunities, and income generation were highlighted as the contributions of the smallholder farmers toward household food security. However, the smallholder farmers in this study area experienced challenges such as lack of finances, water shortages, and lack of access to formal market. This study recommends access to financial aid through access to loans from the banks, raising awareness among smallholder farmers about the knowledge on how to access formal markets. Additionally, the Department of Agriculture or local municipality to provide water tanks or boreholes for smallholder farmers to have undisrupted access to water for productive farming practices. This study contributes to the growing body of knowledge on the contributions of smallholder farmers towards household food security by providing valuable insights into the relationship between food security and smallholder farmers, particularly in Chabelane Village, Limpopo Province, South Africa.

Keywords: Food security, Smallholder farmers, Chabelane Village, Households, South Africa

INTRODUCTION

FAO, IFAD, UNICEF, WFP, and WHO (2022) estimate that 828 million people worldwide were hungry in 2021, with Africa (278 million) and Asia (425 million) suffering the greatest losses. Due to the location of the bulk of the world's poor countries, the continent of Africa faces greater issues related to food insecurity than any other. Food security issues impede the development of most impoverished nations. Sub-Saharan Africa is one of the regions that face issues

related to food security because the majority of the world's food insecure population resides in this region. Compared to earlier, food security is now given more attention in the policy program. This significance can be attributed to the extent, scope, and quantifiable proof of food insecurity. The nature of food insecurity's irregularity is a serious worry on a global scale, but it is not region- or country-specific (Nkegbe et al., 2017).

Furthermore, the global issue of food security continues to be of concern (Food and Agriculture Organisation, 2014). According to the FAO's "State of Food Insecurity and Nutrition in the World 2023" study, 600 million people will be chronically undernourished by 2030, while up to 783 million people experienced hunger in 2022. There are undernourished people in both industrialized and developing parts of the world, but the distinction between the two comes down to the size and intensity of the issue as well as the percentage of the population that is impacted.

In addition to guaranteeing the quantity of food, achieving food security entails assuring food quality and continuity for every member of the household (World Bank, 2010). Any nation's ability to thrive over the long run can be positively impacted by having enough nutrition and food security (Holben, 2010). According to Turyahabwe et al. (2013), home poverty and food insecurity result from a failure to meet a child's daily nutritional needs as well as worry about one's future ability to generate or obtain food. A common understanding is that improving household food security is critical to raising the standard of living for the impoverished in rural areas.

The definition of food security also makes it abundantly evident that, despite the nation's ability to produce or import enough high-quality food annually to satisfy the necessary demand for both public and private distribution, the concept of the food problem is a significant one with numerous facets (Shahjhan et al. 2016). This could not be the case for food security in Greater Letaba Local Municipality households, though, as there are few studies on the topic particularly on the contributions of smallholder farmers towards household food security. The study, therefore focused on the contributions of smallholder farmers toward household food security in Chabelane Village, Limpopo Province. This study also focused on the prevalence of food security status among smallholder farmers' households and the challenges smallholder farmers encounter which pose a threat to households' food security in Chabelane Village.

Research Objectives

The main objective of this study was to investigate the contributions of smallholder farmers toward household food security in Chabelane Village, Limpopo Province. The study also aimed at the following specific objectives:

1. To assess the prevalence of food security status among the smallholder farmers' households in Chabelane Village.
2. To determine the extent to which smallholder farmers contribute to household food security in Chabelane Village.
3. To investigate challenges faced by smallholder farmers toward achieving household food security in Chabelane Village.

Research Questions

Main research question

The main research question on which the study is based on is as follows: what are the contributions of smallholder farmers toward household food security in Chabelane Village, Limpopo Province?

MATERIALS AND METHODS

Study Area

The study was conducted in Chabelane Village, in Limpopo Province, South Africa. Chabelane Village lies within 23 ° 42 ' S, 30 ° 8 ' E in the Sekgosese area, Mopani District under Greater Letaba Municipality (GLM). GLM is a Limpopo Province Category B municipality. It is the smallest municipality in the district with a 1,891 km² area and rainfall of 300-600 mm annually (GLM IDP 2021/2026). The municipal territory consists of 132 rural communities of which Chabelane Village is one of them (GLM IDP 2021/2026). The Limpopo Province is known for its plentiful agricultural area and is among the primary agricultural production regions in the country, recognized for its livestock, fruits and vegetables, grains, and tea (Stats SA, 2019). According to the Department of Agriculture and Rural Development (2016), agriculture is one of the Limpopo's major economic pillars.

Research Methodology

This study employed a qualitative research technique. Qualitative research entails a variety of interpretative tools to deduce, describe, and translate certain occurrences that occur in the natural world, and therefore can be summarized as a type of descriptive research (Creswell, 2009). The qualitative research approach was used in this study because 'it situates the researcher in the real world and incorporates interpretive behaviors that make the world visible' (Flick,

2014:10). The qualitative method enabled the researcher to investigate the issue in question and develop a thorough understanding of the study's basic issue (Creswell, 2013).

Sampling and sampling procedure

This study employed a non-probability, quota random sampling to select the participants. Quota random sampling entails grouping the population of the research into segments (Agbenyegah, 2013). The usage of quota sampling ensures that the sample group contains specific traits of the population the researcher has chosen (Dudovskiy, 2016). The study comprised of 20 smallholder farmers who are directly practicing smallholder agriculture activities in the Chabelane Village.

Data Collection Tool

This study employed semi-structured interviews to collect data from 20 smallholder farmers in Chabelane Village for a period of three months. The interviews took place from August 2022 to October 2022. All interviews were recorded digitally and transcribed.

Data Analysis Method

Thematic analysis was employed in this study for data analysis. All steps addressed by Braun and Clarke (2006) were applied in this study's data analysis. According to Caulfield (2019), thematic analysis was used to discover common themes in a collection of texts, such as interview transcripts. Thematic analysis entails reading and evaluating all material obtained to code, organize, and link diverse concepts (O'Connor & Gibson, 2003). The transcribed interviews were carefully reviewed, and key themes related to the contributions of smallholder farmers toward household food security were identified. The identified themes were then organized into a table to provide a comprehensive overview of the smallholder farmers' contributions, the challenges, and the prevalence of food security status as themes in a column and another column labeled "sub-themes".

Ethical considerations

The study complied with ethical guidelines by ensuring that every participant gave their consent before participating in the study, and the researcher ensured participants' confidentiality and anonymity. Ethical approval for this study was received from the University of Pretoria and the Faculty of Humanities Research Ethics Committee, numbered (HUM008/0722). All ethical rules and standards by the research institution were adhered to.

RESULTS AND DISCUSSION

According to the qualitative analysis method, three main themes emerged from the data collected. The first-order themes (specific deduction) are grouped under three headings. These are the prevalence of food security in Chabelane Village, the contributions of smallholder farmers toward household food security in Chabelane Village, and the challenges smallholder farmers experience. Each specific deduction (response) is also a summary of the most repetitive general deductions in smallholder farmer interviews and is detailed in almost all of the research areas (Table 1). These findings furnished invaluable insights into the contributions of smallholders towards household food security in Chabelane Village, Limpopo Province, South Africa.

Smallholder farmers' agricultural practices:

Types of farming practiced

The data in this study indicated that 24% of the participants practice livestock farming, 37% of the smallholder farmers practice crop farming, and 30% practice both crop farming and livestock farming. The findings illustrated that the majority of smallholder farmers are still practicing mostly crop farming rather than livestock farming. In crop production, households are engaged in additional strategies for enhancing food security and food availability in their households. The crops grown by smallholder farmers are intended for domestic consumption, and the household can become either partially or completely food insecure (Mutisya et al. 2016). Rose (2008) asserted that the development of staple food crops has a role in ensuring the food security of households. Vegetables, maize, and beans are only a few of the many crops that may be grown in South Africa (Gbetibouo & Hassan (2005). For this reason, the majority of the country's soil is appropriate for producing these kinds of crops. On the other hand, livestock is seen as an aspect of security and a means of coping during crop failure and other disasters (Goulet, 2013). Since livestock is a commodity and can be used as a reserve that can be converted into money when required, almost all rural households in nations that are developing own some livestock (Ali & Khan, 2013). According to Abu and Soom, (2016), several researches have shown that households that own cattle are more likely to engage in ecologically friendly farming practices and have sufficient food security. Diao et al. (2021) found that an increase in livestock increases a household's probability of being nutritious by about 51% in rural Punjab, Pakistan.

I am a crop farmer, am not into livestock farming because I do not have any livestock at the moment. I plant vegetables which include cabbage, onions, chilies, maize, sweet potatoes, beetroot, lettuce, baby marrow, and pumpkin. I plant vegetables because I want to eat healthy and fresh food (Participant 19).

I practice crop farming only in my yard; not so long I will be venturing into livestock soon. I plant maize crops, ground nuts, beans, and green leafy vegetables (Participant 12).

Most of the time on my farm I plant spinach, tomatoes, and maize and I have also an orange tree. I only do crop farming, other farming ideas I have not yet thought about them (Participant 20).

Farming area and size

Land availability is a significant aspect in influencing smallholder agriculture's success. The data revealed that 63% of the participants practice farming 200 meters away from their homes, and 28% indicated they farm in their yards. These results are consistent with those of Mashamaite (2014), who discovered that most participants utilized portions of their less than 500 square meter home stands for farming. The size of the farm could have a negative or positive impact on the level of productivity. This supports the argument by Hendricks (2014) that most of the land redistribution has been unproductive and non-functional and that subsistence farmers still produce a quarter of what commercial farmers produce. This confirms the arguments that subsistence agriculture's production involves mainly households producing on relatively small plots of land less than one hectare with limited resources for household subsistence. According to Baiphethi et al. (2009), smallholder farmers have unsustainable tiny and diminishing farm sizes as well as poor-quality land, this is a result of problems with ownership of land which have to be fixed. In most cases, smallholder farmers run their fields under ambiguous customary land ownership, because of their erratic land tenure systems, they are unable to make the most use of the land. Insecure property rights, for example, do not encourage farmers to invest in land, which would increase production.

My farming takes place outside my yard, which is located 1 kilometer from where I stay, the farm size is 1 hectare (Participant 20).

My yard is enough for me to stay in and to plant. I have about 100 meters square, which I use for crop farming (Participant 17).

I practice farming here in my yard, my stand size is quite big, half of it I use for crop farming, and I also erected two kraals for my cattle and goats (Participant 19).

I use my yard to cultivate crops and other space I erected two kraals for the livestock. The farming area is approximately 500 hectares. I started this because I was bored but now, I see it is helping me to get a few tomatoes (Participant 12).

Household Food prevalence status:

According to StatsSA (2020), South Africa currently has one of the greatest wealth inequalities in the world because of the persistent financial gaps across sub-population groups, the nation has static household food insecurity levels and nutritional difficulties among sub-population groups like women, children, and rural households, the majority of whom are from low-income families (StatsSA, 2020). According to Du Toit (2014), the problem with food access in South Africa is real, most people don't have enough access to nutritious meals at home. Food insecurity among South African households appears to have increased (Van Den Berg & Raubenheimer, 2015). In this study, the Household Dietary Diversity Score was used to classify households either into food secure or insecure categories.

Food consumed per day for the past week (7 days)

The data indicated that 36% of the participants reported that they had more than 5 types of food under the 12-food group that contains a variety of nutritional dietary food. These participants stated that they consumed 3 meals a day (breakfast, lunch, and supper) while 73% mentioned that they ate 2 meals a day (breakfast and supper while others ate lunch and supper). They further indicated that they had less than 5 types of food that they had consumed in the previous 7 days. In a study conducted by Machete (2020), it was found that nearly 3 in every 10 participants reported having 2 meals a day (lunch and supper only).

During the past week, I ate 3 meals in a day, I ate breakfast, bread, milk, eggs, tea, and butter, and the other day it was porridge. Then around 13:00, I would go back home from the farm to eat maize meal, and green leafy vegetables (morogo), and on other days I ate tin fish, other days it was chicken feet, rice, and beef. For supper, I ate maize meal, potatoes, and chicken meat, sometimes with spinach (green leafy vegetables). On other days I ate samp, beetroot, and chicken organs (Participant 20).

I ate 3 meals in a day, I ate breakfast, milk, butter, tea, bread, and cheese. For lunch, I ate maize meal, and beans, tin fish and other day it was samp and beans. For supper, I ate chicken, samp and pumpkin, other days it was cabbage, chicken feet,

beef and maize meal (Participant 19).

I consumed two times a day, in the morning I consumed maize meal, and green leafy vegetables as my breakfast. Which is the supper food I did not finish the day before because I knew I wouldn't have money for bread. I save a supper meal for the morning. You know maize meal in the early hours of the day can hold your stomach for the whole day, which is better than buying bread every day. During supper, I consumed maize meal and tin fish and the other day I consumed beans and pork (Participant 16).

The way things are expensive, I consume twice times a day, lunch and supper only. For lunch, I consumed a maize meal, inkomazi, and sometimes a milk and maize meal. On the other days, it was beans, peach from my neighbor's garden, tomato relish, and red meat. For supper, during the past 7 days, I consumed monawa (green leafy vegetable) and maize meal. (Participant 11).

Smallholder farmers' grocery expenditure per month

The data in this study indicated that 54% of the participants in this study spend between R700-R800 monthly on food and groceries that are needed in the household. While 31% of smallholder farmers indicated that between R1200- R1500 monthly is used for household food groceries. Only 15% of smallholder farmers indicated that they purchase R1600- R2200 food every month. It is clear from the smallholder farmers' remarks that a sizeable portion of the population depends on smallholder agriculture for their household's food needs. This data is consistent with that of Ngigi (2011), who discovered that 90% of households in Malawi, 85% of households in Kenya, 76% of households in Botswana, and 75% of households in Zimbabwe are practicing subsistence agriculture to provide their households with nutritious.

Every month end when I do my groceries, I spend between R700-R800 of the money I get from my son. I also supplement it with the one I get from selling the produce (Participant 11).

I spend R1200 most of the time. If I say I spent a lot is when I spent R1500. I don't buy much because I get other food from the farm and I also depend on grants. The money is not enough to buy everything I need at the shop (Participant 19).

I buy R2000 groceries when I go with my daughter, she chooses almost everything in the shop, giggling, however, I tell her the limit is R2000. If is more should be R2200 (Participants 18).

Contributions of smallholder farmers toward household food security:

The agricultural sector is regarded as the largest contributor to the economies of most African countries and accounts for over 30% of the continent's Gross Domestic Product (GDP) (Nyange et al. 2011). Agriculture also accounts for a significant percentage of employment, the number of people employed in agriculture, hunting, forestry, and fishing amounted to approximately 868,000 in 2021. This is an increase of 17.3% compared to 2018 (Statista, 2022). In this context, the contributions of smallholder farmers towards household food security have been evaluated under four main headings; increased food supply, job opportunities, and generated income.

Increased food supply

The results of this study indicated that 52% of the smallholder farmers harvest enough from their farms. This is followed by 27% of the smallholder farmers who said they harvest too much from their farms. Additionally, 11% of the smallholder farmers indicated that they harvest little from their farms. This means that smallholder farmers played a critical role in increasing the food supply in some of the households in the study area either as a supplement to the food they bought or solely depending on their farm output. It also means that they have access to food, as they produce more than enough food from their farm. The findings of this study are similar to those of (Matebeni, 2018), who found that agricultural growth can reduce the prevalence of food shortages at all levels through increased overall supply of food for poor people and improved dietary diversity and quality of food consumed by households (Matebeni, 2018).

My harvest is enough because the soil I plant on does not require certain vegetables. I buy other things from the shop. Ya... what I plant and harvest is enough for that time to prevent me from buying other vegetables from the shop which I can plant here and harvest. (Participant 18).

My farm is huge, and the food I produce in every season is so much that I even share it with my neighbours after selling it (Participant 20).

Since I use a small space for crops and another for livestock, my harvest is little, is not much that I can sell. Is only for my family (Participant 11).

Job opportunities

One of the key elements of smallholder production in most rural areas is labor intensity. The data indicate that 55% of the smallholder farmers have large farmland and they further mentioned that they have employed between 8 and 10 people from the local community. While 32% of the smallholder farmers indicated that they have more or less 3 household members helping on the farm during the harvest seasons. It was also found that 13% of the smallholder farmers do not have assistance as they work alone on the farm. Smallholder agriculture has been recognized as one of the most important sectors in employment creation in most developing countries (Baiphethi & Jacobs, 2009). These findings show the importance of smallholder farmers' contribution towards job creation. Many researchers concur with the results of the study that smallholder agriculture creates job opportunities for the local community. As a result, they view the industry as the primary employment source for those without jobs (FAO, 2017).

I have adults whom I work with on the farm every day, there are 8 but sometimes if I need more labourers for the season, I hire an additional 2 workers which makes them 10 in total (Participant 19).

Most of the time I work with my wife and my 2 daughters because my farming space is not big. 3 of us can do a wonderful job on the farm (Participant 11).

On my side, farming is not a big task because my farming area is not big, I work the farming area alone (Participant 20).

Generates income

The data indicated that 56% of the participants generate between R650 and R700 income monthly from selling their harvest, while 41% generate more than R2800-R6000 income monthly from selling their livestock such as pigs, chickens, goats, and cattle. Only 3% of the participants mentioned that they did not generate any income because they did not sell any of their farm output but rather consumed them within their households instead. Smallholder agricultural production is critical for achieving household food security through increased income for the majority of rural poor households. Income generation may provide households with the ability to purchase food from the market to supplement the food they harvested from their farms to meet their food security needs. According to Aref (2011), smallholder farming has largely contributed to rural households' ability to generate money. However, this income was not sufficient, if only they had access to a formal market their income could have been much more than what they receive currently. During the interviews with the participants, they explained as follows:

...after selling the pieces of the slaughtered pig I get about R2800, but if I sell cattle I get R6000. These two animals' prices differ and I can take 6 months without having a customer to come and buy cattle, but with pigs and goats, I get a lot of customers. After selling, that's when I check what I need in the household and buy using the money and also pay debts (Participant 20).

The vegetables and fruits I sell to the community who pass by my farm to buy, in a day I get R650. When I take the products to the street vendors I get 750 a month. I also sell chickens within the community. I sell the slaughtered ones for R70 and not slaughtered by R60 and I get a profit of R2000 (Participant 12).

I don't receive income from my farm produce because I don't sell them (Participant 15).

The challenges faced by the smallholder farmers

Smallholder farmers are faced with various challenges that impede their growth and ability to effectively contribute to food security, compared to commercial farmers. Smallholder farmers' challenges vary from system constraints, and allocation constraints to environmental-demographic constraints (Adebo & Falowo, 2015). Below are the challenges smallholder farmers in Chabelane Village experience.

Water shortages

Water plays a critical role in the success of smallholder agriculture. The data in this study revealed that 87% of smallholder farmers are faced with water shortages. The data further indicated that smallholder farmers use municipal water for irrigation and this water is only available twice a week (Monday and Saturday). Furthermore, the data showed that 11% of the participants have JoJo tanks to save water for irrigation. Only 2% of the smallholder farmers indicated that they irrigate their crops using water from the nearby river, as there is a water problem/shortage in Chabelane Village therefore smallholder farmers find it difficult to irrigate their crops. All of the participants in this study area suffer from a lack of water access/disruption. This is confirmed by Stats SA (2021) stating that 56 % of the general population of Limpopo Province experiences the most water interruptions. Thus, the food production of the smallholder farmers will be affected if this is not attended to by the municipality.

Water is a problem here in Chabelane Village. Most of the time we irrigate using water from the river. The municipality water comes out only on Mondays and Saturdays (Participant 18).

Is quite unfortunate that as farmers we are still faced with water shortages. We use municipality water and we store it in buckets. But when there's no tap water, I struggle to irrigate the crops (Participant 12).

On my farm I have a JoJo tank which I use to store water, but since I have 1 hectare of land for farming. This tank is not enough because sometimes they would tell us that the pipe has burst and they sometimes take two weeks to fix the pipe. This then affects our access to water for irrigation (Participant 19).

Finance challenge

In this study, it was found that all (100%) of the participants have financial challenges. The participants mentioned that there are numerous things that they require to purchase for their farms to operate effectively. But when they try to access different banks, they are denied loans. Participants indicated that they need to purchase farm inputs and pay their laborers, however, financial constraints hamper them. The smallholder farmers in this study showed that they experience a lack of finance to purchase farm inputs, to pay workers, and this negatively impacts their farm production. If banks could approve their loans, it would make a huge difference in their farming to finance their farm input. Opportunity International (2012) asserted that even though most of Africa's population is engaged in agriculture, the continent fails to nourish itself since most of the farmers experience a lack of access to farming inputs or to pay their workers using monetary value due to a shortage of funding. Therefore, for a farming practice to be successful, finance is one of the vital resources that is needed. According to Kuwornu et al. (2012), obtaining agricultural credit promptly may boost smallholder farmers' prospects of obtaining useful assets (such as insecticides, tractors, fertilizer, seeds, and others) that will raise productivity and enhance household's access to food.

The challenge I face now is financial problems. With the little money I get from selling my farm output, I can't buy myself big farm equipment. The banks are denying me loans saying I don't meet their requirement (Participant 16).

Financial issues are one of the huge problems in the farming industry, particularly if you are a black farmer. I depend on grants, and with the little I get from the farm I use to buy seeds and medicines for my livestock. The problem starts when my grandchildren need me to buy them things they need at school. Then I have to take the money I need to buy seeds and assist them. Thereafter, I will not have enough left to maintain my farm (Participant 13).

Lack of access to the formal market

The importance of market access to farmers cannot be overstated. Smallholder farmers experienced a lack of access to formal markets which is a hindrance to their farming success. A lack of sufficient information on how to access/channel their way to the formal market was a hindrance to smallholder farmers of Chabelane Village. When smallholder farmers have access to market information, the transaction costs of the household will be reduced the more the smallholder farmer has market information, which will increase their involvement in the market (Makhura, 2001). Access to a formal market is a problem for smallholder farmers in Chabelane Village, the smallholder farmers indicated that they have good quality vegetables, however, lack of knowledge to access formal market is a challenge. Therefore, information centers on prices from the national point, as well as the type of quality they are looking for should be prioritized for smallholder farmers in the agriculture sector.

I supply to Elim street vendors which is an informal market because I don't know what the formal markets need in terms of requirements to sell to them (Participant 19, 20).

Uhm...what I say is that access to information concerning marketing is a serious issue. As you see me now, I don't know the market price of some of the products I produce today or what is needed the most out there. If we can get assistance or someone to inform us about such knowledge we will be fine, that is my thoughts (Participant 17).

Table 1. The smallholder farmers' practices and smallholder farmers' feedback

Themes	Sub-theme	Responses/data
Smallholder farmers' practices	Type of farming practiced	<i>Am practicing livestock farming as well as crop farming. I own 15 chickens, 5 cattle, and 6 goats. I plant spinach, beetroot, beans, tomatoes, sweet potatoes, and maize (Participant 7).</i>
	Reason for farming	<i>Agriculture is my passion; I was taught by my grandfather how to plant vegetables. Now I practice farming because I want extra income, as for the livestock I inherited them (Participant 6).</i>

	Farming area and size	<p><i>I use my stand to cultivate crops and other space and I have erected two kraals for the livestock (goats and cattle). The farming area is approximately 100 hectares (Participant 8).</i></p> <p><i>My farming area is about 500 meters square. I practice farming in my yard because the stand is big enough to also plant my crops (Participant 5).</i></p>
Household Food prevalence status	Food consumed per day for the past week (7 days)	<p><i>During the past week, I ate 3 meals in a day, I ate breakfast, bread, milk, eggs, tea, and butter, and sometimes I ate porridge. Then around 13:00, I would go back home from the farm to eat maize meal, and green leafy vegetables (morogo), and on other days I ate tin fish, other days it was chicken feet, rice, and beef. For supper, I ate maize meal, potatoes, and chicken meat, sometimes with spinach (green leafy vegetables). On other days I ate samp, beetroot, and chicken organs (Participant 10).</i></p> <p><i>I had 2 meals in a day in the past 7 days, I ate in the morning maize meal, chicken meat, and green leafy vegetables. I would not finish the supper meal I had the night before; I save some for breakfast because I won't have money for bread for breakfast. You know staple food such as maize meal can hold your stomach for the whole day, which is better than buying bread every day. I also ate oranges from the tree I planted in my yard. During supper, I ate maize meal and cabbage and on other supper days, I ate rice, pumpkin, and fried fish. On Saturday it was chicken feet and maize meal but on Sunday I cooked rice and chicken meat (Participant 8).</i></p>
	Smallholder farmers' grocery expenditure per month	<p><i>I will estimate because I don't spend the same amount every time, I can say R700. Yeah because I just stay with my 2 grandchildren and my wife only (Participant 2).</i></p> <p><i>I have a big family, I spend about R2000 on groceries (Participant 4).</i></p> <p><i>I spend R1000 because I stay with my 2 granddaughters (Participant 5).</i></p>
Contributions of smallholder farmers toward household food security	Increased food supply	<p><i>I get too much output because I plant too many crops, I do this because I want to supply the street vendors in Gauteng Province as my main priority (Participant 10).</i></p> <p><i>Most of the time my harvest is little because I would have to discard some of the crops that are not of good quality (Participant 5).</i></p> <p><i>My harvest is enough and can be supplemented with the food from the shops. (Participant 1).</i></p>

	Job opportunities	<p><i>Most of the time I call 5 or 6 young boys to come and assist me. They do help me because when it is time to harvest, I have to do so quickly so I can start selling urgently as street vendors require the season stock... What I like about these young boys is they don't demand too much, I just give them some of the harvests as a way of showing appreciation, and sometimes I give my workers money (Participant 5)</i></p> <p><i>Most of the time I work with my family because I use a small area in my backyard to plant (Participant 1)</i></p> <p><i>Since I don't have a big area, I cultivate alone even during harvest I do all that alone (Participant 8)</i></p>
	Generates income	<p><i>The vegetables and fruits I sell to the community who pass by my farm to buy, in a day I get R650. When I take the products to the street vendors, I get 750 a month. I also sell chickens within the community at the wholesale market area using my bakkie. I sell the slaughtered ones for R70 and the un-slaughtered ones for R60, I get a profit of R2000 when I don't count the loss. With the income I make I buy things I need at home, I pay my workers, I buy seeds, and I also save (Participant 5).</i></p> <p><i>I don't get any income because I don't sell any of my produce. They are for household consumption (Participant 9).</i></p>
The challenges faced by the smallholder farmers	Water shortage	<p><i>Water is a problem I am facing right now. It does not much in this area. The water I use to irrigate I get from the river near my farm. I use a bucket to store the water and use it to irrigate the crops. I also bring my cattle to graze near this river so that they can have drinking water. Since I know this river, the water doesn't run out (Participant 7)</i></p>
	Finance challenge	<p><i>The challenge I face now is financial problems. With the little money I get from selling my farm output, I can't buy myself a tractor in 6 months. I need to get at least a loan to add to the one I make. But when I go to banks, they deny me a loan. They tell me that they need something that can convince them that I will be able to repay. Currently, I don't have anything to convince them, unfortunately (Participant 8)</i></p>
	Lack of access to the formal market	<p><i>I sometimes get good quality spinach, pumpkin, baby marrow, and cabbage, lettuce, tomatoes, the problem is that I don't know how to access those big formal retail stores. I therefore just settled for the community members and street vendors at Mooketsi (Participant 9)</i></p>

CONCLUSION AND RECOMMENDATIONS

Consequently, this qualitative research explored the smallholder farmers' contributions towards household food security within Chabelane Village. The study revealed that smallholder farmers in this study are practicing crop farming and livestock farming for household consumption and for selling their produce early for a little extra income. It further indicated that 28% of the smallholder farmers practice farming inside their yards and 63% outside their yards. This study indicated an intricate interplay between smallholder farmers and food security. The findings in this study revealed the prevalence of food security status among the smallholder farmers in Chabelane Village. The majority of the smallholder farmers in this study were found to be food insecure as they did not have enough dietary diversity in a day. Furthermore, the study revealed the contributions of the smallholder farmers towards household food security stemming from the creation of jobs, income generation, and increased food supply. During the interviews, participants highlighted that they come across challenges as smallholder farmers, including water shortages, finance challenges, and lack of access to the formal market. From the challenges mentioned, smallholder farmers find themselves in a serious dilemma to attain food security within their households.

It is important to consider the suggestions found in this study to ensure sustainable food security in Chabelane Village by ensuring the balance between smallholder farmers and food security. These recommendations aim to ensure that smallholder farmers can attain sustainable food security without hindrances that might affect their productivity. Participants had indicated that they experience water interruptions while some participants mentioned that they access water for irrigation from nearby rivers. Greater Letaba Municipality ought to build boreholes for the smallholder farmers and provide them with water tanks for water storage. Participants further indicated that they do not know how to access the formal market, echoing that they end up relying on the informal markets just to survive. Therefore, the Limpopo Department of Agriculture Province should provide an awareness drive for the smallholder farmers in Chabelane Village, to teach them about how to approach the formal market. Moreover, smallholder farmers are challenged by the issue of finances. According to Chimucheka and Rungani (2013), some of the barriers that small enterprises face when trying to obtain financial support include nonexistent financial deposits, shoddy business strategies, inadequate and collateral security. Therefore, for farmers to increase their output and raise household income through the sale of surplus produce, the government should assist them in the form of insecticides, fertilizers, improved seeds, tractors, and pesticides. Additionally, financial organizations like the Land Bank, Commercial Banks, and Micro Agricultural Financial Institutions of South Africa (MAFISA) should assist farmers in rural regions to gain access to credit facilities to increase their output and guarantee food security for their households.

In this context, the study aims to encourage the building of the needed institutional structures and setting in place the basic support pillars such as finance, education, and provision of farm resources that can enable the smallholder farmers to establish their full potential in ensuring food security within their households.

COMPLIANCE WITH ETHICAL STANDARDS

Peer-review

Externally peer-reviewed.

Conflict of interest

The authors declare that they have no competing, actual, potential or perceived conflict of interest.

Author contribution

The contribution of the authors to the present study is equal. All the authors read and approved the final manuscript. All the authors verify that the text, figures, and tables are original and that they have not been published before.

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