



Trend Analysis and Growth Rate of Dry Pea (*Pisum sativum* L.) Production in Lesotho

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Abstract – Pea production has been practiced over a century by small scale farmers for home consumption and sale of surplus to meet other house-hold needs. There is a scanty information about its production, consumption, importation and trade. The objectives of the study therefore seek to; (i) Determine annual and compound growth rates, trends in pea production and area grown. (ii) Establish trends in consumption, importation volumes and values of peas. Time-series data were collected from Bureau of Statistics in Lesotho, website of Koenema and Index box. Data covering 60 years of production and area grown peas span from 1961 to 2021, while data on consumption and importation of peas cover 21 years from 2007-2021. Microsoft excel was employed to capture data and perform trend analysis. Results revealed mean pea production and area to be 5,662.4 ton and 6,728.6 ha, respectively. Mean growth rates of pea production was 7.56%, while mean growth rate in the area under pea production was -2.016%. Mean consumption volume and value of peas were 1,893.56 mt tons and US\$ 1,783.3 million, respectively. Mean growth rate in consumption volume was 9.56%, while the value growth rate was 14.76 %, respectively. Mean importation volume was 1,551.9 mt ton, while mean importation value was US\$538.9. Growth rate for importation volume was 42.11%, while growth rate for importation value was 42.33%. Trendline for area and production revealed decline of 75% and 60.29%, respectively. Trendlines for consumption value and volume, importation value and volume exhibited upward trends, while trendline for production and area revealed a decline and this situation implies a serious threat to food security.

Keywords – Consumption, Growth Rate, Importation, Pea, Production, Stability Index, Trends.

I. INTRODUCTION

Pea (*Pisum sativum* L.) is a leguminous crop belonging to a family of fabaceae, sub-family of faboideae which contains three species; namely; *Pisum abyssinicum*, *Pisum fulvum* and *Pisum sativum* [1]. Its center of origin is the Middle East in the countries now known as Syria, Anatolia, Israel, Jordan, Greece, Turkey and Iraq [2], [3]. From the center, pea spread to Afghanistan and Pakistan, after which they were disseminated in north west India. The second area of development lies in the Near East while the third area is the plateau and mountains of Ethiopia. They were introduced from Palestine and Egypt into Europe and China. Eastern areas of the Mediterranean Sea were considered as the center of pea crop diversification. Pea was introduced in West Africa before pre-colonial time by the Europeans who were trading, after which they were rapidly distributed throughout the world [4].

Pea is now produced world-wide covering an area of 7.2 million hectares (Food and Agriculture Organization, 2020). The cultivated area of fresh peas has increased in the last ten years and the average productivity has increased considerably over the years [5]. The leading countries in the production of pea are Canada, Russia, China and United States of America with 27,274; 21,286; 15,399 and 25,035 million tons, respectively. In Africa, the leading countries in the production of pea are Egypt, Kenya and Cameroon. Between the year 1973 and 2021, a sharp growth in the production of pea increased from 1.43 million tons to 7.42 million tons in Africa [4]. Global production of peas has been increasing between the year 1962 and 2022 and is expect-



-ed to continue to increase and is currently forecast to reach 57.7 million metric tons by 2026 [5].

The global consumption of peas was 4.2 million tons in 2017 and it is expected to reach nearly 6 million metric tons by the year 2026 with a compound annual growth rate of 2% from the year 2025 to 2030. India was the top consumer in 2021 with 2.3 million tons followed by China and Bangladesh. The global peas market was valued at US\$ 12.3 billion in 2023 and it is growing, with the value of the market expected to reach US\$ 75.09 billion by 2030 and is also expected to grow at a rate of 11% to 12% annually between the year 2024 and 2030 [6]. In Africa, the peas market size was valued at US\$ 0.49 billion in the year 2024 and it is expected to grow to US\$ 0.53 billion by 2029 [6]. A significant driver of the pea market is the rising preference for both plant-based proteins, particularly for uses like pea protein isolate in food and beverages. Additionally, the health benefits of peas are poised to further propel market growth in the coming years. Rich in calcium and packed with magnesium, potassium, zinc, iron, phosphorus, folic acid, and vitamins A, C, and B, peas are renowned for their efficacy in treating anemia, low blood pressure, and high cholesterol [7].

Lesotho is no exception to these countries in producing peas, though the quantity is very low in comparison to the afore-mentioned. Pea ranks the second after common beans among leguminous crops grown in the country [8]. It grows in all the agro-ecological zones of the country, namely; lowlands, foothills, mountain and Orange river valley. A large portion is produced in the mountainous areas of Lesotho since it requires low temperature to get a higher yield and to avoid infestation of pests which becomes prevalent in summer [9]. Nonetheless, it is still grown in summer by some few farmers for home consumption. Pea is consumed as immature green grains or dry grains, while the plant residues are fed to animals.

The production and areas under pea in Lesotho have been recorded on an annual basis in the different agro-ecological zones, districts and whole country by the Bureau of Statistics in Lesotho. The records provide valuable information for comparing importation, exportation, production, consumption and deficit or surplus, thus determining trade deficit or surplus. Lesotho has potential to produce peas to meet local consumption and export surplus because of favorable edaphic and environmental factors existing across highland agro-ecological zone [10]. However, improper agronomic and traditional practices adopted by farmers limit the production to the current level. For the farmers to reach yield plateau, sound agronomic measures have to be applied such as proper seed-bed preparation, judicious fertilization, adoption of high yielding hybrids, installation of irrigation system, judicious pesticides application and appropriate post-harvest technologies [11].

Nonetheless, production, consumption and import trends over the years have not been determined using the data accumulated to measure growth or retrogression in pea production [8]. It is of paramount importance to determine the progression of pea industry and mitigating the factors affecting it to maintain consistently high pea production, that will in turn meet national requirement, reduce importation, generate more income and better the livelihoods of pea farmers. If such factors and their magnitudes are identified, both financial and technical support can be prioritized for them by the government, donors and other stakeholders. In the absence of pea trend studies within the country, it was therefore imperative to; (i) Determine annual and compound growth rates, trends in pea production and area grown, (ii) Establish trends in consumption, importation volumes and values of peas.



II. MATERIALS AND METHODS

2.1. Study Area

The study was conducted in Lesotho which is located in Southern Africa occupying an area of 33,000 km², of which about 40% is arable land and 60% rangeland. The rangeland is situated on the mountains, plateaus and foothills. The coordinates of Lesotho are; latitude is 29.61000 South while longitude 28.23360 East. The altitude ranges between 1100m and 3500m above sea level. It has a population of 2.2 million [12]. It is agriculturally oriented with 70% of the population depending on it for their livelihood. It is mostly practiced in the rural area where old traditional methods are still adopted by subsistence farmers and very small number (560) of emerging commercial farmers have embarked on modern farming practices [13].

2.2. Climate

Lesotho has a temperate climate characterized by warm summer with temperature ranging from 220C to 330C with few incidences of rising to 390C. Winter season is very cold with freezing temperature dropping to -70C accompanied by shallow and deep snowfall in the lowlands and highlands, respectively. The average annual rainfall is approximately 750mm with maximum of 1200mm and minimum of 400mm. Rainfall starts in October and increases gradually until it reaches a peak in February, after which it declines faster and stops in April. May, June and July are dry seasons [14].

2.3. Data Collection

The study used time series data collected from Bureau of Statistics in Lesotho (2021), Bureau of Statistics in Lesotho (2019), website of Koenema (2023) and inbox (2023) which were consistent. The data covered a time-period of sixty (60) years spanning from 1961 to 2021 on both production and area under peas production. Data on consumption and importation spanning over a period of fifteen (15) years were obtained from afore-mentioned sources.

2.4. Data Analysis

Time series data collected were captured and stored in the excel spread sheet (version 25), after which these data spanning over a period of sixty (60) year were blocked into 12 (twelve) time-periods (TP), each block having an average data of five (5) years, thus 1961-1965 (TP1), 1966 -1970 (TP2), 1971-1975(TP3), 1976-1980(TP4), 1981-1985 (TP5), 1986-1990 (TP6), 1991-1995 (TP7), 1996-2000 (TP8), 2001- 2005 (TP9), 2006-2010 (TP10), 2011-2015(TP11) and 2016-2021(TP12). The time-period of 5 (five) years is aligned with five (5) year National Strategic Development Plans (NSDP) which reviews the strategies, policies and interventions to address agricultural challenges, after which impact is assessed. Microsoft EXCEL was used to capture data from the afore-mentioned sources. Thereafter, the Statistical Package for Social Sciences (SPSS) was employed to draw the linear graph for production and area grown peas. Growth rate was compared among the time-periods to determine deceleration, stagnancy or acceleration in pea production. Time series analysis is a pivotal methodology in understanding historical data patterns, offering critical insights into future trends and elucidating the underlying factors that influence variables over time [15]. Mean was calculated to obtain intermediate to the extreme values of dataset for each time-period of a particular variable. Coefficient of variation was applied to estimate the spread of values in a dataset for each variable. Standard deviation was employed to measure the



amount of variation of a data set of values for each variable. Statistical package for social sciences (SPSS) was employed to draw the linear graph for production and area grown peas. Growth rate was compared among the time-periods to determine deceleration, stagnancy or acceleration in pea production. Instability index was calculated for production, consumption and importation using a formula by Cuddy-Della valley instability index.

Formula applied in the study;

(a) Mean = Summation of observation / number of observation (15 years).

$$\text{where; } \bar{X} = \frac{\sum X}{N}$$

$\sum$ = Total of observations

N = Number of years

X = Observations

(b) S.D. = Standard Deviation

$$s = \frac{\sqrt{\sum (x - \bar{x})^2}}{n-1}$$

where;

X = observations

$\bar{x}$ = Mean of the observation

n = number of years

(c) Variance

$$a^2 = \frac{\sum (x - \mu)^2}{N}$$

where;

$\sum$ = total of observation

X = Observations

N = number of years

μ = observation mean

(d) Coefficient of variation

$$cv (\%) = \left(\frac{\text{Standard deviation}}{\text{Mean}} \right) \times 100$$

Standard deviation derived from (b) above

(e) Compound annual growth rate

$$CAGR = \left(\frac{vf}{vi} \right)^{1/n} - 1$$



where;

V_f=final value,

V_i = initial value,

n= number of years

(f) Annual Growth Rate

AGR = value in *t*th year - value in (t-1)th year / value in (t-1)th year

(g) Linear regression

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

N = all observations

$\sum$ = Summation notation

x = observation of variable

y = observation of the other variables

$$I = C.V. \times \sqrt{1 - R^2}$$

Where I = Instability index

C.V. = Coefficient of variation (r)

R² = Coefficient of determination

Using the same data spanning over (sixty) 60 years, linear graphs and trend lines were drawn to determine long term performance of pea production. Both the linear regression and coefficient of determination were calculated.

III. RESULTS AND DISCUSSION

This section presents the results of various econometric techniques used to determine trends in the production and area under pea production, consumption volumes and value of peas as well as to establish the trends in the importation volumes and values of pea over a time-period of 60 years.

3.1. Production Growth Rate Analysis

The mean pea production over 60 years from 1961 to 2021 was 5,662.4 metric tons which was erratic over twelve (12) time-periods. The lowest production of 3,968.2 was obtained in 2011 -2015, while the highest production of 9,111 metric tons was observed in 1976 -1980. The highest growth rate of 89.80% was revealed during time-period 4 from 1976 to 1980 whereas the lowest growth rate of pea production was expressed in 1981 to 1985. Coefficient of variation was 24.9% among time-periods expressing a wider variation. Table 1 presented production growth rates over 60 years, averages for 5-year time periods, standard deviation, variance and instability index.

The average area under which peas were grown was 6,728.6 hectare with lowest area being 2,814.8 hectares



experienced in time-period 12 from 2016-2021 and highest area planted peas being 12,814.2 hectares in the time-period 1961-1965. The highest positive growth rate in the area growing peas was 33.46% from 2006 to 2010, while the lowest negative growth rate of -57.3 was revealed from 1976 to 1980. Coefficient of variation was 49.1% among time-periods expressing a wide variation. Table 1 showed area growth rate over 60-year time-period, standard deviation, variance and instability index).

The results imply that production and area under which peas are grown fluctuated from one year to the other probably due to factors beyond control of the farmers which include among others; late and inadequate rainfall, drought, lack of farm power and machinery, untimeliness in field operations. These findings agree with Bureau of Statistics (2023) [13] which indicated that factors such as erratic rainfall patterns, drought and lack of farm machinery led to fluctuations in production and areas under pea production. Furthermore, Lazanyi (2021) [16] conducted a study on pea production in 21 developed countries comparing annual production within and among them. He found that production varied widely from year to year within and among the countries and the cause of variation was caused by climatic conditions. Similarly, Uskutoglu (2023) [17] researched on pea cultivated area, production and yield in the world from 2011 to 2021, using data from FAO and found the afore-mentioned differing greatly among years and countries which was caused by change in annual climatic factors. From Bureau of Statistics (2023) [13]; Lazanyi (2021) [16]; Uskutoglu (2023) [17], it is apparent that climatic conditions have a perceptible influence on the growth and development of pea crop, which may be negative lowering or positive increasing the yield particularly under open field situation.

Table 1. Growth rate in production and area grown pea.

Pea Production (Metric Tons)				Pea Area (Hectares)			
Years	Time-Period	Average Production	Growth Rate (%)	Years	Time-Period	Average Area	Growth Rate (%)
1961-1965	1	5,948.2		1961-1965	1	12,814.2	
1966-1970	2	5,087.6	-16.92	1966-1970	2	11,741.2	-9.14
1971-1975	3	4,800.4	-5.98	1971-1975	3	10,436.4	-12.5
1976-1980	4	9,111.0	+89.80	1976-1980	4	6,633.0	-57.3
1981-1985	5	4,951.0	-84.02	1981-1985	5	7,542.0	+13.7
1986-1990	6	5,021.2	+1.42	1986-1990	6	5,199.6	-45.05
1991-1995	7	4,892.2	-2.63	1991-1995	7	4,839.4	-7.44
1996-2000	8	7,851.0	+60.48	1996-2000	8	6,071.8	+25.5
2001-2005	9	4,619.0	-69.97	2001-2005	9	7,220.0	+18.9
2006-2010	10	5,367.2	+16.20	2006-2010	10	2,415.6	+33.46
2011-2015	11	3,968.2	+35.26	2011-2015	11	3,014.8	+24.8
2016-2021	12	6,332.0	+59.57	2016-2021	12	2,814.8	-7.11
Mean		5,662.4	7.56			6,728.6	-2.016
Standard deviation		1,409.6	53.32			3,302.4	29.23
Variance		2,167,533.9	2,843.28			11,897,469.6	854.35



Pea Production (Metric Tons)				Pea Area (Hectares)			
Years	Time-Period	Average Production	Growth Rate (%)	Years	Time-Period	Average Area	Growth Rate (%)
Coefficient of variation (%)		24.9	7.05			49.1	-14.49
Instability index		0.24	0.02			0.43	-0.15

Source: Bureau of Statistics, Indexbox and Koenema.

3.1.1. Production and Area Trend Lines

The trendline for area grown peas showed a dramatic decline of 75% from 17,300 hectares down to 978 hectares during a period of 1961 to 2021 which was classified as deceleration. This is depicted in Figure 1 showing production and area trendlines of peas. A very steep trendline was observed with regression of $y = -176.94x + 12081$ and coefficient of determination was $R^2 = 0.6289$. On the other hand, the trendline for production also revealed a deceleration of 60.29% from 7,604 metric ton to 4,300 metric ton with regression of $y = -32.552x + 6437.1$ and coefficient of determination being $R^2 = 0.0715$. This downward trend in pea production and area is attributed probably to declining interest of farmers because pea is increasingly becoming less important in the crop industry as it is outcompeted by beans because the market price of beans has reached premium in the Southern African region. The results resonate with Fukah et al, (2024) [18] that favorable farmer prices for beans have rendered pea crop relatively less competitive, hence less produced by farmers in most developing countries.

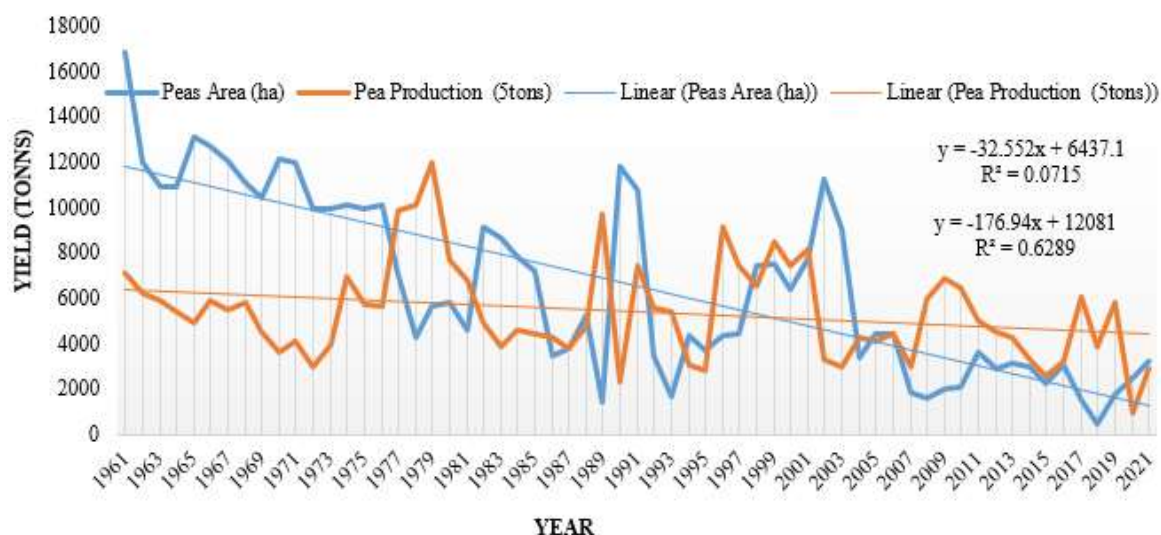


Fig. 1. Production and area trends of peas.

3.2. Consumption Growth Rate Analysis

The annual average consumption volume of peas was 1,893.56 metric tons with the highest consumption volume of 3,428 metric tons in 2011, while the lowest volume of 981.4 metric tons was revealed in 2007. The highest and lowest growth rate of 111% and -50% occurred in 2008 and 2014, respectively. Table 2 revealed pea consumption volume, growth rate and their standard deviation, variance and instability index. The variance among the six time-periods was wide recording 40.5%. The average consumption value was US\$1,783.3million expressing the highest value of US\$ 2,591 million in 2013 and lowest value of US\$ 555.5 in 2007 with a



moderate variation of 32.23%. The highest and lowest growth rate in the consumption value were 118% and 103.6%, respectively. Table 2 depicted consumption growth rate and value. The findings imply that pea consumption volume has not been gradually increasing compared to other countries of the world where pea production has been steadily increasing at least at 4.53%. The reason behind this situation is that the consumption of peas is not promoted by nutritionists relative to beans and few recipes are developed to create variety of dishes in Lesotho. These findings are in line with those of Guta et al, (2021) [19] who stated that the consumption of peas is not well promoted relative to its substitute crops, hence the decline in its consumption volumes and values across many settings and countries.

Table 2. Peas consumption in Lesotho.

Year	Consumption Volume (ton)	Growth Rate (%)	Consumption Value (US\$) Million	Growth Rate (%)
2007	981.4		555.5	
2008	2071	111.0	1212	118.2
2009	1675	-19.1	1043	-13.9
2010	2870	71.0	2036	95.2
2011	3428	19.4	2230	9.5
2012	3271	- 4.6	2184	-2.1
2013	2812	-14.0	2591	18.6
2014	1395	-50.0	1256	-106.3
2015	1351	-3.2	1035	-17.6
2016	1422	5.3	2107	103.6
2017	1279	-10.1	2009	-4.7
2018	1525	19.2	2280	13.5
2019	1379	-9.6	1998	-12.4
2020	1432	3.8	2114	5.8
2021	1512	5.6	2099	-0.71
Mean	1893.56	9.56	1783.3	14.76
Standard deviation	768.65	37.97	574.7	55.65
Variance	633,023.13	1552.82	353,843.9	3334.71
Coefficient of variation (%)	40.59	3.97	32.23	3.77
Instability index	0.37	0.36	0.3	0.35

3.3. Consumption Volume and Value Trend Analysis

The trendlines for both consumption value and volume exhibited upward trends with peaks and troughs. As a result of upward trends, the two are considered to have undergone acceleration. There were five peaks and four troughs in consumption volume. The highest peak consumption volume was 3428 mt ton in 2011 and the lowest trough of consumption volume was 1279 mt ton in 2017. Trendline on consumption value expressed four peaks

with highest being US\$2591 in 2013 and lowest of US\$1035 in 2015. Figure 2 depicted consumption volume and value over 60 years. The regression analysis for consumption volume was $y = 166.09x$ with coefficient of determination of $R^2 = -2.09$, whilst regression analysis for consumption value was $y = 185.88x$ and coefficient of determination was $R^2 = -0.848$. Within the time-period of 16 years, both consumption volume and consumption value graphs were erratic having an unpredictable pattern of increase. In Lesotho, pea consumption is very low with most peas grown mainly for consumption, and regarded as a minor crop relative to maize, sorghum and common beans. Most pea farmers produce it to meet their own needs, with a small amount of surplus sold. This results in a steady, but not large consumption rate within the country [20]. The major constraints facing consumption rate are (i) limited production due to less priority given to it by the government, (ii) they are often grown in the winter season using residual moisture, (iii) they constitute a small part of the typical Basotho diet in comparison with other crops such as maize, sorghum, beans and wheat, (iv) Basotho have a narrow dietary diversity based on the traditional crop, which peas are not part of them [21]. It was predicted that by 2026 the consumption rate would decrease by 21.4% with an average of 111,2 metric ton in a year [22]. The country is producing a small amount in comparison to other crops, rendering the overall value of pea production in Lesotho minimal [20].

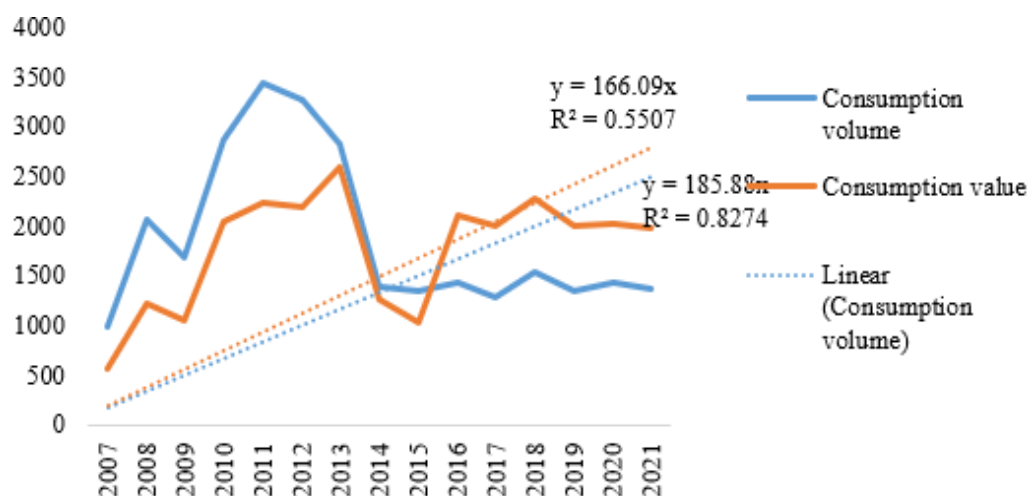


Fig. 2. National consumption of peas.

3.4. Importation Value and Volume

3.4.1. Growth Rate Analysis

The highest volume of imported peas was 2748 mt which occurred in 2011, while the lowest importation volume of 275 mt was observed in 2009. Mean importation volume over the period under study was 1551.9 mt with wide variance of 45%. The highest growth rate was 444.7% in 2010 which was followed by the lowest growth rate of -74% in 2009. The afore-mentioned information was summarized Table 3 together with standard deviation, coefficient of variation and instability index). In general, these results imply that there was a decline in the growth of imported peas over the period under study, thus deceleration was experienced. Though few years experienced infinitesimal increase. The explanation for this trend could be that farmers and the government developed low interest due to unattractive pea market price, hence pea was not a priority crop in the country. These findings agree with Fukah et al, (2024) [18] that where a crop is given less priority, its production, consumption and importation are low in most developing African countries.



The highest importation value of US\$ 2231 was revealed in 2013, with the lowest importation value of US\$151 exhibited in 2009, while the mean importation value for the time-period was US\$538.9 with variance of 46.72%. The highest growth rate in importation value was 578.2% observed in 2010 and the lowest growth rate was -252.6% revealed in 2009. Table 3 presented importation volume and growth rate of pea in Lesotho. Generally, the findings imply a positive growth in importation value translating into acceleration. The explanation is that the country has been experiencing a shortage in pea production which led to inadequate supply hence, reliance on pea imports that came at a high-cost leading to the observed increase in pea import values. These finding agree with Mwakikwa et al, (2016) [23] who stated that inadequate domestic pea production leads to over-reliance on pea imports that come at a high cost which increases the overall pea importation value for the importing country.

Table 3. Importation of peas to Lesotho.

Year	Importation Volume (ton)	Growth Rate (%)	Importation Value '000(US\$)	Growth Rate (%)
2007	427.8		196.8	
2008	1088	154.3	532.4	170.5
2009	275	-74.7	151	-252.6
2010	1498	444.7	1024	578.2
2011	2748	83.4	1627	58.9
2012	2694	-19.7	1667	2.4
2013	2198	-18.4	2231	33.8
2014	1119	-49.1	1098	-49.2
2015	1079	-3.6	834.5	-24
2016	1212	12.3	1111	33.2
2017	1379	13.8	1212	9
2018	1402	1.7	1307	7.8
2019	2200	56.9	1507	15
2020	2018	-8.3	1428	6.0
2021	1941	-3.8	1377	3.6
Mean	1551.9	42.11	1153.6	42.33
Standard deviation	713.3	124.24	538.9	171.39
Variance	545,163.1	16,622.77	311,114.6	31,633.88
Coefficient of variation (%)	45.96	2.95	46.72	4.05
Instability index	0.41	0.91	0.42	0.37

3.4.2. Importation Volume and Value Trendline

The trendlines for both importation volume and value over a time-period of 14 years exhibited an upward trend, though in between the years, erratic patterns were observed. Importation volume exhibited three peaks

and four troughs with the highest of 2748 mt in 2011 and lowest of 1024mt in 2010. Figure 3 depicted importation volume and value of peas over 60 years. The regression analysis for importation volume was $y = 163.65x$ with coefficient of determination being $R^2 = -0.368$. The importation value was characterized by three peaks and two troughs with the highest and lowest values of US\$2231 and US\$151 in 2013 and 2009, respectively. The regression equation was $y = 133.56x$ while coefficient of determination was $R^2 = 0.1307$. Due to declining pea production and area under which it is grown due to the relatively low price that it fetches in the market and availability of stable market as well as lack of support from the government, the importation volume had to increase to meet the national requirement for peas in Lesotho, hence upward trend. Mwakikwa et al, (2016) [23] support these findings as they indicated that low domestic pea production, low pea prices and lack of institutional support have led to an increase in pea importation volumes and values in most countries of the world.

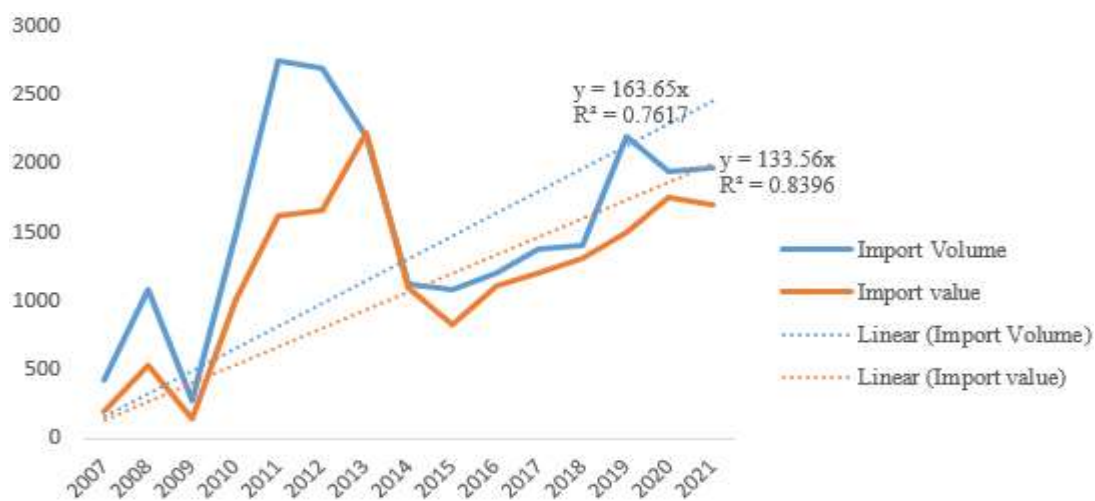


Fig. 3. Importation volume and value of peas.

IV. CONCLUSION AND RECOMMENDATIONS

The study revealed a decline in the production of pea and an area under which it was grown. Both consumption volume and value increased during the period under study due to increasing population and substitute beans unavailability in winter season. The importation volume increased tremendously to fill the deficit gap in the country, while importation value increased due to market price and foreign exchange rate experienced between Lesotho and United States of American Dollar. This situation of declining domestic pea production coupled with increasing reliance on pea imports poses a serious threat to the food and nutritional security and economic wellbeing of many Basotho households in both rural and urban areas.

To reverse this dire situation, it is recommended that nutritionists engage in a robust campaign to promote consumption of peas which will enhance its production among smallholder farmers in the country. Furthermore, smallholder farmers should be provided with sound technical support by the public extension services as this will lead to adoption of better agronomic and business practices that will lead to their competence, competitiveness and efficiency in pea production. The smallholder farmers' access to credit and finance should also be improved for them to meet all the financial obligations associated with the increase in acreage and production. Moreover, these smallholder farmers should be encouraged to also focus on premium markets such as urban centers where they will get better prices to be able to cover production costs.



In this way, the pea value chain and sector could help address the problems of abject poverty, food and nutritional insecurity that the country has been grappling with over the past two decades, thus contributing to the economic welfare of the nation.

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