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# Factors Affecting Profitability of Smallholder Vegetable Farmers in the Shiselweni Region, Kingdom of Eswatini (Swaziland)

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**Abstract**

Agriculture is the main anchor of the Eswatini economy and profitability in this sector still remains vital for sustainable development of the economy. This study investigated the factors affecting profitability of smallholder vegetable farmers in the Shiselweni region. Primary data was obtained using a structured questionnaire and personal interviews from 60 vegetable farmers. Data was analyzed using descriptive statistics, enterprise budget, profitability ratios and multiple linear regression models. The SPSS software was used. The results showed that the mean age of the vegetable farmers was found to be 50.5 years, the mean household size was 8 people, mean farming experience was 3 years, mean farm size was 3 hectares and the majority of the farmers had high school education. The net income of smallholder vegetable farmers was E5810.30. The results of the multiple linear regression analysis revealed that land size, gender, household size, had a direct relationship with profitability of vegetable production while age, education, experience, income and labour had a negative relationship. Farmers requested that the subsidized farm inputs should arrive on time, new engines be bought for them and dams be constructed to generate irrigation water in winter.

**Keywords:** farm profitability, smallholder farmers, vegetable irrigation, sustainable economic growth and development

## 1. Introduction

Agriculture dominates the economy of Eswatini and it has a great impact and significance on output and income. In order to improve rural income and satisfy consumer demand for food and raw materials by the urban population, agricultural production should increase sustainably (FAO, 2008). Supporting agricultural productivity contributes to industrial growth by providing relatively cheap raw material, employment opportunities, capital investment, foreign exchange and markets for consumer goods and reduces the high dependence on imported and costly agricultural products.

Agriculture is the backbone of the country's economy and the driver for achieving the overall objectives of development. The agricultural sector accounts for 10.3% of the country's Gross Domestic Product (GDP). Agriculture is also a major source of income, employment and food for rural people with over 70% of the population fully dependent on this sector for livelihood (Thompson, 2011). Smallholder farmers are, in most cases, resource-poor (Blackwood & Lynch, 1994). However their contribution to food security through vegetable production is crucial (FAO, 2008; Eigenbrod and Gruda, 2015; Ojiewo *et al*., 2015). Food availability, accessibility, utilization and stability are the four internationally recognized pillars of food security (FAO 2008; Ojiewo *et al*., (2015). Agriculture significantly contributes to the development of the country's economy by providing the needed raw materials for agro-based industries that make up the major support of the manufacturing sector (Panin and Hlope, 2013; Xaba and Masuku, 2013).

In Eswatini , smallholder farmers are found mainly on SNL where they practise mixed farming which involves growing crops and rearing livestock. Smallholder farmers are those farmers that produce crops and raise livestock on a small piece of land while using available resources which exclude expensive modern technology and machinery (Bonti-Ankomah, 2001).

They are usually labour- intensive, with the usage of cattle for traction and ploughing. Most of the smallholder farmers live under the poverty datum line, lack formal education and access to improved farm inputs and modernized farming technologies, resulting in reduced production and yields which dwindles the profits of farmers (Thompson, 2011).

Vegetables are edible portions of plants that can either be root, stem, leafy green, flower, stalk or fruit (Yamaguchi, 1983; Peirce, 1987; Norman, 1992. They consist of two main types: baby vegetables and conventional vegetables, with the main difference being that baby vegetables are smaller and harvested before they reach full maturity (Xaba and Masuku, 2013). However not much work has been carried out on profitability of producing vegetables in Eswatini. About 80 % of the Swazi population lives on Swazi Nation Land (SNL). They derive their livelihood from subsistence agricultural production (Thompson, 2011).

Eswatini faces shortage of locally produced vegetables. About 70% of consumed vegetables in the country are imported from South Africa. The NAMBoard Annual report of 2015/16 attributed the decline of farmer's participation in vegetable production to high input costs, climate change and other factors. The negative impact of climate change on agricultural productivity has previously been reported (FAO, 2008; Manyatsi *et al.*, 2010; Oseni & Masarirambi, 2011; Manyatsi *et al*., 2013). Fruits and vegetable production is negatively impacted by climate change yet Governments and public health officials are urging the public to eat more fruits and vegetables to contribute to a healthy diet (Lan & Dobson, 2017). This causes the country to import most of the vegetables it needs from overseas with the attendant increase in market prices. This greatly discourages the remaining farmers from producing vegetables for commercial purposes as it becomes difficult to compete with the imported vegetables. Sometimes post-harvest losses are incurred rapidly. Post-harvest losses of vegetables under prevailing tropical conditions have previously been reported (Wills *et al.*, 2018) and that there is need to prevent such losses.

Therefore, the questions posed in this study were:

1. What are the socioeconomic characteristics of vegetable farmers in the Shiselweni region?
2. How profitable is vegetable production in the Shiselweni region?
3. What are the constraints faced by vegetable farmers in the Shiselweni region?

The main objective of the study was to analyze the factors affecting the profitability of smallholder vegetable farmers in Eswatini.

## 2. Methodology

### *2.1 Study Area*

The study was conducted at Nhlangano in the Shiselweni region in Eswatini (Figure 1). The study area is a place which was found to be densely populated with smallholder vegetable farmers. The Shiselweni region is in the southern part of Eswatini which receives relatively higher rainfall compared to other areas. Farmers engaged in the production of vegetables at Maseyisini, Matimatima, Nyamane, Madulini, Nkhungwini and Mpatheni areas were sampled as participants.


Figure 1. Map showing the Shiselweni region in the South

*2.2 Research Design*

A descriptive cross-sectional research design was employed in the study with an aim of describing the profitability of vegetables farming in Swaziland. Cross-sectional study involves using different groups of people who differ in variables of interest but share other characteristics such as socio-economic status, educational background and ethnicity (Blackwood and Lynch, 1994).

*2.3 Sampling Procedure*

The sampling methods used to get the required sample included purposive sampling and simple random sampling (Van Dalen, 1979; Krejcie & Morgan, 1970; Connely, 2008; Salkind, 2012). Purposive sampling technique was used to obtain the Tinkhundla to be involved in the study. A simple random sampling was used to select a sample size of 60 farmers. Conventional vegetables (cabbage, carrot, onion, spinach and green pepper) were studied. These crops account for the major proportion of vegetables produced in the country and needed in constant supply in the markets.

*2.4 Data Collection*

Data was collected through personal interviews using questionnaires with both open and close ended questions (Salkind, 2012). However, supplementary information was collected through observations and interview of some key participants apart from selected respondents. Data was collected between the period of January 2018 and March, 2018.

*2.5 Data Analysis*

The Statistical Package for Social Sciences (SPSS) was used to carry out data analysis (Lavsque, 2007). Data

was analyzed using descriptive statistics. Frequencies, percentages and standard deviation were generated from the analysis and used to describe the demographic characteristics of vegetable farmers which included age, gender, level of education, farm size. To determine profitability, gross margins per individual household were calculated. This is the income earned minus the total variable costs. This gives the gross profit. Profitability ratios used included:

**Cost/Benefit Ratio**

Cost Benefit Ratio = Total Revenue/ Total Costs

**Operating expense Ratio**

(Operating expenses / gross revenue) *100

**Net Farm Income Ratio**

Net farm income/ gross farm returns

*2.6 Econometric Model*

To determine the factors affecting profitability of vegetable farming, the following multiple linear regression model was used:

$$Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4 + \beta_5X_5 +\beta_6X_6 +\beta_7X_7 + \beta_8X_8 + \varepsilon$$

Where:

Y = Profitability (profit/ha)

$\beta_0$ = Constant

$\beta_1 \ldots \beta_8$ = Parameters to be estimated

$X_1$ = Size of land used for vegetable production

$X_2$ = Age of farmers

$X_3$= Gender (female and male)

$X_4$= Education level

$X_5$ = Labour

$X_6$ = Farming experience (years)

$X_7$ = Income

$X_8$ = Household size (number of persons)

$\varepsilon$ = Random error term.

*2.7 Explanation of Variables and a Priori Expectations*

Profitability (Y): This is the dependent variable and measured using profit per hectare (Emalangeni [E] per ha). It was assumed that it is determined by all the explanatory variables included in the model.

Size of land used for vegetable production ($X_1$): An increase in the size of land for vegetable production increases the production of vegetables, thus increasing profit margins. A positive relationship is expected between the size of land used for vegetable production and profitability.

Age of farmers ($X_2$): This is a representative of the level of knowledge that the farmer has supposedly gained. Experience comes with age and therefore, a positive relationship is expected between age and profitability.

Gender (female and male) ($X_3$): A positive relationship is anticipated between male farmers and profitability because they are usually stronger and they are the bread winners in most families.

Education level ($X_4$): The level of education is crucial in vegetable production as it is linked to understanding the vegetable farming business. This assumption results in good agricultural practices (GAP) and management of vegetables hence improving yield and profits.

Labour ($X_5$): Source of labour plays an important role in the profitability of vegetable farming. It is expected that skilled labour will improve profitability of vegetable farming as the use of the skills improve vegetable farming thus a positive relationship between labour and profitability is expected.

Farming experience ($X_6$): A positive relationship is expected between farming experience and profitability.

Source of income ($X_7$): It is assumed that a farmer that is fully dependent on vegetable production as a source of

income is most likely to make the highest profit as all resources and attention are focused on the vegetable business than a farmer who has an extra income.. Therefore a positive relationship is expected between source of income and profitability.

Household size ($X_8$): Household size has been described as the most important determinant of labour for family farms. A positive relationship is expected between household size and profitability.

## 3. Results and Discussion

### *3.1 The Demographic Characteristics of Respondents*

The demographic characteristics of the respondents considered included sex, educational level, age, household size, experience and land size. Table 1 shows the demographic characteristics of the vegetable farmers in the study area.

Table 1. Demographic characteristics of respondents

| Characteristics | Frequency | Percentages (%) |
|---|---|---|
| **Sex** | | |
| Male | 34 | 56.7 |
| Female | 26 | 43.3 |
| Total | 60 | 100.0 |
| **Education Level** | | |
| Primary | 16 | 26.7 |
| Secondary | 4 | 6.6 |
| High School | 27 | 45.0 |
| Tertiary | 13 | 21.7 |
| Total | 60 | 100 |
| **Characteristics** | **Frequency** | **Percentages (%)** |
| **Age** | | |
| 25-35 years | 14 | 23.3 |
| 36-45 years | 11 | 18.3 |
| 46-55 years | 21 | 35.0 |
| 56-65 years | 10 | 16.7 |
| >65 years | 4 | 6.7 |
| Total | 60 | 100 |
| **Household size** | | |
| 1-5 members | 17 | 28.3 |
| 6-10 members | 33 | 55.0 |
| 11-15 members | 9 | 15.0 |
| >15 members | 1 | 1.7 |
| Total | 60 | 100 |
| **Experience** | | |
| 1-5 years | 28 | 46.7 |
| 6-10 years | 24 | 40.0 |
| 11-15 years | 5 | 8.3 |
| >15 years | 3 | 5.0 |
| Total | 60 | 100 |
| **Characteristics** | **Frequency** | **Percentages (%)** |
| **Land size** | | |
| <1 ha | 3 | 5.0 |
| 1-5 hectares | 41 | 68.3 |
| >5 hectares | 16 | 26.7 |
| Total | 60 | 100 |

The majority (56.7%) of the farmers were males and most of them (35%) were between the ages of 46-55 years (Table, 1). Those between the ages of 25-35 were 23.3%, those between the ages of 36-45 were 18.3%, those between 56-65 years were 16.7% while those above 65 years were 6.7%. The mean age of the vegetable farmers was found to be 50.5, which is a clear indicator that vegetable farming in the Shiselweni is dominated by active

farmers who are still in their productive stage of life.

The majority (45.0%) of the farmers had high school education, with 26.7% of them having ended at primary school level, only 6.6% could not exceed secondary school while 21.7% went to tertiary institutions for higher learning (Table 1).

The table also indicates the farming experience of the vegetable farmers. It depicts that a majority (46.7%) had an experience of 1-5 years, followed by 40% of farmers with experience of 6-10 years, while 8.3% of the farmers having a farming experience of 11-15 years and only 5% were highly experienced at over 15 years of vegetable production. The mean farming experience was 3 years, which means that the majority of farmers in the Shiselweni region were relatively still new in the farming business.

Most (55.0%) of the farmers had 6-10 family members in their household, with 28.3% having 1-5 members, only 15% having 11-15 members and a very small percentage (1.7%) who had members greater than 15 (Table 1). Thus the farmers had an average (mean) of 8 members which they were able to take care of and support with the income they received from farming.

Also worth noting is the size of the land for the farmers. A majority (68.3%) had a reasonable amount of land (1-5 ha) which they were able to fully utilize with the available resources, with the smallest amount of land (<1 ha) being owned by only 5% of the farmers while 26.7% had land greater than 5 hectares (Table 1).

*3.2 Vegetables Grown*

The commonly grown vegetables within the study area were onions, cabbages, spinach and green pepper (Figure 1). The figure shows that more than half (80%) of the farmers grew onions, while 73.6% of the farmers grew spinach, 71.7% grew cabbages, 64.9% grew green pepper and 56% of the farmers grew carrots.

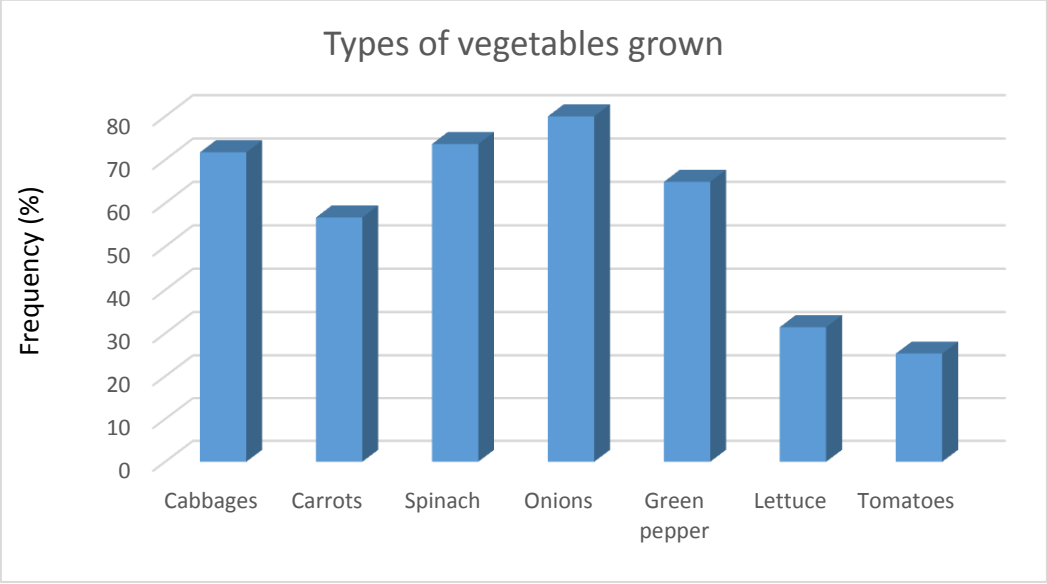


Figure 1. Types of vegetables grown

*3.3 Description of Farm Activities*

Table 2 shows that all vegetable farmers within the study area had an irrigation system even though some had systems that were highly depreciated over time. . All the farmers used sprinklers for irrigating their vegetables and that the farmers drew water using engines. The results also show that a majority (55%) of the farmers did not use chemicals to control insect pests, diseases and weeds. This was due to the fact they would order farm inputs including the costly herbicides at a subsidized price from the regional development areas (RDA) and they would get them very late when their produce had reached maturity. Worth noting in Table 2 is that most of the farmers (68%) used fertilizers frequently while the rest (32%) used it occasionally or when they had the capital to buy the inputs. Alternatively they used manure for vegetable production. Good yields of vegetables have previously been reported with the use of manure (Masarirambi *et al*., 2012a, b, c).

Table 2. Description of farm activities

| Characteristics | Frequency | Percentage (%) |
|---|---|---|
| Sprinklers | 60 | 100 |
| Chemical users | 27 | 45 |
| Non chemical users | 33 | 55 |
| Total | 60 | 100 |
| Herbicide users | 27 | 45 |
| Non herbicide users | 33 | 55 |
| Total | 60 | 100 |
| Fertilizer users | 41 | 68 |
| Non fertilizer users | 19 | 32 |
| Total | 60 | 100 |
| Market | 11 | 18 |
| No market | 49 | 82 |
| Total | 60 | 100 |
| **Where they sell** | | |
| Door to door selling | 15 | 25 |
| Village market | 32 | 53 |
| Local supermarkets | 13 | 22 |
| Total | 60 | 100 |
| **Transport to market** | | |
| Hire van | 9 | 15 |
| In sacks using wheelbarrows | 22 | 37 |
| Local public transport | 29 | 48 |
| Total | 60 | 100 |

A greater portion of the farmers (82%) had no formal market to sell their produce (vegetables). They mainly (53%) sold their vegetables at the local village market (vending), while some (25%) used the door-to-door method of selling vegetables and a minority of the farmers (22) supplied vegetables to local supermarkets. Prices of vegetables in supermarkets tend to be relatively high (Lan & Dobson, 2017). About 48% of the farmers transported their produce using public transport, 37% in sacks using wheelbarrows while 15% hired a van when asked to supply the local supermarkets as they had to deliver very early in the morning

*4.4 Description of Business Finances*

Table 3 shows the descriptive statistics of the business finances. A larger number of farmers (56.7%) used personal savings to finance their business, while 33.3% sourced capital from the association they were part of, 6.7 % obtained their funding from their cooperative while only 3.3 % obtained funding from the bank. The results also show that 76.7% of the farmers did not apply for bank loans for fear of high interest rates and because they lacked collateral for the loan. Lack of collateral has previously been reported as a challenge facing youth involved in agribusiness in the country (Musi *et al*., 2018). About 61.7% of the farmers reported that they obtained credit of between E5000 - E7000 to finance their business, and only 38.3% were given between E2000 - E4000 to finance their business. The purpose of the credit was to purchase inputs and for operational purposes by most of the vegetable farmers (36.7%), with some (35%) arguing that they used the credit to buy the inputs, while fencing their land was a priority to 15% of the farmers. About 15.5 % reported that they purchased inputs and fenced their land when they acquired credit from the banks or other financial institutions.

Table 3. Description of business finances

| Characteristics | Frequency | Percentages (%) |
|---|---|---|
| **Source of finance** | | |
| Personal savings | 34 | 56.7 |
| Bank loan | 2 | 3.3 |
| Cooperatives | 4 | 6.7 |
| Association | 20 | 33.3 |
| Total | 60 | 100 |
| Applied for credit | 14 | 23.3 |
| Did not apply for credit | 46 | 76.7 |
| Total | 60 | 100 |
| **Amount of credit** | | |
| 2000 – 4000 | 23 | 38.3 |
| 5000 – 7000 | 37 | 61.7 |
| Total | 60 | 100 |
| **Purpose of credit** | | |
| Buying inputs | 21 | 35 |
| Fencing | 8 | 13.3 |
| Buying inputs and fencing | 9 | 15 |
| Buying inputs and operational purpose | 22 | 36.7 |
| Total | 60 | 100 |

Seeds accounted for 24.3% of the total variable costs (Table 4). This is an indication that seeds consumed the greater proportion of the total variable costs followed by irrigation which accounted for 22.6 %. Seeds are the most important of the farm inputs in vegetable production (George, 1999; MacDonald and Copeland, 1998; Turner, 2010; Brodal and Asdal, 2018). Fertilizer is also an important input in vegetable production which accounted for 16 % of the total variable costs.

*3.5 Estimated Enterprise Budget*

Table 4 shows that the gross revenue, total cost and gross margin per hectare were E12735.92, E6925.68 and E5810.30 respectively. This shows that vegetable production in the study area was profitable. Previously studies have been carried out on profitability of some farming enterprises in Swaziland (Dlamini *et al*., 2010; Masuku, 2011; Dlamini & Masuku, 2013). It is crucial that a farming activity be profitable.

Table 4. Estimated enterprise budget for vegetable production per hectare

| Item | Value (E) | Percentage (%) |
|---|---|---|
| **Revenue** | | |
| Sale of vegetables | **12735.92** | |
| **Variable Costs** | | |
| Ploughing | 430.00 | 6.2 |
| Harrowing | 214.98 | 3.1 |
| Seeds/seedlings | 1684.72 | 24.3 |
| Fertilizer | 1105.32 | 16 |
| Chemicals | 902.54 | 13 |
| Labour | 517.39 | 7.5 |
| Packaging | 125.50 | 1.8 |
| Transport | 378.25 | 5.5 |
| Irrigation | 1566.98 | 22.6 |
| **Total Variable Costs** | **6925.68** | |
| **Gross Return** | **5810.30** | |

**Estimated enterprise budget for vegetable production per hectare**

**Profitability Ratios**

These ratios are indicators that are used to assess a firm's profitability and performance record.

**Revenue Benefit Ratio**

Cost Benefit Ratio = Total Revenue /Total Cost

12735.92/6925.68

1.84

The benefit cost ratio of 1.84 means that for every E1.00 a farmer invested in the production of vegetables in the study area, the return was E1. 84. This shows that vegetable production was very profitable. Farming enterprises need to be profitable for them to be worthwhile (Dlamini *et al*., 2010; Masuku, 2011; Dlamini & Masuku, 2013; Musi *et al*., 2018)

**Operational Ratios**

Operation ratios are a reflection of the distribution of gross revenue or production value to operating expenses, depreciation, interest and net farm income. The ratios vary depending on the use of gross revenue.

**Operating Expense Ratio**

Operating expenses/gross revenue*100

6925.68/12735.92

0.544*100

54.4%

The ratio stipulates that 54.4 % of gross revenue was used to cover operating expenses.

**Net Farm Income Ratio**

Net Farm Income/Gross farm returns*100

5810.30/12735.92

0.456*100

45.6%

A ratio of 0.456 indicates that 45.6% of gross revenue went to owner's equity and unpaid labour and management costs.

*3.6 Multiple Regression Estimates of Factors Affecting the Profitability of Vegetable Production*

Multiple linear regression was used to identify factors affecting profitability of vegetable production. Regression and correlation procedures can be classified according to the number of variables involved and the form of the functional relationship between the dependent variable and the independent variables (Gomez and Gomez, 1984; Salkind, 2012). Gross margin per hectare was used to measure profitability. In order to identify the factors affecting profitability of smallholder vegetable production, the profitability of the vegetable farmers was regressed on the following dependent variables: Land size ($X_1$), Age ($X_2$), Gender ($X_3$), Education ($X_4$), Experience ($X_5$), Source of income ($X_6$), Labour ($X_7$) and Household size ($X_8$). The results of the regression analysis are presented in Table 4.

Table 4. Multiple regression for factors affecting profitability of vegetable production

| Model | B | T-statistics | P-value |
|---|---|---|---|
| **Constant** | 4.599 | 4.675 | 0.000 |
| **Land size** | 0.830 | 3.212 | 0.002** |
| **Age** | -0.46 | -0.455 | 0.651 |
| **Gender** | 0.283 | 1.222 | 0.227* |
| **Education** | -0.65 | -0.654 | 0.516 |
| **Household size** | 0.250 | 1.280 | 0.206* |
| **Experience** | -0.32 | -0.182 | 0.856 |
| **Source of income** | -6.61 | -4.610 | 0.000** |
| **Labour** | -2.557 | -4.523 | 0.000** |

R-Square = **0.657**, Adjusted R-Square= **0.604**, F Value= **12.227**

***= significant at 5% level**

****=significant at 1% level**

The results presented in Table 4 show that land size ($X_1$), income ($X_7$) and labour ($X_5$) had a direct relationship

with profitability of vegetable production due to their level of significance that is at 1% while age ($X_2$), gender ($X_3$), education level ($X_4$) experience ($X_6$) and household size ($X_8$) had a reduced relationship due to their level of significance (5 %). The R-square value of 0.657 implies that 65.7% of variation in net revenue of smallholder vegetable farmers was accounted for by the joint effect of the independent variables used in the model.

The F-ratio of 12.227 with a p-value of 0.000 indicates that the model provided a good fit for the data at 1% level of significance. Land size had a positive relationship with profitability and was significant at 1% level of significance. This means that a 1 hectare increase in land size allocated to vegetable production could increase profits by 0.83%. This could be due to the fact that when size of land increases, total production increases, therefore, profitability is also expected to increase. The results also indicate that household size and experience had a positive relationship with profitability. This means that the more the household size increased and experience increased the more the profitability.

### *3.7 Challenges Faced by Vegetable Farmers*

The majority (33%) of the farmers reported that they lacked skills and training (Table 5). High costs and limited access to inputs was a problem to 68.3% of the farmers, while 75% of them were faced with a major threat of unreliable water facilities which hindered the growth of their vegetables (Table 5). Many (73.3% ) of the farmers were affected by increase in global food prices while 70% of them were faced with inadequate agricultural extension services that could help them improve production in order to increase profitability. A majority (70%) of the farmers were faced with production risks in relation to low yields. Lack of access to credit facilities was a major threat to farmers as they had limited capital and could not expand their production due to lack of financial support from banks because of lack of collateral (68.3% )(Table 5).

Table 5. Problems faced by vegetable farmers

| Challenge | Frequency | Total | Percentage (%) |
|---|---|---|---|
| Lack of skills and training | 33 | 60 | 55 |
| High costs and limited access to inputs | 41 | 60 | 68.3 |
| Lack of reliable water facilities | 45 | 60 | 75 |
| Increase in global food prices | 44 | 60 | 73.3 |
| Inadequate agricultural extension services | 42 | 60 | 70 |
| Production risks in relation to low yields | 42 | 60 | 70 |
| Lack of access to credit facilities | 41 | 60 | 68.3 |

The challenges faced by the farmers are similar to those previously reported (Dlamini & Masuku, 2013; Xaba & Masuku, 2013; Musi *et al*., 2018). There is need then going forward to find solutions to the challenges in order to increase profitability while moving the Kingdom towards the sustainable development goals (SDGs).

## 4. Conclusion

Various factors affecting profitability of vegetable production for farmers in the Shiselweni region were investigated. Data was obtained through questionnaires and interviews with vegetable farmers. Collected data was analyzed using SPSS software where it was revealed that the average age of farmers was 50.5 years and average farming experience of three years. A family had an average of eight members. Most of the farmers were educated up to high school level and their average farm size was about three hectares. From the analysis it was shown that vegetable production in the Shiselweni region was profitable and that it was affected by various factors which included land size, gender and household size .Where applicable subsidized farm inputs should reach the farmers timely and that loans should be availed to farmers without stringent collateral security. It may be concluded that there is need to optimize vegetable production for maximum possible profits while striving to achieve the sustainable development goals (SDGs) in the Kingdom of Eswatini.

## 5. Recommendations

Based on the findings of the study, the following recommendations were made:

Having sufficient capital to begin the production process is key to improving profitability, therefore, it is recommended that smallholder vegetable farmers should be granted access to financial services. It is recommended that farmers are taught more of market forces economics and reduce their reliance on farm input handouts from government.

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