FACTORS INFLUENCING CHOICE OF MAIZE AND BEANS MARKETING CHANNELS FOR SMALLHODER FARMERS IN LESOTHO: THE CASE OF CONSERVATION AGRICULTURE AND CONVENTIONAL FARMERS

Dr. Brian Muroyiwa[1] and Rethabile Nchee[2]
(bmuroyiwa@gmai.com) (ncheeretha@gmail.com)
National University of Lesotho and
Department of Agricultural Research

INTRODUCTION

Maize and Beans are the most grown crops in Lesotho as they are important sources of starch and protein respectively. Agricultural marketing in Lesotho is evolving especially due to the government's National Strategic Development Plan (NSDP II) of commercialization of agriculture which promotes increased productivity and production levels. Most farmers produce for subsistence purposes due to their small landholdings. However, there is emphasis on commercial production which requires marketing skills to be successful. NSDP 11 priorities commercialisation of the agriculture sector and has influenced government focus and efforts to establish and resuscitate market centres in the North and Southern Districts of the country. Unfortunately, these are largely idle because farmers fail to produce consistently the quantities that the market requires and most produce is rain fed and seasonal.

Majority of the farming households in Lesotho practice subsistence farming, while those practicing commercial farming often face challenges related to market access. Market access is hampered by poor road infrastructure, lack of storage and processing facilities, high transportation costs, inadequate market information, and limited bargaining power.
Most smallholder farmers, including maize and bean producers in Lesotho, face different challenges that hinder them from getting the opportunities offered by various marketing channels (Habiyaremye *et al*., 2023). Market channel selection refers to the process by which several actors decide to sell in different marketing outlets to dispose off their (agricultural) products/ produce. This decision process is influenced by the features, quality expectations, efficiency, and costs linked to the farmer's final decision. Marketing channels that this study investigates include Cooperatives, Collectors, Wholesalers, Retailers, Street vendors and Consumers.

OBJECTIVES

To investigate and compare market channels that CA adopters and non-adopters producing maize and beans use to market their produce.

MATERIAL AND METHODS

Survey Design

The study utilized data collected during the baseline survey for the Agricultural Productivity Programme for Southern Africa (APPSA) Lesotho in 2022. The survey covered seven districts in Lesotho that included; Quthing, Mohale's Hoek, Mafeteng, Leribe and Maseru. A structured questionnaire was used to collect data from 807 respondents in sampled villages in the seven districts. The structure questionnaire was the most suitable data collection tool to conduct farmer interviews. Farmers in developing countries in most cases are either uneducated or not highly educated therefore to ensure they can respond to the survey questions with understanding, the data collection tools were translated to the local language. The study used multiple sampling approaches that included purposive sampling, snow ball sampling and simple random sampling. Purposive sampling was used to identify seven districts that were included in this study, this was informed by prior knowledge of Conservation Agriculture activities in the country

Data Analysis

To analyze the data collected from the producers, a combination of descriptive statistics (frequency and percentages) and an econometric model (multivariate probit model) were used (Dessie et al., 2018). According to Arinloye et al. (2014); A); Shewaye (2016); Tarekegn et al., (2017); Honja et al., (2017) and Temesgen et al., (2017), producers are more likely to choose two or more market outlets simultaneously, assuming that the selection of different marketing outlets as well as their simultaneous use depends on the producer's willingness to maximize their profits and is conditional on socioeconomic, institutional, production, and market-related factors. The functional form of a multivariate probit model is stated as follows:

$$Y_{it}^{*} = X_{it}^{'}\beta + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$Y_{it}^{*} = \begin{cases} 1, \longrightarrow if\ Y_{it}^{*} > 0 \\ 0, \longrightarrow Otherwise \end{cases} \quad \ldots\ldots\ldots (2)$$

Where t = 1, 2, …T denotes the market outlets available;
X_it is a vector of explanatory variables;
ß denotes the vector of parameters to be estimated, and
ε_it represents random error terms distributed as multivariate normal distribution with zero means and variance-covariance matrix V

RESULTS AND DISCUSSION

The Proportion of Farmers Choosing Marketing Channels

Four hundred and thirty-eight (438) farmers from the sample of 807 sold their produce, while the other 349 farmers produced solely for consumption. An individual farmer can use two or more available marketing channels; therefore, the number of marketing channel choices will not equal the total number of farmers who sell their produce. The most used marketing channel as chosen by farmers was consumers (414), followed by street vendors (100), then retailers (41), collectors (36), wholesalers (11), and finally cooperatives (6).

RESULTS AND DISCUSSION

Table 1: Maize and beans marketing by CA adopters

Variables	Coefficient(Standard error)			
	Collectors	Retailers	Street vendors	Consumers
Age	0.00352 (0.0068)	-0.00978 (0.000668)	-0.00461 (0.00499)	-0.0028(0.0078)
Gender	0.0707 (0.183)	**0.321 (0.192)***	0.187 (0.139)	-0.0589 (0.217)
Literacy	0.451 (0.481)	0.252 (0.507)	0.484(0.339)	-0.0769 (0.464)
Occupation	0.527 (0.347)	0.179 (0.296)	0.213(0.210)	-0.0272 (0.326)
Household income	0.0397 (0.108)	0.0412 (0.112)	**0.175 (0.0833)****	0.128 (0.133)
Field Size	-0.00912 (0.0159)	-0.0117 (0.0191)	-0.00430 (0.104)	0.0197 (0.246)
Farmer group	0.0476 (0.183)	0.143 (0.189)	-0.0136 (0.140)	-0.00344 (0.222)
Vehicle ownership	0.0372 (0.238)	**0.553 (0.225)*****	0.0140 (0.182)	**-0.71 (0.247)*****
Contractual agreement	**0.773 (0.376)****	**1.78 (0.363)*****	0.360(0.350)	**-0.311 (0.363)****
Constant	-2.610 (0.796)	-1.73 (0.767)	-1.556 (0.541)	1.880 (0.845)

***, ** and * indicate statistical significance level at 1%, 5% and 10%, respectively.

The study results show that gender, household income, vehicle ownership and contractual agreement influence the choice of marketing channel. The coefficient for gender (0.321) is positive and significant at 10% significance level, indicating that gender affects the decision to choose the retailers market outlet, that is, males are more likely to use this marketing channel than females. Household income has a positive influence on the decision to choose the Street vendors marketing channel, the coefficient is significant at 5% significance level. Vehicle ownership is significant at 1% significance level to affect the farmers' decision to choose the Retailers and the Consumers marketing channel. However, the coefficient for the Retailers marketing channel is positive but negative for the Consumers marketing channel. This implies that farmers who own vehicles are more likely to use the Retailers marketing channel but less likely to use the Consumers marketing channel. This variable is significant at 5% significance level to influence the decision to use the Collectors and Consumers marketing outlets and significant at 1% significance level to influence the use of the Retailers market outlet. Contract agreement positively influences the decision for the farmers to use the Collectors and Retailers market outlets. However, regarding the Consumers market outlet, there is a negative relationship between this variable and the decision to use this market outlet.

CONCLUSIONS

The majority of the farmers used the Consumers marketing channel, followed by Street vendors, then Retailers, Collectors, fewer Wholesalers, and Cooperatives were the least used marketing channel. Since CA adoption is still low in Lesotho, the majority of the choices for each marketing channel were from non-adopters of CA except for Cooperatives where non-adopters, partial adopters, and full CA adopters equally used that marketing channel. Gender, household income, vehicle ownership, and contract agreement all had an influence on marketing channel choice by maize and beans producers in Lesotho. Male farmers were found to be more likely to use the Retailers marketing channel than females. The reason for this could be that women have limited social and capital resources in their households and are therefore less likely to participate in urban markets. Also, the likelihood for farmers to choose the Street vendors marketing channel increases with an increase in the farmer's level of income, holding other variables constant. Smallholder farmers receiving high income increase their investment capacity in their farming activities and this increases their output which will be sold in the market.

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