



Potato Value Chain Opportunities

Lesotho

First Draft

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Background

Potato Production

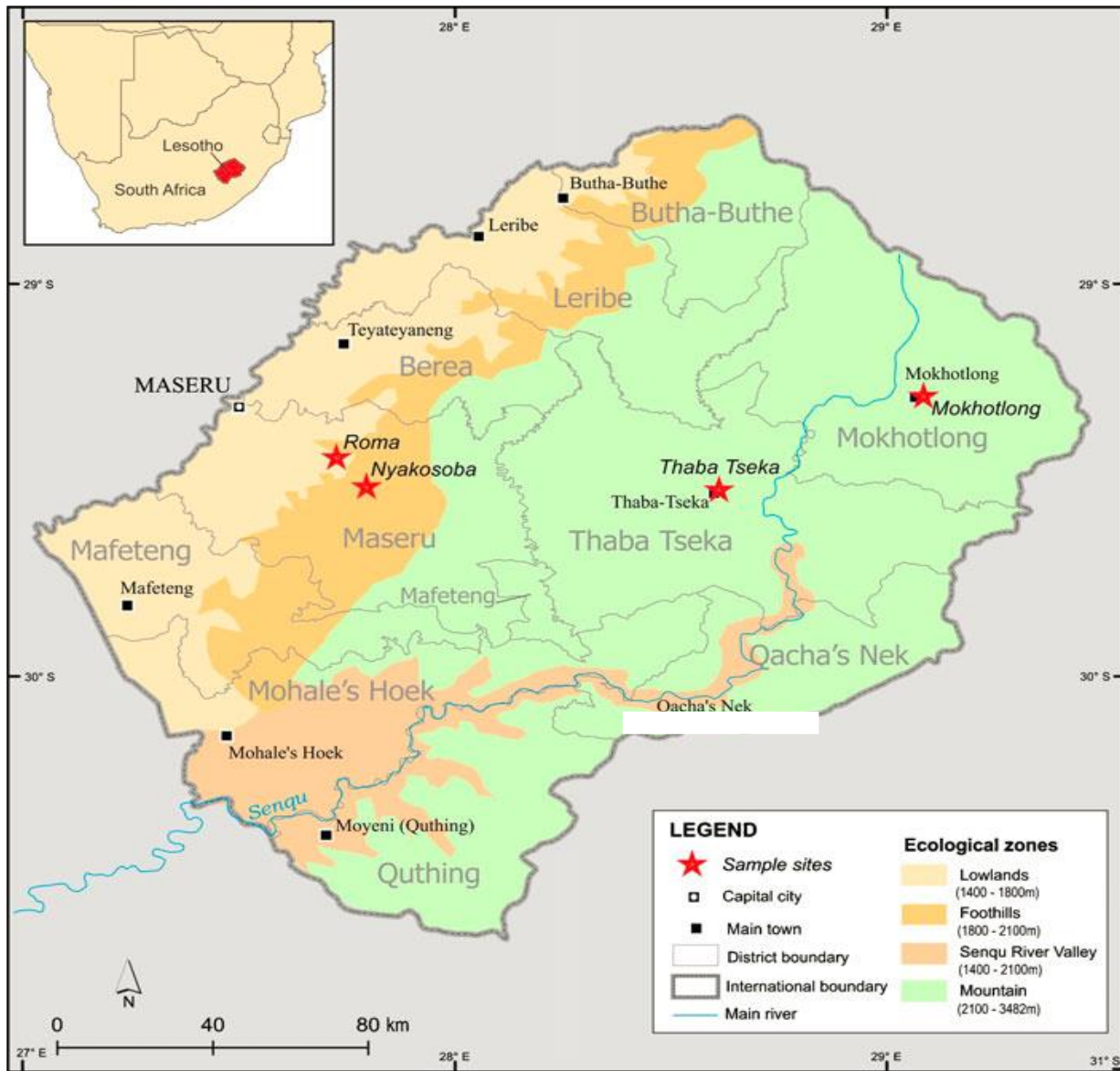
The potato is the third most consumed food commodity in the world which therefore has the potential to contribute to alleviation of food insecurity especially in developing economies such as Lesotho. Potatoes are widely grown in Lesotho and it is an important food crop. However, the area cropped with potato is still far below that of other staple crops such as maize, wheat, sorghum and pulses (Bureau of Statistics 2008). Potato production takes place mainly under subsistence farming practices with low levels of input use and under rain-fed conditions.

Farming practices such as planting, ridging and harvesting are done manually and with the use of draught animals in some incidences. The use of mechanization is very minimal as there is no large-scale commercial production. The crop is grown in the lowlands and highlands of Lesotho (above 2,000 m a.s.l.) in summer, as winters are too cold with frequent snow and night frost due to the high altitude.

Weather patterns are extremely erratic with periods of excessive rainfall and prolonged droughts, which are both deleterious to crop growth. The former lead to periods with low solar radiation and leaching of nutrients, especially nitrogen, and the latter lead to lack of water available to the plants (Vos and MacKerron 2000). As a result, Lesotho is not self-sufficient in potato and a substantial proportion of the potatoes consumed in the country is imported.

Despite these limitations, the climatic conditions that prevail in the country are suitable and have the potential for high yields when the crop is managed adequately (Bureau of Statistics 2008). Lesotho is at a high altitude and has an agro-climate that is suitable for potato production in the same way as countries like the United Kingdom, Ireland and the Netherlands as well as the original home of the potato in Peru. The soil associations in the river basins of Lesotho are light and responsive to good husbandry that should result in good quality potato crops. Lesotho can be divided into four agro-ecological zones: the lowlands, foothills, Maluti mountains and Senqu River Valley (Fig. 1).

Figure 1. Map of Lesotho showing the four agro-ecological zones



The climatic conditions of Lesotho, of warm summers and cold winters, allow for only one production season throughout the whole country. As can be seen in **Table 1**. Below, Potato is grown as a summer crop and planting can start anytime from mid-September to December, although there is a risk of late frost incidence up to the beginning of October. However, planting normally only starts in October since summer rains usually only occur from then.

Table 1. Potato Planting Schedule in Lesotho

| Area by District | Jan | Feb | Mar | April | May | Jun | July | Aug | Sept | Oct | Nov | Dec |
|----------------------------|-----|-----|-----|-------|-----|-----|------|-----|------|-----|-----|-----|
| Botha-Bothe | | | | | | | | | | | | |
| Leribe - Mpharane | | | | | | | | | | | | |
| Berea - Thuathe | | | | | | | | | | | | |
| Maseru Matsieng/Koro-Koro | | | | | | | | | | | | |
| Maseru Marakabei | | | | | | | | | | | | |
| Maseru-Semonkong/Hloahoeng | | | | | | | | | | | | |
| Maseru-Ha Setho | | | | | | | | | | | | |
| Mafeteng - Matelile | | | | | | | | | | | | |
| Mohale's Hoek - Mpharane | | | | | | | | | | | | |
| Quthing -Mphaki | | | | | | | | | | | | |
| Qacha - 'Milikane | | | | | | | | | | | | |
| Mokhotlong | | | | | | | | | | | | |
| Thaba-Tseka | | | | | | | | | | | | |

Extract from the Potato Lesotho Association

The country has a typical monsoon or Sahel-type climate, with dry winters and rainy summers. Although potatoes are produced in all parts of the country, the most suitable growing conditions— with relatively low temperatures—are those at the higher altitude mountain zones rather than the foothills and lowlands. Potatoes are thus harvested from December to June this is depicted in the **Table 2**. Below. An approximate total of 7 million maloti worth of potatoes is expected to be harvested in 2018 by the Potato Lesotho Association Members, however issues of mechanization and storage pose challenges in this industry in Lesotho.

Table 2. Potato Harvesting Schedule in Lesotho

| Area by district | Jan | Feb | Mar | April | May | June | July | Aug | Sept | Oct | Nov | Dec |
|------------------------------|-----|-----|-----|-------|-----|------|------|-----|------|-----|-----|-----|
| Botha-Bothe | | | | | | | | | | | | |
| Leribe | | | | | | | | | | | | |
| Berea | | | | | | | | | | | | |
| Maseru-Matsieng/Koro-Koro | | | | | | | | | | | | |
| Maseru-Marakabei | | | | | | | | | | | | |
| Maseru-Semonkong/Hloahlaoeng | | | | | | | | | | | | |
| Maseru-Ha Setho | | | | | | | | | | | | |
| Mafeteng-Matelile | | | | | | | | | | | | |
| Mohale-Mpharane | | | | | | | | | | | | |
| Quthing-Mphaki | | | | | | | | | | | | |
| Qacha-'Milikane | | | | | | | | | | | | |
| Mokhotlong | | | | | | | | | | | | |
| Thaba-Tseka | | | | | | | | | | | | |

Seed Production

Seed potato production, which is considered of economic importance in the country, is confined to isolated areas in the cooler high mountain valleys. Advantages of the subtropical highland summer crop compared to subtropical lowland winter crop is that the low night temperatures assure adaptation of the crop while the long days assure high levels of solar radiation and as such potentially high dry matter production (Haverkort 1990). The relatively cool conditions also mean that there is relatively low incidence of diseases and pests.

Seed production is mainly carried out by farmer groups who normally buy their seed stock together. The seed potatoes are obtained from South Africa and farmers usually buy generation two or three, and in some cases generation four seed, and then multiply the seed for one season. The seed produced is then sold to farmers who produce ware potato. The cultivars commonly used are BP1 and Up-to-date, with BP1 having higher preference. Ware potato is commonly produced in the foothill and lowland areas, with generally low typical yields (Zones of Production 2008). According to FAOSTAT DATA (2013), the area planted to potato increased from less than 500 ha in 1961 to 6,850 ha in 2011, while for the same period the average yield has not increased significantly and is currently at about 14 t ha⁻¹ (fresh tuber yield). As can be seen in Table 3. USD 190 000.00 per annum worth of potato seeds were imported into Lesotho in 2014, import quantities in the period 2010 -2014 have also grown by 101%.

Table 3. South Africa potato seed exports in 2014

| Importers | Exported value 2014 (USD thousand) | Share in South Africa's exports (%) | Exported quantity 2014 (tons) | Unit value (USD/unit) | Exported growth in value between 2010-2014 (% p.a.) | Exported growth in quantity between 2010-2014 (% p.a.) | Exported growth in value between 2013-2014 (% p.a.) |
|-----------|------------------------------------|-------------------------------------|-------------------------------|-----------------------|---|--|---|
| Lesotho | 190 | 2.4 | 774 | 245 | -18 | 101 | 7 |
| DRC | 139 | 1.8 | 206 | 675 | 3 | 4 | -14 |
| Swaziland | 122 | 1.6 | 243 | 502 | -27 | -9 | -15 |
| China | 82 | 1.1 | 4 | 20500 | | | 228 |
| Uganda | 50 | 0.6 | 0 | | | | |
| Iran | 35 | 0.4 | 1 | 35000 | | | |

With a total annual production of around 85,000 t and a population of 1.7 million, the average consumption is 50 kg per person per annum of potato grown in Lesotho itself. In addition, a considerable amount is imported from South Africa, the average value of imported potatoes from neighboring South Africa is M3,000,000.00 per month. This is money that should be retained to support local livelihoods.

Table 4. South Africa Potato Exports in 2014

| Importers | Exported value 2014 (USD thousand) | Share in South Africa's exports (%) | Exported quantity 2014 | Unit value (USD/unit) | Exported growth in value between 2010-2014 (% p.a.) | Exported growth in quantity between 2010-2014 (% p.a.) | Exported growth in value between 2013-2014 (% p.a.) |
|----------------------|------------------------------------|-------------------------------------|------------------------|-----------------------|---|--|---|
| World | 46087 | 100 | 136354 | 338 | 0 | -29 | 18 |
| Angola | 12741 | 27.6 | 33703 | 378 | 42 | 47 | 13 |
| Namibia | 10470 | 22.7 | 23376 | 448 | -16 | -14 | -8 |
| Mozambique | 10138 | 22 | 42930 | 236 | 5 | 18 | 59 |
| Botswana | 5206 | 11.3 | 14040 | 371 | -9 | -63 | 50 |
| Lesotho | 3060 | 6.6 | 6979 | 438 | 89 | 146 | 26 |
| Swaziland | 1781 | 3.9 | 8923 | 200 | 0 | 35 | -4 |
| Zambia | 1028 | 2.2 | 2993 | 343 | 24 | 12 | 3 |
| United Arab Emirates | 514 | 1.1 | 999 | 515 | | | 336 |
| Malawi | 196 | 0.4 | 387 | 506 | 26 | 13 | 13 |
| DRC | 176 | 0.4 | 370 | 476 | -1 | 10 | 107 |
| Area Nes | 165 | 0.4 | 459 | 359 | | | 313 |

As depicted in Table 4. Above the value of Lesotho potato imports from South Africa has grown by 89% per annum in the period 2010 to 2014 with the quantity of potato imports growing by 145% during the period. In 2014 the total imported value of potatoes was USD 3 060 000.00

Given the availability of suitable climatic conditions that exist in the country, consumer preferences and the desire to be more self-reliant regarding food, there is a need to further expand and improve potato production in Lesotho with more emphasis on increasing production through increased yields rather than through increased area. There is thus a need to establish the role of cultivars, environments and management practices that can be employed to enhance production. The knowledge and population of the Lesotho Value Chain will add value to enhancing entrepreneurship in the sector.

Current Developments in Potato Production in Lesotho

A report on concluding observations at the end of the 2nd consulting mission to PLA, by Peter Klingenstein on behalf of the Senior Expert Service of Germany, was shared with the Basotho Enterprises Development Corporation. This report was meant to act as base for assessing the feasibility of scaling up local potato production. According to the report;

- **Overall observations**

- ✓ Lesotho has Plenty of unused / underused land available
- ✓ There is a lot of Erosion in Lesotho hence the need for water saving techniques that may include
 - Construction of reservoirs using small stone walls
 - Slowing down water speed
 - Generating energy
 - Irrigation at least for green houses
- ✓ Draught – large irrigation systems available and unused near the airport, and exposed to the harsh climatic conditions
- ✓ Low agricultural productivity
- ✓ Lack of leadership for community cooperation

- **Observations Regarding Mechanization**

- ✓ Buying machines without considering technical criteria (excessive diversity)
- ✓ Buying used machines via internet
- ✓ Buying machines consumes all available money, nothing left for spare parts
- ✓ Many tractors and implements broken – repair uncertain
- ✓ Lack of maintenance (e.g. air filters, grease)
- ✓ Exposure to climatic strain (tires)
- ✓ Huge economic loss

- **Observations regarding Public Organizations**

- ✓ Many top line machines (e.g. direct planting) available at the Ministry of Agriculture and abandoned even uncleaned (one row planter)
- ✓ Agricultural College with many resources to improve mechanization but looking inactive (no MoU with PLA concluded)
- ✓ Polytechnic College willing but few resources and up-grading training need for teachers (MoU with PLA)

- **Solutions for mechanization**

Machinery Ring Association

- ✓ Bringing together those and those without access to machinery
- ✓ Alleviation of field work load (women, children)
- ✓ Better use of existing machines
- ✓ Faster introduction of newer technology
- ✓ Need for a manager
- ✓ Services to 3rd parties (e.g. airport, communal services)

- **Needs**

- ✓ Fixed repair workshop with back-up by Polytechnic College
- ✓ Mobile emergency service at fields
- ✓ Spare part supply system
- ✓ Diesel, oil, grease etc. supply system
- ✓ Support to MRA manager by Agricultural College and/or University
- ✓ Training opportunities for machine owners and operators
- ✓ Making available to farmers all the good machines already in the country

- ✓ Improving the accommodation of machinery when not being used (e.g. combine harvester, irrigation pipes, planters, sprayers)
- ✓ Improving the maintenance and repair of government owned machines
- ✓ Import of machinery according to technical recommendations and ability to use (buying with obligation to train in practice at least 20 operators = multipliers)

- **Results**

- ✓ If using the already available resources, the production within Lesotho could at least be doubled immediately.

Field Verification

Methodology

A desk research was conducted on potato value chain in Lesotho, this formed the basis for literature that was used to undertake a stakeholder's analysis of all active players in the Potato Production Industry.

Upon identification interviews/ meetings were then scheduled with the Potato Lesotho Association, Coop – Lesotho, Ministry of Small Business Cooperatives and Marketing representatives in the Potato Lesotho Task Team.

To verify the findings from the desk research and stakeholder meetings, BEDCO in collaboration with the Potato Lesotho Association, undertook side visits to 4 districts with regions that are active in potato production. Interviews were conducted individually and in groups, our individual surveys were conducted on a minimum of three individuals in a region, this totaled to 23 individual surveys using a questionnaire and 1 stakeholders forum that was held in Mokhotlong. The survey also included production plant inspection for those individuals who were active in processing. All interviews were active and prospective members of the Potato Lesotho Association.

BEDCO Field Findings

Stakeholder Analysis and its finding

Potato Lesotho Association

Introduction

The establishment of Potato Lesotho Association, in accordance with the international nomenclature in the potato industry, and the ongoing mobilization and organization of small-scale farmers in Lesotho to awaken to opportunities in the potato industry were influenced by the following factors:

Potato Lesotho Association Supports;

- Access to seeds through collective purchases
- Access to potato packaging through collective purchases
- Training on all stages of Potato Production (Mr Chaka Ntsane- PLA Chairman, has written a book on Potato Farming)
- Access to Market for finished products - collective selling of potato products under the PLA Brand name

Potato Lesotho Association Structure

In accordance with the constitution, the Association has now manned the following Technical Committees with paid-up members:

1. Seed Propagation
2. Ware potato production
3. Marketing
4. Processing
5. Mechanization
6. Training Committee

In addition, the following support structures have been created and manned:

- a) Finance and Compliance Task Team
- b) Annual General Meeting Task Team
- c) Mid-Summer exhibition Task Team
- d) Procurement and acquisition Task Team

Challenges

- Machinery Scarcity
- Skills Scarcity
- Lack of support capacity from the Ministry of Agriculture (Scarce Machinery)
- Limited Storage Capacity
- Inputs are provided at a limited capacity by the government (seeds are usually supplied late)
- Limited Access to ideal infrastructure – Refrigeration
- Market Preferences - need for clean potatoes, need for function specific potatoes)
- A need for marketing agents to assist with market penetration

Need/ Assistance Needed

- Value Chain
- Seed Production (Semonkong)
- Nutrition (fertilizer handling)
- Manure Handling
- Health care (pesticides) –
- Field Husbandry
- Investments in mechanization
- processing and storage
- Distribution
- Need for recycling of by products (vodka production)
- A need for marketing agents to assist with market penetration
- Appraisal of Business plans by bankers is a challenge as they are predominantly commercial banks and they are not willing to invest in risk (do not accept seasonal payment plans by farmers)
- Need for support in financial inclusion in rural areas.

Coop – Lesotho

Introduction

Coop – Lesotho is the mother body of all cooperatives in Lesotho, it was established in 1947 and has been government led till 1981 when it registered under the Cooperatives Act. Coop Lesotho manages more than 65 estates country – wide.

Coop- Lesotho Supports;

- Market Access
- Representatives of Cooperatives nationally and internationally
- Intermediates in disagreements among Cooperative members
- Facilitates trainings for Cooperatives

Coop – Lesotho & PLA MOU;

Coop – Lesotho recognizes the knowledge and skills in Potato Farming possessed by the members of the Potato Lesotho Association. The MOU signed between PLA and Coop Lesotho is meant to facilitate for trainings of potato producing cooperatives by PLA, this MOU facilitates access to Coop Lesotho storage facilities for PLA and Coop- Lesotho members.

Challenges for Coop Lesotho Potato farmers

- Poor irrigation systems
- Limited access to financing for agriculture
- Challenges in access to implements
- Lack of proper storage facilities – Coop Lesotho Storage facilities are dilapidated
- No Cold rooms in existing facilities
- Limited self-financing mechanisms existent in rural economies
- Low levels of skills and motivation

Need/ Assistance Needed to aid potato farmers

- Refurbishment of Coop – Lesotho warehouses
- Need for increased partnership by organizations to facilitate for strengthening of potato value chain

- Facilitation of access to implements and inputs
- Access to irrigation systems
-

Ministry of Small Business Cooperatives and Marketing

Introduction

MSBCM is supporting the Potato Lesotho Association in areas such as;

- Market Access; which includes linkages and promotion of networks
- Negotiations; which facilitates a producer client's intermediation where disagreements exist

Challenges

- Products are not standardized and categorized properly
- Limited skills in marketing
- Challenges in costing products
- Lack of proper storage infrastructure which spoils products before market penetration
- Lack of proper storage means we are not able to take advantage of the seasons when potato products are not available

Need/ Assistance Needed

- Trainings in marketing and product costing
- Coordinated support from all government agencies
- BEDCO and MSBCM could collectively apply for a fund under SADP to facilitate for market expos for potato products
- Localized seed production

Survey Interviews and its findings

Statistical Analysis

A total of 23 potato farmers were interviewed in the seven districts of Lesotho which are Maseru, Mafeteng, Mohale's Hoek, Berea, Quthing, Thaba Tseka, and Mokhotlong. 10 out of the 23 farmers were Male, with 13 Females farmers participating in the Survey, women have the highest representation. The most active participation in potato farming seems to be in Maseru, a total of 7 participants interviewed were from the Maseru, the remaining districts had between 2 and 3 representatives each.

Our results indicate that the potato production cycle is highly labour intensive and offers a high number of casual labour employment. Casual labour fees range from M 25.00 to M 60.00, incidences where labour fees are high occur where labours are payed in potatoes as cash is not readily available. In adverse situation potatoes are sold for grain (butter system) which indicates a need for financial inclusion.

Employment per acre is highest in Maseru with an average of 14 casual employees per acre, it is followed by Mokhotlong with an average of 8 casual employees per acre, Mafeteng is at 6 per acre, the remaining districts of Mafeteng, Mohale's Hoek, Berea, and Quthing employ around 4 casual employees per acre.

With respect to mechanization/ means of production, all farmers in Maseru use cows for potato production, which explains the high casual labour employment rates. Thaba Tseka and Quthing also predominately use cows for production and other districts use a mix of both tractors and cows. Maseru and Thaba Tseka also have the largest land under cultivation which shows that if mechanization of the districts can be pursued, national production would increase significantly although at a cost to casual labour employment rates.

The average price of a 10kg bag of potatoes is between M 40.00 and M 60.00 across all districts, and average profitability in the business is at above 50%.

Potato and seed Farmers

| District | Challenges | Opportunities |
|--|--|--|
| Berea | Internal | <ul style="list-style-type: none"> - High profitability in potato sales - High Demand for potatoes |
| | <ul style="list-style-type: none"> - Lack of quality standards authority deters market penetration - There are national delays in access to seeds from the Ministry of Agriculture - No available medication for diseases specific to potatoes - Lack of proper storage facilities, potatoes get spoilt or must get traded for maize to avoid losses - How yield of losses due Low levels of knowledge in ideal pesticides and insecticides ideal for potatoes | |
| | External | <ul style="list-style-type: none"> - Subsidization of inputs - Hiring of potato machinery - Technical Handling Training - Import Restriction |
| | <ul style="list-style-type: none"> - Weather conditions (Drought and Floods) limit good yield, El Nino effects have affected yields adversely. - Delivery costs /Transportation is expensive to the nearest market (M 5.00 per Bag) - Low local market and low levels of financial inclusion (trade occurs in batter-system) - Agricultural specialists are local far from the farm and are easy accessed - Theft of potatoes at fields - Labour is expensive as they must employ a lot of people in the 3 stages of planting, (because of use of traditional planting methods – cows) | |
| Mohale's Hoek | Internal | Opportunities |
| | <ul style="list-style-type: none"> - Need for access to cleaning, packaging and classification equipment - Limited storage facilities to help with longer product cycle | <ul style="list-style-type: none"> - High capacity to produce - Localization of seed production Exports of seed in the SADC region |
| | External | Assistance Needed |
| <ul style="list-style-type: none"> - Harsh weather condition ruin yield (snowfall) - Banks are risk averse to financing agricultural projects (no insurance for agricultural products currently exists) - Access to machinery | <ul style="list-style-type: none"> - Certification of seed production in Lesotho - Mechanization through leasing or hiring - Follow ups of farmers - Increased trainings through exchange programmes overseas | |

| District | Challenges | Opportunities |
|----------|---|---|
| Quthing | Internal | <ul style="list-style-type: none"> - Land is available for production - Soil is fertile and there is no need for fertilizer |
| | <ul style="list-style-type: none"> - Lack of consistent trainings - Cows are a less efficient means of cultivating land and harvesting potatoes - Cows are limited in supply - Harvesting Labour is expensive because of longer time spent in harvesting - | |
| | External | Assistance Needed |
| | <ul style="list-style-type: none"> - Distance to market is far - Market access is a challenge - Climate change effects - Lack of available pesticides and insecticides - Expensive pesticides - Poor roads infrastructure increasing transportation costs - Market Access challenges; (clients complain about product inconsistencies – products are not consistently supplied and are not standardized) Chinese have contracts that exist and are unwilling to change suppliers | <ul style="list-style-type: none"> - Access to machinery (tractors, planting, harvesting, cleaning and grading machines) - Localized supply of inputs (Seeds and Medication) - Access to Transportation as farms are in remote areas - Technical skills training - Business management training - Assistance with establishing a market for other products such as sorghum. - Proper storage facilities for potatoes |



Potato farmers in Ha Leihloana, Mphaki, Quthing, Lesotho

| District | Challenges | Opportunities |
|------------|--|--|
| Mokhotlong | Internal | <ul style="list-style-type: none"> - Available market (Letseng) - Agriculture Expansion - High Employment potential |
| | <ul style="list-style-type: none"> - Grading potatoes using hands results in standardization challenges - Need for access to a proper storage facility with refrigeration, products get spoilt because lack of a proper storage facility - Lack of machinery limits production - Traditional means of farming (cows) are less efficient (not well fed) and are in limited supply - Low technical and marketing skills levels - Storage facilities are not available, and potatoes get spoilt | Assistance Needed |
| | External | <ul style="list-style-type: none"> - Hiring of tractors - Input subsidies (seeds) - Access to market support - Localized storage facilities - Increasing accessibility of Inputs - Technical trainings - Business management trainings - Green houses are needed (cold weather) - Access to implement s and irrigation systems (at affordable costs) - Hiring of Machinery (cleaning and grading machine access) |
| | <ul style="list-style-type: none"> - Transportation costs for inputs in high as they are sourced from Maseru - Expensive medication - Limited access to cows - Cold weather conditions (limited time to plant potatoes) winters are longer and summers are shorter - Low financial inclusion – trading is butter system based - Delays to access to inputs (Ministry of Agric supplies potatoes late in the planting season) | |



Stakeholders Forum at Mokhotlong, participants; local potato farmers, District Administrator, PLA Lesotho, MSCM, BEDCO

| District | Challenges | Opportunities |
|--------------------|---|---|
| Maseru | Internal | <ul style="list-style-type: none"> - Opportunities in processing of Cut Chips, and Vodka - Fertile soil for production - High profitability - Processing of potatoes - High production potential - Large market for potatoes - Location ideal for seed production - Potato has potential export markets through AGOA - There is a high local demand for seeds - Seed production is more profitable - Availability of water - Soil is under utilized |
| | <ul style="list-style-type: none"> - Specialized freezers are needed for potato chips freezing before packaging (Potato chips need to be separately frozen) - No formal support exists in terms of technical skills in processing - Need for refrigerator van for delivery | |
| | External | |
| | <ul style="list-style-type: none"> - Variations of potatoes planted prevent standardization (very few farmers are aware of, and plant potatoes specific to potato chips) - Limited supply of potatoes ideal for potato chips freezing exist - Machines are sourced in China and no local manufactures exist, repair and specialized blades are impossible to acquire - Lower competitive prices from south Africa creates competition and lowers sales - High delivery costs – transportation is expensive | |
| | | Assistance Needed |
| | | <ul style="list-style-type: none"> - Inputs should be accessible - Hiring of mechanization should be made available - Transportation should also be made available at affordable rates - Business Management Skills Training - Technical Skills Training in Potato handling |
| Thaba Tseka | Challenges | Opportunities |
| | Internal | <ul style="list-style-type: none"> - Large Market |
| | <ul style="list-style-type: none"> - Lack of technical and business management training - Costly transportation | Assistance Needed |
| | External | <ul style="list-style-type: none"> - Guarantees for the agricultural sector - Technical trainings - Business Management Trainings - Inputs subsidy - Storage facilitation - Transportation - Market facilitation - Unused land - Access to tractors (hired) - Loan facilitation |
| | <ul style="list-style-type: none"> - Our potatoes are not properly stored, we are unable to take advantage of the market gap - Access to finance is a challenge in the Lesotho banking sector - Weather excessive rains and cold ruin potato product - No existent product distribution channels to market - Inputs are expensive - Need for tractors | |

| District | Challenges | Opportunities |
|----------|---|--|
| Mafeteng | Internal <ul style="list-style-type: none"> - Specialized freezers are needed for potato chips freezing before packaging (Potato chips need to be separately frozen) - No formal support exists in terms of technical skills in processing - Need for refrigerator van for delivery | <ul style="list-style-type: none"> - Large market for potatoes - High employment potential - High profitability - Low cost of production if equipment is available |
| | External <ul style="list-style-type: none"> - Variations of potatoes planted prevent standardization (very few farmers are aware of, and plant potatoes specific to potato chips) - Limited supply of potatoes ideal for potato chips freezing exist - Machines are sourced in China and no local manufactures exist, repair and specialized blades are impossible to acquire - Lower competitive prices from south Africa creates competition and lowers sales - High delivery costs – transportation is expensive | Assistance Needed <ul style="list-style-type: none"> - Seeds should be made accessible - Storage facilities should be provided close to production areas - Transportation for seed and potatoes should be provided at affordable prices - Business Management Trainings - Technical Training in potato handling - Inputs should be brought closer - Machinery leasing should be provided |



PLA training session in Matelile, Mafeteng

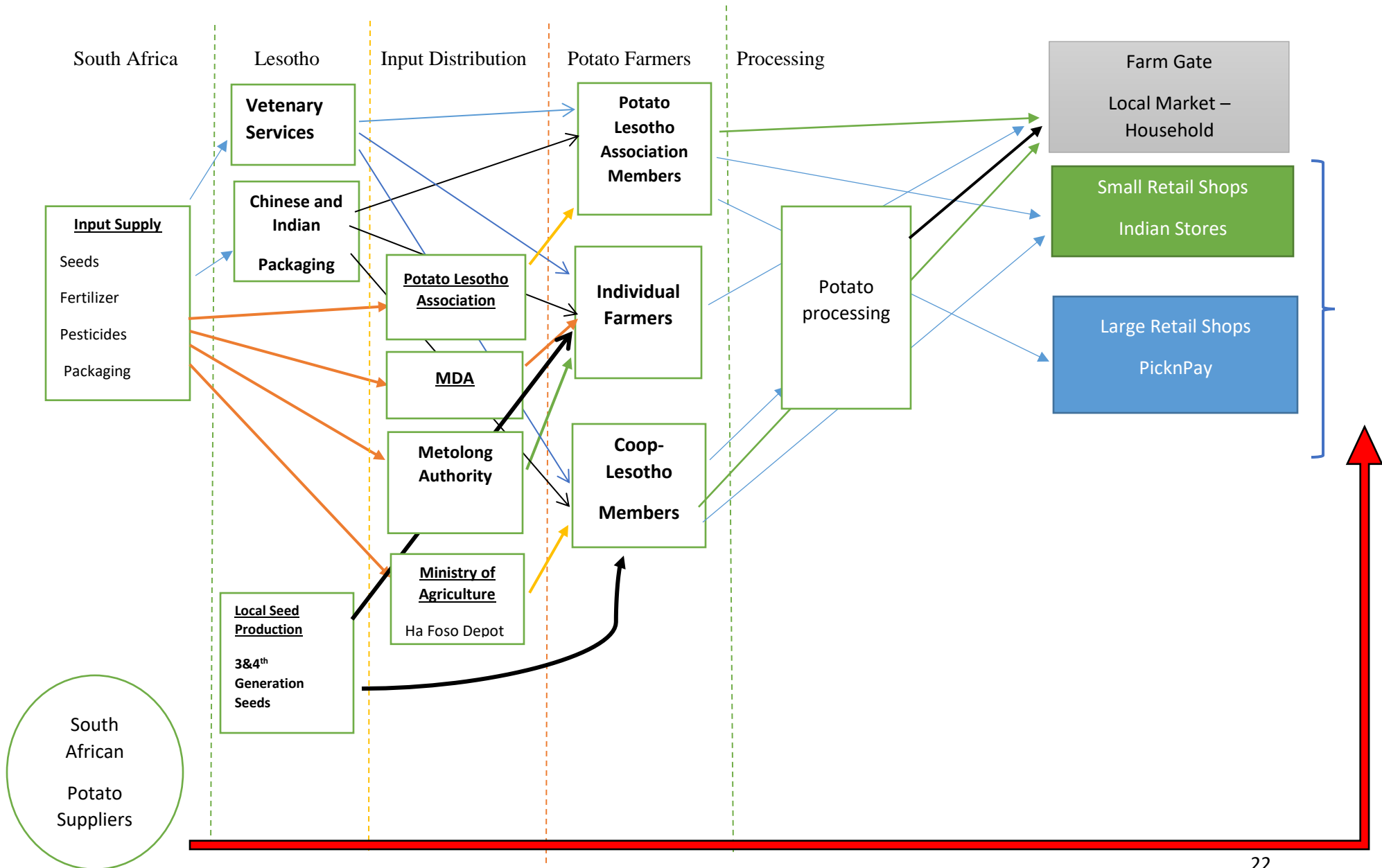
Potato Processing

| District | Challenges | Opportunities |
|----------|---|---|
| Maseru | Internal | |
| | <ul style="list-style-type: none"> - Specialized freezers are needed for potato chips freezing before packaging (Potato chips need to be separately frozen) - No formal support exists in terms of technical skills in processing - Need for refrigerator van for delivery | <ul style="list-style-type: none"> - Processing of offcuts into other products such as Vodka - Potential Potato Chips Market - Potential Production of yoghurt and baby food |
| | External | Assistance Needed |
| | <ul style="list-style-type: none"> - Variations of potatoes planted prevent standardization (very few farmers are aware of, and plant potatoes specific to potato chips) - Limited supply of potatoes ideal for potato chips freezing exist - Machines are sourced in China and no local manufactures exist, repair and specialized blades are impossible to acquire - Lower competitive prices from south Africa creates competition and lowers sales - High delivery costs – transportation is expensive | <ul style="list-style-type: none"> - Acquiring a blade to process Simba chips - Localized processing equipment production and sales and maintenance services - Technical expertise trainings - Market access trainings (standardization) - Savings and credit institutions should be pared with enterprise development (caritas – bedco) - Value chain opportunities trainings should be facilitating |



Potato chips processing plant at Ha Motlehelo, Maseru, Lesotho

Lesotho Potato Value Chain



Conclusion

BEDCO has explored the current challenges and opportunities faced by potato producers, potato seed producers and potato processors in Lesotho. What has been distinct about our research is we have been able to interact with the stakeholders and individual farmers in the country. Our research findings indicate that a lot of work still needs to be done to strengthen our input supply;

- (1) South Africa is participating actively in input supply industries which include seed production, packaging production, pesticide production, which need to be taken up by local enterprises for the sustainability of this sector.

Despite the evident input supply challenges;

- (2) Availability and access of appropriate machinery is a challenge in production and procession of the potato product. Farmers are still relying on the depleting cows for cultivation even though they face major challenges in terms of efficiency and capacity to plough land as compared to tractors. Even though there is a willingness to pay for a tractor, tractors are limited in supply and government tractors are said to be giving priority to the politically connected members of society, however, there is generally a huge scarcity of tractors.
- (3) Planting and harvesting machine can save a lot of yield that is lost through employment of poor harvesting methods, the high cost of labour could also be diverted if most of the operations are mechanized.

In terms of marketing and sales;

- (4) The lack of proper storage capacity causes farmers to keep their potatoes unharvested until such a time that demand booms, however, floods ruin the potatoes leading to high losses. There is a need to establish storage facilities with refrigeration capacities across the country, this will help in keeping potatoes fresh until around February when the supply is low, and the market is high for potatoes.
- (5) There is also a need for cleaning and grading machinery, Lesotho potatoes are of high quality, but because of poor cleaning and grading which is normally done manually, Lesotho potatoes are unable to fetch higher prices in the market. In the establishment of

national potato collection centers, it would be ideal to have cleaning and grading done collectively at such centers.

There is a need to license production of seed in Lesotho, this is because Lesotho has been identified as the most suitable area for potato seed production. Trials are already taking place at Semonkong by Wes-grow, a South Africa seed producer. The National University of Lesotho needs to take ownership of all research in the potato production sector, Lesotho must trial and license its own seed and producers. Research and innovation must also be enhanced to help entrepreneurs to engage in processing industries as a means of providing value addition in our economies and to minimize by-product waste.

Recommendations

There is a growing demand for local produce, such as potatoes. The Government of Lesotho and its agencies such as BEDCO, must work towards coming up with strategies that will help grow the industry to increase economic growth and employment.

The most appropriate system would be that of one body representing all farmers in Lesotho, preferably the Potato Lesotho Association. With promises of Coop – Lesotho Warehouses, government agencies can collectively assist in the refurbishment and equipping of these warehouses with cleaning, and grading machinery, packaging will be under one brand and sales shall be under the PLA brand. Farmer payments shall be made at such centers and the rate of the potato shall be determined by prevailing market condition.

The Potato Lesotho Association can also provide capacity building with the aid of relevant institutions. Input procurement can also be done collectively to avoid the delays that normally occur with the Ministry of Agriculture seed sales. This collective buying will ensure proper market timing of potato produce and will ensure consistent sales throughout the harvesting season. Access to finance challenges should also be looked at at national level, with special emphasis placed on resurrecting the Agricultural Bank of Lesotho or the establishment of a Development Finance Institute in the country. Cashless rural economies also need to be assisted with financial inclusion

interventions, possible partnerships with BEDCO and Caritas Lesotho may bridge the access to start up financing challenge for rural and urban producers.

Way Forward

1. BEDCO in collaboration with Potato Lesotho Association should create potato production specific training programmes;
 - Technical trainings in potato handling
 - Business management trainings
 - Market access trainings
2. The Government of Lesotho should work towards creating storage facilities nationally, like the one in Likalaneng;
 - BEDCO should play an advocacy role towards achievement of this recommendation.
3. A national database of all value chain practitioners in the potato production business of Lesotho should be created; with readily available and accessible supplier information starting a potato production business will become easier;
 - BEDCO should create a national small business database in collaboration with the Ministry of Small Business Development Cooperatives and Marketing and the Ministry of Agriculture and Food Security, as a step towards building a complete national database.
4. Quality checks should be frequently conducted on Potato production sites;
 - BEDCO should play an advocacy role towards supporting the Potato Lesotho Association towards the achievement of this initiative.
5. Trainings on innovative technologies - processing machines in the potato production sector should be pursued to scale up value addition for aspiring entrepreneurs;
 - Incubation programmes could be created with focus on Potato Production and Processing, collaboration can be sought from the National University of Lesotho in running these programmes (e.g. how potatoes can produce yoghurt and baby feed).
6. Machinery leasing for startups will aid in lowering the barriers to entry into business;
 - Input costs are very high and planting, harvesting, cleaning and categorizing machinery can be leased to entrepreneurs, where follow ups can consistently be made to ensure repayment.
7. Areas identified as suitable for potato production should be legally reserved for agricultural productivity.
8. Assistance with green houses and irrigation systems to combat the effects of the el nino.
9. Development of a national agricultural bank that meets the needs of the seasonal loan repayment system must be pursued.