RESEARCH ARTICLE

FACTORS CONSTRAING AGRIBUSINESS GROWTH IN LESOTHO

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ABSTRACT

The purpose of this project was to identify the factors constraining agribusiness growth in the Maseru district. Primary data from 10 owners/managers of agribusiness enterprises were selected for the study, and were analysed using descriptive analysis and empirical probit models. The results indicate that majority of the respondents were females (60%), aged between 40-49 years (50%), majority of the forms of agribusiness enterprises were sole-trade enterprises. The results also showed that majority (70%) had secondary education. Parameter estimates from the empirical probit model showed market access, credit access, technology, and business plan have an impact on the growth of agribusiness in the Maseru district. Moreover, the results indicated that infrastructure and culture have no impact on the growth of agribusiness in the Maseru district. The paper recommends that access to markets should be addressed by appropriate intermediary and private institutions interface with growing agribusinesses, short courses should be provided to owners/managers, andprovision of support through training activities, and business counselling to the owners/managers

INTRODUCTION

Over the past twenty years or so Lesotho has constantly been on a long process of political, economic and social reforms to improve the business environment, promote economic growth and reduce poverty in the country. Agriculture was identified as one of the important sectors as it employs a significant part of the working population in Lesotho (Central Bank of Lesotho, 2012). The national strategic plan of 2012 acknowledges that agricultural sector is one of the main sources of employment in Lesotho, especially in rural areas. Food and Agricultural Organisation (FAO) (2012), indicated that in 2003, the value added in agriculture was only 15.7 percent of GDP and the sector provided work for 277 000 people, which was thirty percent of the economically active population, and there were two types of farming practised in Lesotho, namely subsistence farming and semi-commercial farming and it is said that smallholder farmers whose farms are generally less than 1 ha in size dominate the agricultural production. FAO, (2013) further stated that the agribusiness sector, which comprises the business activities performed from farm to fork, is a major generator of employment and income worldwide. In recent years, the importance of the agribusiness sector has grown significantly, as agricultural development strategies shifted from a pure production oriented approach to a broader systems perspective that emphasises agrifood chain coordination, value creation and the institutional setting under which chains operate. The agricultural sector account for about 17 per cent of the county's GDP, and is said to be an important

supplementary source for more than half the population in the rural areas (International Fund for Agricultural Development (IFAD),2013). Agribusiness is comprised of three sectors, namely the input sector, the farm sector and the product sector which accounts for goods available for consumption (Bassey*et al*, 2014). However, theWorld Development Report (2011) suggested that despite the difficult environment, opportunities exist in Lesotho for developing commercially viable smallholder agriculture, where venturing into this will require increasing crop and livestock productivity and enabling smallholder farmers to better respond to market demand for specific commodities. Agribusiness has the potential to change any country's economic environment as it can lead to increased income levels among communities. It will provide employment to many people through job creation across all its sectors and agribusiness contributes significantly to developing the country's Gross Domestic Product (Ajmal, 2010). Although Lesotho has great agriculture and agribusiness potential, the agribusiness sector remains underdeveloped if not non-existent (FAO, 2013). There is chronic unemployment and poverty levels in Lesotho, the unemployment is arguably highest among agricultural professionals (graduates and skilled). This has led to the study seeking to identify factors that are affecting this potential sector of agribusiness.

The main purpose of the study is to determine and investigate the factors constraining agribusiness growth in the Maseru district. The study has adopted the following sub-objectives in order to realise the main objective;

- To identify the main agribusinesses in the product sector of agriculture in Maseru.

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- To identify factors affecting agribusiness in Maseru.
- To determine the extent to which the factors impact on agribusiness

MATERIALS AND METHODS

Research Design

Data used in this study was a combination of secondary and primary data. Primary data was collected through a survey and it included both qualitative and quantitative types of data. Denzel and Lincoln (2005) stated that the qualitative method investigates the how and why of the decision making, not just what, where and when hence, the smaller but focused samples were used than large samples. The qualitative research sought to gather an in-depth understanding of the constraints of agribusiness growth, the agribusiness across the country and the extent to which the factors affect agribusiness in the country. Quantitative study would lead to the understanding of the strength of each factor in its contribution to the main independent variable and its relationship with the dependent variable. A combination of both qualitative and quantitative approaches will serve as a strong basis for drawing compelling conclusions and recommendations during the study (Sekaran, 2000).

Population of Study and Sampling

The target population were stakeholders in the agribusiness product sectorincluding the government sectors, private sectors, large-scale sectors and small scale sectors in Maseru. A sample of 10 enterprises was selected. Snowball sampling was used where each located subject suggests other subjects (Babbie, 2001).

Instrumentation

The main instrument of the study was a questionnaire. The questionnaire consisted of both open and closed ended questions. On closed questions, respondents chose appropriate answers from a provided list while the respondents provide their general view on open questions.

Data Collection and Analysis

Data used in this study was of both primary and secondary types which were collected through interviewing the respondents. The reliability of the measurement was measured by calculating, in excel, the Cronbach alpha coefficient. According to Hove (2013), for the Cronbach alpha coefficients, greater than 0.8 = good, greater than 0.9 = excellent; greater than 0.7 = acceptable; greater than 0.6 = questionable; greater than 0.5 = poor; Less than 0.5 = unacceptable. The one for the study was greater than 0.7 hence acceptability of the questionnaire.

Empirical model used

A probit model was used in testing the relationship of the variables (factors) and the impact on agribusiness growth. Dependent variable was agribusiness growth while independent variables includedculture, income, technology, market access and access to credit. Probit model helps in testing how the dependent variable is affected by a change in independent variable. Therefore the independent variables and dependent variable will be formulated and a probit model will be run using STATA software.

The mathematical equation for this model is given as;

$$In\left(\frac{yi}{yi-1}\right) = \beta o + \beta 1Xi + \beta 2X2 + \beta 3X3 + \beta 4X4$$

- y is the income level in agribusiness
- $\beta 0$ is the coefficient of growth when no variable is in effect
- $\beta 1X1$ is Culture and its beta coefficient
- $\beta 2X2$ is technology and its beta coefficient
- $\beta 3X3$ is market accessibility and its coefficient
- $\beta 4X4$ is credit accessibility and its coefficient.
- The estimators and parameters (betas) will reflect the extent to which these factors affect agribusiness in Lesotho.

Table 1. Variables included in the model

Variables	Variable description	Expected output
CrdtAccss	Credit Access	±
Bsnessplan	Business plan	±
Infstrctre	Infrastructure	+
Cltre	Culture	±
Tchnlgy	Technology	±
MrktAccss	Market access	±

According to the above table Credit accessibility is expected to have either positive or negative effect on adoption process. Reason being owners/managers can be accessible to credit facilities but instead of investing in the agribusiness sector, he/she may choose to invest in other form of commercial agriculture, thus affecting the agribusiness growth negatively. Thus the beta coefficient of credit is expected to have either a positive or negative sign. Business plan is expected to have either a positive or negative effect on the agribusiness growth. Infrastructure is expected to have a positive effect depending on majority of respondents interviewed. Also culture is expected to affect the business either positively or negatively depending on the owner's/manager's inclinations. Technologyis expected to have positive or negative effects while Market accessibility is expected to affect the agribusiness positively if a business has access to market.

RESULTS AND DISCUSSIONS

Introduction

The chapter shows the description of demographic characteristics of the sampled agribusiness owners/managers. The factors affecting agribusiness development in the Maseru district are described and are analysed using descriptive statistics and probit model.

Demographic Variables

The descriptive statistics of the respondents' demographic characteristics are shown in table 2. Primary data from 10 owners/managers of Small and Micro Agribusiness Enterprises were selected for the study in the Maseru district.

Gender of Agribusiness Managers

The majority of the respondents are females (60%) while male respondents make up 40 % of the total respondents.Akudugu*et al (*2012) stated that male farmers are more likely to adopt modern agricultural production technologies than their female counterparts. The reason for this is that men are the people who make production decisions in the study area and also control productive resources such as land, labour and capital which are critical for the adoption of new technologies. In Lesotho more men are working in the mines so agricultural production is left with the women at home.

Age Distribution of the Respondents

Age is a very significant demographic factor which influences the efficient allocation of resources. Age is an important factor that influences the probability of adoption of new technologies because it is said to be a primary latent characteristic in adoption decisions (Akudugu*et al*, 2012).About 30% of the respondents are of the age group 19-29 years, 20% range between 30-39 years of age and 50% range between 40-49 years. Younger farmers may be more progressive in the sector of agribusiness since adoption of new methods is easy and also exploring new opportunities for the marketing of their produce, because younger farmers are more adaptable and willing than the old to try new methods, (Howley, 2012). However, Olowaand Olowa (2015) argued thatthe older the owners/managers of agribusiness the more they are involved in entrepreneurial activities in agribusiness.

Level of education of the respondents

The survey shows that about 70% of the respondents had completed secondary level of school education, 30% attained tertiary education. The higher the education level the more knowledgeable a manager/owner becomes. This was supported by (Akudugu*et al*, 2012) where he stated that education is thought to create a favourable mental attitude for the acceptance of new practices, especially information-intensive and management-intensive practices.The results show that most of the agribusiness managers in Maseru have not gone through tertiary education, implying that they have little information about agribusiness, hence leading to poor agribusiness growth.

Demographic data of respondents

Table 2. Demographic data of the respondents

Measures	Categories	Frequency	Percentage
Gender	Male	4	40%
	Female	6	60%
Age	19-29		
	30-39	3	30%
	40-49	2	20%
Highest	Noformal education	5	50%
Education	secondary	0	-
Level	tertiary	7	70%
		3	30%

Source: Field Study 2016

Forms of Business Ownership

The results show that 20% of the respondents practicing agribusiness were in partnership business and 80% were in a sole-trade business. From the results obtained, it can be concluded that sole-trade business is mostly practiced because it has a minimum cost of entry, manager has complete control and it has less government regulation (Australian Government, 2014).

Table 3. Forms of business ownership

Forms of Business	Frequency	Percentage (%)
Sole trader	8	80
Partnership	2	20
TOTAL	10	100

Source: field study 2016

Descriptive analysis of factors constraining agribusiness growth in Maseru

Market Access

The results show that 30% of the respondents had access to the market and 70%of the respondents had no market access. According to Mutinda, (2014), market inaccessibility is due to lack of proper market systems whereby the industry has imperfect competition. However (Rogerson, 1998), stated that rural entrepreneurs often compete within a small,location specific market for relatively low-income clients, where fewer prospectivecustomers can afford their product. Larger, more developed markets may be situated atprohibitive distances from the entrepreneur's home.
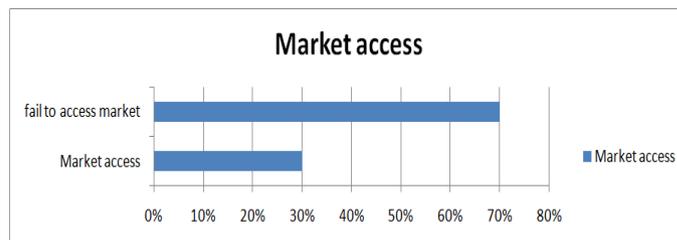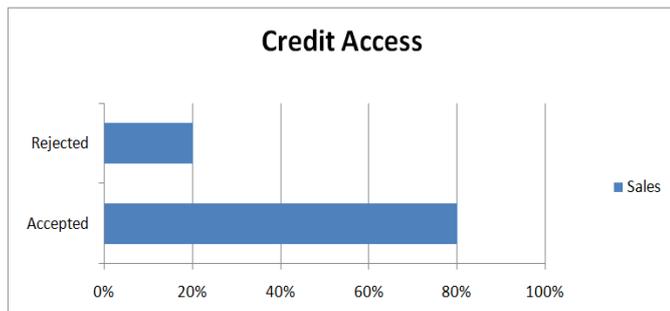

Source: Field study 2016

Figure 1. Distribution of responses on Market Access

Credit Access

The results show that 80% of the respondents had nocredit access, and 20% of the respondents in the study had no problem in accessing credit. This can be caused by obstacles like lack of collateral, biasness in credit delivery, and lack of awareness about the existence of those financial institutions willing to offer credit to producers in need of credit (Mutinda, 2014).According to Akudugu*et al* (2012), access to funds including credit is expected to increase the probability of adoption.
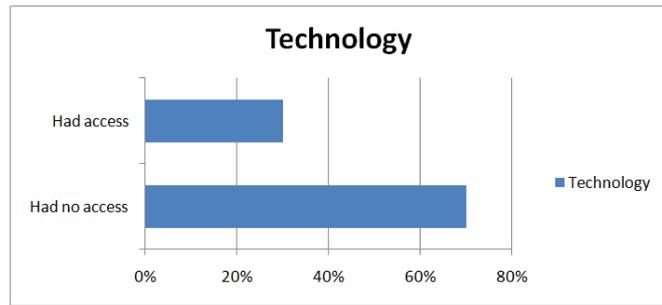
Technology

From the results, 70% of the respondents had nomeans of communication. Theirsource of information about the market opportunities was acquired from friends, neighbors and buyers themselves. About 30% of the respondents hadaccess to efficient communication. May *et al.* (2007) stated thatcommunication technology has the potential to reduce poverty and improve livelihoods by empowering users with timely knowledge, reducing transaction costs, and appropriate skills for increasing productivity.

Credit Access

Source: Field Study 2016

Figure 2. Distribution of responses on Credit Access


Technology

Source: Field Study 2015

Figure 3. Distribution of responses on Technology

Infrastructure

In the study, about 70% of the respondents pointed out that road infrastructure do not affect their level of sales. Even though many studies such as Thompsons' which was done in 1998have found it as a constrain, the managers/owners highlighted that they are close to the market and it is in minor cases where there is a need for offering delivery services and if it required, wheelbarrows are used or they hire transport and as a result infrastructure does not affect their businesses negatively. While 30% of the respondents from the rural part of Maseru complain aboutconsumers/buyers failure to reach their location due to bad roads and that has a huge impact on their business.
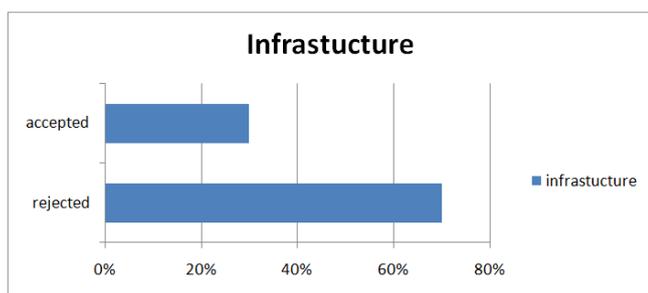
Infrastucture

Source: Field Study 2016

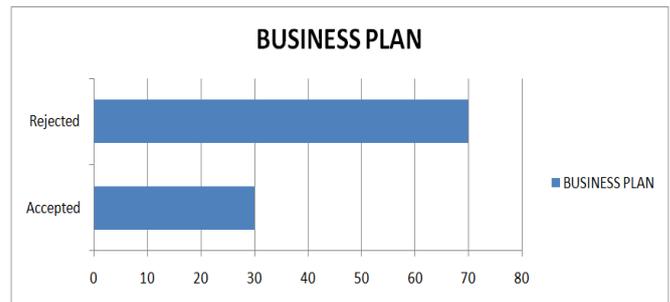**Figure 4. Distribution of responses on Infrastructure**

Culture

Culture appeared not to be a factor that affects the respondent's business in the Maseru district. Individuals pointed out that when making decisions, they don't let their beliefs cloud appropriate measures to be taken when tackling problems they encounter when running the business. This perhaps may be due

to the fact that urban people have adapted to the modern techniques of approaching businesses or people and therefore culture does not affect any of their managerial skills.

Business Planning

The results show that 70% of the respondents had no business plan in their agribusiness. While the 30% who had business plans. Hoveand Tarisai, (2013) stated that Small and Micro Enterprises owners/managers must develop business plans as a guide for their operations. For the plans to be useful, the owner/manager must consult relevant personnel within the organisation. The plans must set clear and challenging but have attainable growth targets.

BUSINESS PLAN

Source: Field study 2016

Figure 5. Distribution of responses on possible factors constraining Agribusiness

RESULTS AND DISCUSSION

Table 4. Log-likelihood estimates and goodness-of-fit measures for the Identified agribusiness factors constraining agribusiness development in Maseru

Variable	Coefficient	Standard error	Z-Value	p-value
Market Access	2.282017	0.8620622	2.65	0.008
Credit Access	2.242773	0. 7852569	2.86	0.004
Infrastructure	-1.572616	0 .765034	-2.06	0.040
Technology	1.403012	0 .6308107	2.22	0.026
Business Plan	-2.990144	0 .9655681	-3.10	0.002
Culture	-0.4981046	0 .5123462	-0.97	0.331

Number of obs:n=10, LR chi2= 24.10: Log likelihood= -17.976537, Pro chi2= 0.0005, pseudo R2=0.4013

Table 4. Marginal effects of factors implicated in factors constraining agribusiness development in Maseru

Variable	Discrete Change (dx/dy)	Standard Error	Z-value	P-value	X
Market Access	0.2993061	0.13251	2.65	0.008	0.43333
Credit Access	-0.0428297	0.05274	2.86	0.004	0.55
Infrastructure	0.2107852	0.09187	-2.06	0.040	0.5666
Technology	0.1417286	0.08462	2.22	0.026	0.4666
Business Plan	-0.3838867	0 .12417	-3.10	0.002	0.5
Culture	-0.1100042	0 .06131	-0.97	0.331	0.36666

The survey employed 10 agribusiness managers/owners in Maseru. Likelihood Ratio (LR) chi2 with corresponding p-value of 0.0005 means that jointly the explanatory variables explain the dependent variable significantly because it is less than all critical values. Pseudo R2 shows that about 40% of the predicted values of the dependent variable are equal to the actual values. The 5 variables; Market access, credit access, infrastructure, technology and business plan have strong influence on the agribusiness development. The marginal

effects suggest that if a manager/owner has market access, the chances of such an owner to develop his/her agribusiness increases by 29.9%. This is because having access links the products or services of a business to its customers. The marginal effect also suggests that if a manager/owner has credit access, the chances of such an owner to develop his/her agribusiness increases by 42.8%.This is because credit access plays a catalytic role in strengthening owner's business activities.Moreover, the marginal effect suggests that if a manager/owner has infrastructure, the chances of such an owner to develop his/her agribusiness increases by 21%. This is because road networks are important to link the rural and urban economies which therefore open up more channels for market access. Again the marginal effect also suggests that if a manager/owner has technology, the chances of such an owner to develop his/her agribusiness increases by 14%. This is because lack of access to information technology that also bears a negative effect on the agribusiness firms (Chavas, 2001). And lastly the marginal effect also suggests that if a manager/owner has a business plan, the chances of such an owner to develop his/her agribusiness increases by 38.3%.This is because business plan helps a manager to have good managerial skills which help increase the level of productivity. Culture does not affect the agribusiness and this is due to the fact that urban managers have adapted to the modern techniques of approaching business and therefore does not affect their managerial skill.

Conclusions and Recommendations

Introduction

This chapter presents the conclusionsand recommendations concerning the factors constraining agribusiness growth in the Maseru district where data was collected and analysed using descriptive analysis and empirical probit model.

Conclusions

The purpose of the study was to identify the factors constraining agribusiness growth in the Maseru district.The results show that not all tested variables were found significant in constraining agribusiness growth. Thetwo variables such as culture and infrastructure were identified to be insignificant in the factors constraining agribusiness growth. Some variables however proved to be significant constraints to agribusiness growth. Variables that were significant were market access, credit access, technology, and business plan. Failure to access markets limits the productivity since it creates imperfect competition. Also failure to access credit prevents producers from expanding the business which can be done by buying machinery, more land, storage equipment, and other resources that can be used to expand the business. Having no business plan decreases the chances of agribusiness to grow since attainable growth targets are not set and this decreases the chances of a business to grow. And also lack of access to technology leaves the owner/manager without appropriate skills for increased productivity since technology empowers users with timely knowledge.

Recomendations

Access to markets can be addressedby appropriate intermediary and private institutions interface with growing agribusinesses to link owners/managers with potential buyers and suppliers.

Free short courses should be provided to owners/managers so as to help them learn new strategies of venturing into a business and how to implement the strategies. Also extension workers should get more involved with the owners/producers field and encourage and as well motivate them into adopting into planning before operating a business (business plan). Also, privateintermediaries together with the governmentcan provide owners/managers with support through training activities.

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