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ECONOMIC CHALLENGES LIMITING SMALL-SCALE COMMERCIAL FARMING DEVELOPMENT IN RURAL AREAS OF SOUTH AFRICA

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ABSTRACT

Small-scale commercial farming has been recognised as a congruent strategy for local economic development. However, there are entrepreneurial challenges that are aggravated by the state of the economy, natural factors and weak agrarian edification system limiting growth in this sector. The fact that small-scale commercial farming is prioritized in the development agendas of the majority of African nations reflects how important it is in promoting food security and job creation. A number of agronomic limitations, including a limited farming entrepreneurship skill, severe climate change, drought, limited access to cash, and water shortages, have been recognized as major obstacles to the growth of small-scale commercial farming. As a result, the study presents the obstacles to entrepreneurship and small-scale commercial farmers in South Africa's rural areas. Two hundred and seventeen small-scale commercial farmers were chosen using a multi-stage sample technique. Quantitative data were collected through a survey in which structured questionnaires were used. Statistical Package for Social Sciences, version 26 and Microsoft Excel version 2016 software were used as data analysis tools. Friedman means ranking technique was used to categorize the challenges in ascending order. Pearson chi-square was used to determine the relationship between the variables. The computed results revealed that financial, water, access to the market, crops and animal diseases were the most prevalent challenges. Subsequently, these farmers have poor financial management, marketing, packaging, cross-breeding and human management skills and this is exacerbating the challenges faced. Based on the results of this investigation, the paper recommends that the establishment of training programmes to improve entrepreneurship skills should be offered to these farmers, depending on the type of farming. Agricultural policies should be based on current evidence and should also be based on regular assessments. This improves the readjustment of relevant policies for the development of small-scale commercial farming. The study recommends that building of strong government intervention, farming stakeholder participation in policy formulation and adequate support for small-scale commercial farmers' schemes in rural areas should be prioritised.

Key words: Challenges, Small-scale commercial farming, economic challenges, entrepreneurial constraints, rural areas

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INTRODUCTION

The world's food security has been affected by the rising population and strenuous shifts in agriculture production. While food demands are increasing, the pressure is upon the governments to realise means to improve food security. Small-scale commercial farming has been identified as one important sub-sector in achieving Sustainable Development Goals (SDGs) number 1 and 2 [1, 2] . Small-scale commercial farming are agrarian practices done solely for the income purposes and has substantially increased over the past two decades [2]. This type of farming differs from subsistence farming where households produce food for family consumption rather than for profit. Thus, issues revolving around eradicating extreme poverty, hunger and reducing unemployment make small-scale commercial farming a strategic subsector to improve livelihoods in rural areas [3]. In 2014, (the year of agriculture in Africa), several African countries committed to investing at most 10% of their annual Gross National Income into agriculture sector and small-scale commercial farming is part of the investment [4].

The importance of small-scale commercial farming in contributing to food security and employment creation has been reflected in its prioritisation in the development agendas for most African countries. Agriculture oriented programmes such as the Comprehensive African Agricultural Development Programme (CAADP) are an integral part of the New Partnership for Africa's Development (NEPAD) which envisioned small-scale commercial farming as a significant player towards food security, income generation and employment creation [1]. Furthermore, small-scale commercial farming has been identified as a vital agribusiness for inclusive economic development in rural communities [5, 6]. Thus, small-scale commercial farming is regarded as a significant player in developing countries.

The South African government committed to investing 10% of its gross national income into the agriculture sector after the Malabo declaration in 2014 [1]. This found expression in the Zero Hunger Challenge, Agenda 2063, SDGs and National Development Plan 2030. As such, small-scale commercial farming has been recognized as an economic transformation path. The Department of Agriculture, Forestry and Fishery (DAFF) through Micro Agricultural Financial Institutions of South Africa (MAFISA) injected over R10 billion to finance small-scale commercial farming in rural areas across South Africa since 2014 [7]. Despite the efforts by the South African government to end extreme poverty through commercial farming, there are several challenges faced by small-scale commercial farmers in rural areas.

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Several agronomic limitations such as poor farming entrepreneurial skills, drastic climate change, drought, lack of access to capital and water shortages are central constraints identified and affecting the development of small-scale commercial farming [9]. The aforementioned challenges are linked to poor training to use the available resources by small-scale commercial farmers [10]. The study aimed to assess different challenges and economic challenges limiting small-scale commercial farming development in Vhembe District Municipality in the northeast part of South Africa.

MATERIALS AND METHODS

The study was conducted in Vhembe District Municipality which constitutes of four local municipalities (Makhado, Thulamela, Musina and Chabane). A correlational descriptive research design which is quantitative in nature was used. Quantitative data was collected using a close-ended questionnaire and a sample size of 217 farmers was selected. Cluster sampling method was used to select the respondents to the study. First, four municipalities in Vhembe District were divided into clusters and purposively selected depending on the type of farming practised (small-scale mixed, crop and livestock farming). Second, small-scale farmers producing agriculture products (food) for the market were further purposively selected based on the farming motive[1] and type of farming practised.[2] Third, respondents were randomly selected with Thulamela having 74 respondents, Makhado 52, Collins Chabanel 550, and Musina 41 giving a total sample size of 217. Subsequently, close-ended questionnaires were used to collect data in different phases. The first phase involved a pilot study (information seeking and testing the survey instrument) in which primary data were collected from few randomly selected small-scale commercial or just any farmers across Vhembe District using structured questionnaires and secondary data (location, contact details and types of farmers in Vhembe District) were obtained from DARD database in Thulamela municipality. The collected data from phase one were pretested to check the reliability of the questions and a structured questionnaire was constructed to meet the objectives of the study which were to assess the entrepreneurial challenges limiting small-scale commercial farmers to develop and to evaluate the economic challenges experienced by rural small-scale commercial farmers. The data were subdivided into three sections, socio-economic

[1] Small-scale farmers operating 20 hectors and less as well as producing for the market registered on the DAFF data base were selected as study respondents
[2] Small-scale mixed, pure crop and pure livestock farming

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characteristics[3], farming statistics[4] and enterprise budget[5], farming entrepreneurial skills and challenges section.

RESULTS AND DISCUSSION

Quantitative data were captured and analysed to identify economic challenges and entrepreneurial constraints faced by small-scale commercial farmers in Vhembe District Municipality. First, descriptive statistics were carried out to derive the means for the variables used. The study employed the Friedman Test ranking method using Microsoft Excel 2016 to rank the computed means in ascending order starting from the lowest mean as number one to the highest one as number 10. The challenge ranked number one signifies the most frequently-experienced and pressing challenge in small-scale commercial farming. The results are presented in Table 1.1 (economic challenges) and 1.2 (skills challenges). Thus, the subsequent section presents results on economic challenges faced by small-scale commercial farming.

Economic challenges facing small-scale commercial farming

This section presents the results on the Friedman Test for economic challenges facing small-scale commercial farming (Table 1.1). Considering the computed Asymptotic Significance of 0.0012 which is less than 0.05, the researcher concluded that the computed means were not equal. Financial challenges computed the lowest mean (2.1); hence, this was the most frequently experienced constraint by small-scale commercial farmers. Subsequently, water challenges were ranked second with a mean score of 2.8. Furthermore, access to the market challenge was ranked third with a mean score of 4.6 and access to information as fourth with a mean score on 4.7. Electricity with a mean score of 8.5 and theft 8.6, were the least experienced economic challenges by small-scale commercial farmers in Vhembe District Municipality. Having identified economic challenges calls for strategic interventions such as government support and training where possible. The study further assessed entrepreneurial business skills lacking in small-scale commercial farming and the results are presented in Table 1.2.

Entrepreneurial skills in small-scale commercial agriculture

Table 1.2 shows the results for poor skills as challenges faced by small-scale commercial farmers in Vhembe District Municipality. The researcher analysed the entrepreneurship skills attained by small-scale commercial farmers. Dichotomous

[3] Gender, education level and marital status
[4] Land ownership, agriculture training, farming type, farming season and nature of employment.
[5] Farming inputs, expenses and income

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responses (no and yes) were given, and multiple response frequencies were used to analyse the data collected, as shown in Table 1.2. The results in Table 1.2 show that most of the respondents had poor entrepreneurship skills. These include financial management skills (74%-No and 26%-Yes), marketing skills (60%-No and 40%-Yes), packaging skills (62%-No and 38%-Yes), crossbreeding skills (71%-No and 29%-Yes) and human management skills (75% -No 25%). The results in Table 1.2 further revealed that information management, farm management, book-keeping, computer, and waste management skills were lacking in small-scale commercial farming. Additionally, water management and new technology management skills were deficient in small-scale commercial farming. This shows that small-scale commercial farmers lack critical skills to run a productive farm. In line with the economic challenges identified in this section, the researcher further assessed if there was any association between the challenges and the entrepreneurship skills identified.

Table 1.3 presents Chi-square results for economic challenges and entrepreneurial skills. As such, the computed p-value of 0.021 shows that there is a relationship between financial challenges and financial management skills in small-scale commercial farming. Thus, it can be concluded that the poor financial management skills may cause poor management of finances hence financial challenges in small-scale commercial farming. Similarly, the study assessed if there is an association between access to market challenges and marketing skills. The computed p-value of 0.027 is less than 5% hence the null hypothesis which states that there is no association was rejected. As such, the researcher concluded that access to market challenges is associated with lack of marketing skills. In terms of access to information challenges and information management skills, the computed p-value of 0.543 is greater than 5% hence the researcher concluded that information management skills do not have an association with access to information challenges.

The researcher further assessed if there is an association between crops and animal diseases and cross-breeding skills. The computed p-value of 0.038 is less than 5% hence the rejection of the null hypothesis. The researcher concluded that the lack of crossbreeding skills is associated with poor crop management and increase in animal diseases. Furthermore, the computed p-value of 0.039 is less than 5% between water challenges and water management skills. As such, the null hypothesis, which claims that there is no association, is rejected, and it is concluded that the lack of water management skills may be associated with water challenges in small-scale commercial farmers. Finally, the computed p-value of 0.048 between computer skills and access to information challenges led to the

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rejection of the null hypothesis. Hence, the researcher concluded that the lack of computer skills is associated with access to information challenges in small-scale commercial farming. In this regard, the most frequently experienced challenges are discussed below.

i. Financial challenges

Results in Table 1.1 revealed that financial challenges are the most frequently experienced constraints of small-scale commercial farming. Similarly, Table 1.2 reveals that the majority of small-scale commercial farmers did not have financial management skills. Table 8.3 further revealed that the lack of financial management skills is associated with financial challenges in small-scale commercial farming. The results acknowledge Khapayi and Celliers [11] and Kiuti [12] who stated that lack of capital is a significant challenge limiting farmers' development in rural areas of developing nations. However, these researchers did not link the challenges and the corresponding entrepreneurial skills. As such, the present study was able to associate the challenges experienced and the relevant skills in small-scale commercial farming.

ii. Water challenges

Water challenges were identified as the second most frequently-experienced challenge by the small-scale commercial farmers (Table 1.1). The study also show that the majority of the respondents did not have water management skills. Lack of water management skills was found to be associated with water challenges hence the researcher concluded that water challenges in rural areas are not only caused by climate change conditions but also associated with the lack of water management skills in small-scale commercial farming. However, the researcher acknowledged the fact that equipment necessary to draw irrigation water to farms is expensive, which may be another cause of water challenges in rural areas [13].

iii. Access to the market challenges

Access to the market has been identified as another persistent challenge experienced by small-scale commercial farmers. Because farming requires stable and reliable markets, it is pragmatic to establish sustainable market channels. Small-scale commercial farmers are well known as producers of perishable products [1]. Thus, the need to have marketing skills may help in these farmers to penetrate local, national and international markets. Thus, market access is crucial for small-scale commercial farmers' development.

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iv. Access to farming information challenges

Access to information is essential for small-scale agriculture development [5]. Small-scale commercial farming as a profitable rural agribusiness requires access to funding, markets and farming methods information for the betterment of farming. The computed results in Table 1.2 revealed that information management skills are lacking in small-scale commercial farming. The researcher further revealed that lack of information management skills (the inability to manage information regarding farming such as weather, technology, ploughing information) is correlated with information access challenges in small-scale commercial farming. These results support Ncube [10] who revealed that access to institutional information challenges are impeding growth in agribusiness since the majority of the farmers fail to meet their expectations. Thus, access to information may be an element for productive small-scale commercial farming in rural areas.

v. Crops and animal diseases challenges

Outbreaks of diseases have been a challenge for small-scale agriculture. The results in Table 1.1 show that crop and animal diseases are experienced by small-scale commercial farmers in rural areas. Moreover, results in Table 1.3 revealed that poor cross-breeding skills were experienced by most farmers in rural areas. Thus, the researcher concluded that crops and animal disease management skills are important for the development of small-scale commercial farming in rural areas.

CONCLUSION

Small-scale commercial farming has been recognised as a strategy to alleviate poverty, hunger and chronic unemployment. However, the study revealed that several challenges are still hampering probable development in this subsector. Several challenges were identified in the current study. These are but are not limited to financial, water, access to markets, access to information challenges and crop and animal diseases. Correspondingly, the research further revealed that the above-mentioned challenges such as poor financial management, marketing, packaging, cross-breeding and information management skills are affecting small-scale farming development. Immediate intervention in small-scale commercial farming is required. Given different farming benefits such as income-generation, employment creation and food security, small-scale commercial farming has the structural and functional capability of adding to local economic development. As such, it is fundamental to note that improving skills in this subsector can lead to productive farming which in turn can add to food security and employment creation in rural areas. Subsequently, improving skills in small-scale commercial farming is recommended for the success of small-scale commercial farming. In this regard,

the researcher suggests small-scale commercial farming skills development should be emphasised across the rural farming spectrum.

The current study findings show that small-scale commercial farming needs an intervention in skills development. The challenges identified in the study are associated with the poor skills such such poor financial and farm management skills in this sub-sector. As such, the study recommends aligning agriculture training programmes offered to contemporary challenges faced by small-scale agribusinesses. In this regard, rural development practitioners need to first clearly identify the prevailing challenges and formulate training programmes which are directly related to actual challenges. Furthermore, there is a great need for computer literacy among farmers. Computer literacy, access to smartphones and internet connectivity may enable a blanket of solutions as it connects farmers to the outside world. Thus, harnessing the latest technology in skills development for small-scale commercial farming addresses several challenges faced. These training programmes can be implemented through skills development organisations such as SEDA, CASP, LIMA and NYDA with DALR in rural areas. Institutions for higher learning should play a part in skills acquisition by offering a voluntary training programme in surrounding communities.

Because small-scale commercial farming constitutes a diversity of farmers, agricultural policies should be based on current evidence and should also be based on regular assessments. This improves the readjustment of relevant policies for the development of small-scale commercial farming. However, to achieve this, there is a need to recognize small-scale commercial farmers and their economic contribution more fully. This includes promoting an enabling policy mix, which includes access to productive land, financing and agricultural measures specifically to develop this sub-sector. The building of strong government intervention, farming stakeholder participation in policy formulation and adequate support for small-scale commercial farmers' schemes in rural areas is needed. The primary aim is to enable small-scale commercial farmers to have access to critical factors of production (water and productive land) which enable agribusiness development in rural areas. Also, training may be needed to enable farmers to use the knowledge at their disposal. Furthermore, there is a need to put economic measures which enable small-scale commercial farmers to strengthen supply chain in local and national markets.

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Table 1.1: Freidman mean ranking test: economic challenges

Parameters	MEAN RANK	SCORE
Financial challenges	2.1	1
Water challenges	2.8	2
Access to Markets challenges	4.6	3
Access to Information challenges	4.7	4
Crop and Animal diseases challenges	5.7	5
No Support from the government	6.3	6
Expensive Inputs	6.5	7
Transport challenges	7.7	8
Electricity challenges	8.5	9
Theft challenges	8.6	10
N=217		
Asymp. Sig 0.0012		

Source: Author's Survey (2019)

Table1.2: Multiple responses entrepreneurship skills

Parameter	NO	YES
New Technology management skills	192 (88%)	25 (12%)
Waste Management skills	184 (85%)	33 (15%)
Water Management skills	181 (83%)	36 (17%)
Book Keeping skills	180 (83%)	37 (17%)
Computer Skills	175 (80%)	42 (20%)
Human Management skills	163 (75%)	54 (25%)
Finance management skills	161 (74%)	56 (26%)
Information Management skills	158 (72%)	59 (28%)
Cross Breeding skills	155 (71%)	62 (29%)
Farm Management skills	150 (69%)	67 (31%)
Packaging skills	135 (62%)	82 (38%)
Marketing skills	132 (60%)	85 (40%)
		N = 217

Source: Author's Survey (2019)

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Table 1.3: Economics challenges and entrepreneurial skills association ship

Financial challenges * Financial management Skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.077**	8	.021
Likelihood Ratio	20.309	8	.009
Access to market challenges * Marketing Skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.410**	11	.027
Likelihood Ratio	13.079	11	.003
Access to information challenges* Information management skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.85**a	11	.543
Likelihood Ratio	11.414	11	.409
Crop and Animal diseases management challenges * Cross breeding skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.834**	11	.038
Likelihood Ratio	15.569	11	.016
Water challenges * Water management skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.590**	10	.039
Likelihood Ratio	11.579	10	.021
Access to information challenges * Computer Skills			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.635**	11	.048
Likelihood Ratio	18.291	11	.035

Source: Author's Survey (2019)

**denotes statistically significant results at a 95% confidence interval

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