

‘Innovations in Technology, Institutional and Extension Approaches towards Sustainable Agriculture and enhanced Food and Nutrition Security in Africa’



South Africa Country Report

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1. Introduction

Despite efforts made in agricultural research, extension services and government institutions in the past, food and nutrient security remains a major challenge for smallholder farmers in South Africa (NPC, 2012). Liebenberg (2015) characterized the South African smallholder farming system as the small farms that are labour-intensive, uses indigenous knowledge and often lack resources, institutional capacity and extension advisory support. Consequently, the majority of the smallholder farmers produce for subsistence under rainfed farming systems and very small number of them market their produce (Pienaar and Traub, 2015). Therefore, there is a vital need to increased food production for the smallholder farmers, and these advances will need to be made with the added problem of diminished productive agricultural lands and predicted climate change (Calzadilla et al., 2014).

Despite uncertainty about future changes in rainfall in South Africa associated with the coarse scale of global climate models used for predictions, climate change models consistently predict increased incidences of drought (Calzadilla et al., 2014). Changes in temperature, rainfall and the frequency or intensity of extreme weather events associated with climate change will directly affect the lives of smallholder farmers in South Africa by affecting their crop and animal productivity as well as their household's food security, income and well-being (IPCC, 2014).

Integrated innovations initiatives are required to improve the productivity of the smallholder farmers in South Africa, while reducing negative environment impacts, as potential impacts of climate change advances. The **InnovAfrica** project is one of the initiatives which aimed to improve food and nutrition security in eastern and southern Africa while sustaining the environment. In South Africa, **InnovAfrica** aims to validate the most innovative Sustainable Agricultural Intensification (SAI) and Extension Advisory Systems (EASs) through farmer-led on implementation supported by the Multi-Actor Platforms (MAPs) systems for wider adoption by smallholder farmers.

2. Project sites description

2.1 Location of the study sites

The two project sites are located within Maluti A Phofung municipality, found in the eastern parts of Thabo Mofutsanyana district in the Free State province of South Africa (Figure 2.1). The municipality covers an area of approximately 4 421 km² subdivided into 35 municipal wards (Maluti-a-Phofung Local Municipality, 2017). Site 1 is located in the central region of Maluti A Phofung, nearby Harrismith town, while Site 2 is found in the rural villages of QwaQwa, close to Phuthaditjhaba in the southwestern corner of the municipality. Harrismith serves as the main economic hub for the surrounding rural areas, providing good road linkages to Gauteng and Kwazulu-Natal provinces (Maluti-a-Phofung Local Municipality, 2017).

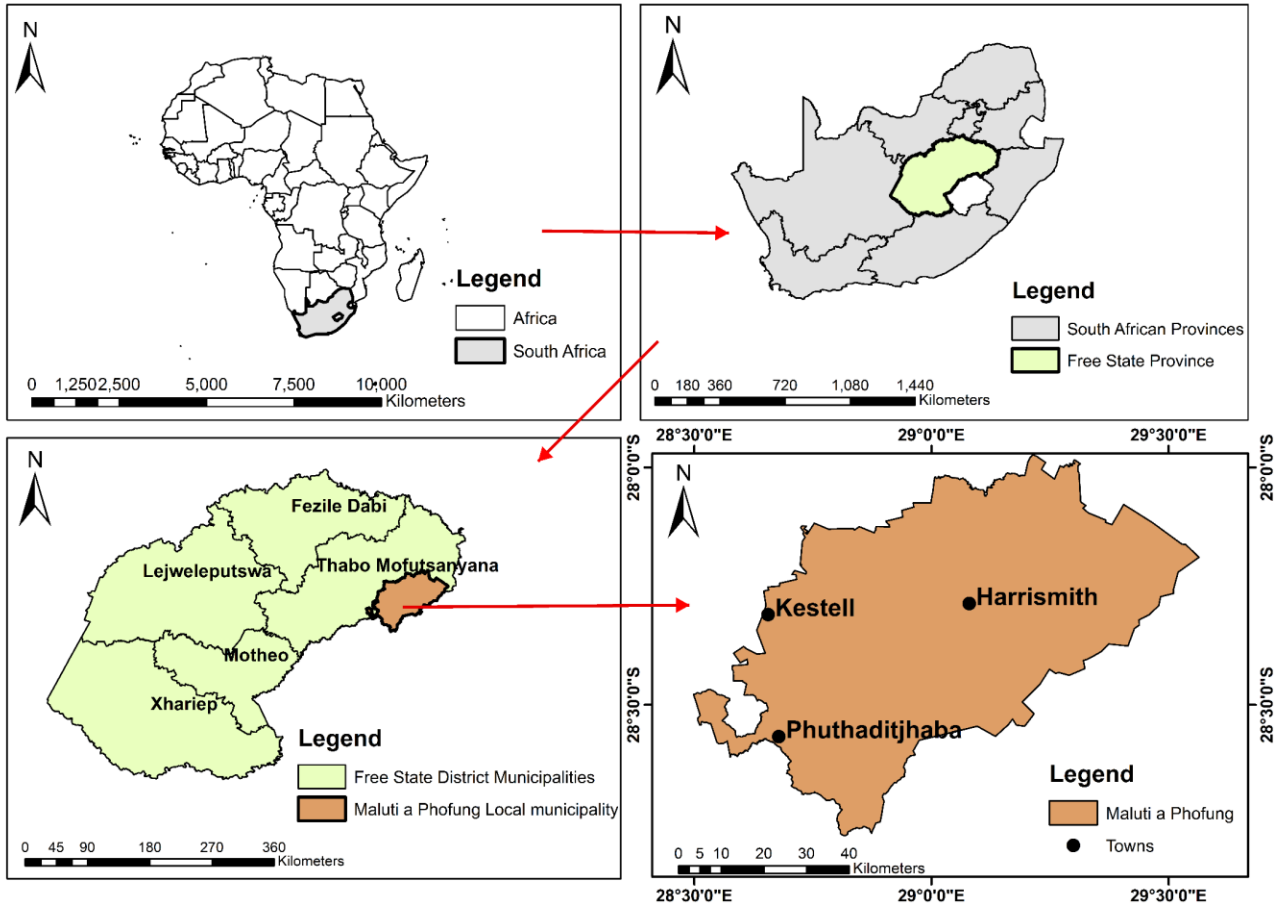


Figure 2.1: Locality of Maluti A Phofung municipality and the three main towns found in the area.

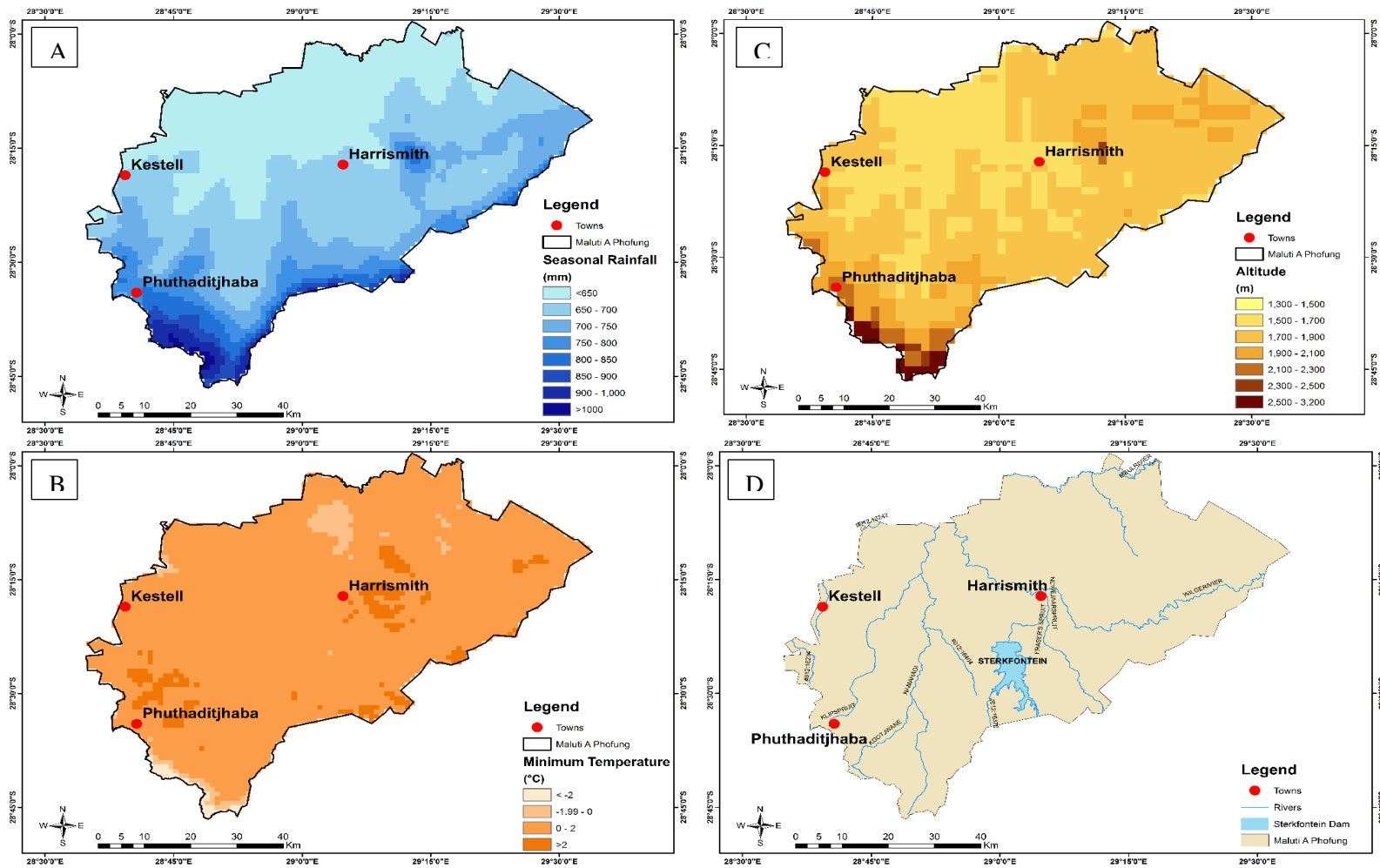


Figure 2.2: Long-term mean seasonal rainfall (A), minimum temperature (B), topography (C) and hydrology (D) in Maluti A Phofung municipality.

The climate in Maluti A Phofung Local municipality is characterized by hot, humid summers and cold winters (DRDLR, 2009). The municipality experiences frequent snowfalls during winter, especially on the higher mountain ranges (DRDLR, 2009). Rainfall season in this area occurs mainly in summer as brief afternoon thunderstorms (ARC, 2016). Figure 2.2 shows the variation in the long-term mean seasonal rainfall, occurring from October to April. This variation in rainfall is greatly influenced by orographic patterns, in which the regions on the higher ranges experience up to 1000 mm of seasonal rainfall, with the northwestern region regarded as the driest (<650 mm seasonal rainfall).

The municipality receives its water supply from the Sterkfontein dam and other non-perennial rivers in the area (Figure 2.2). However, a report by DRDLR (2009) highlighted that despite the good source of water in the municipality, there is limited water supply in the area due to various challenges such as limited or no internal water reticulation systems.

The area is not only a tourist attraction destination (QwaQwa National Park, Platberg, Sterkfontein Dam and Maluti Mountain Range), but also makes a big contribution in generating gross agricultural income for the whole of the Province (DRDLR, 2009). The main agricultural activities within the local municipality involve the following: Cattle, Dairy, Maize, Wheat, Dry Beans, Apples, Potatoes and Vegetables (Maluti-a-Phofung Local Municipality, 2017).

2.2 Main challenges in the project study sites

2.2.1 Environmental challenges

According to the Integrated Development Plan (IDP) of 2016/2017, there are areas which are identified as “Hotspots” of poorer air quality in the Maluti-A-Phofung municipal (IDP, 2016).

Smoke pollution in winter from fuel wood and coal fires spread across the areas including the rural Phuthaditjhaba, Harrismith, Kestell and Tlholong. Heavy cloud from incinerator at landfill sites pollutes the surrounding areas of Thabo Mofutsanyane local Municipality. Burning of plastics and tyres at landfill and dumping sites Harrismith and surrounding areas contributes to the poor air quality.

Incorrect storage and prolonged exposure to Benzene at all filling stations in rural Phuthaditjhaba and Harrismith cause environmental stress. The filling stations in Kestell and Tlholong dispose Benzene inappropriately.

Furthermore, dust bowls from surrounding farms and unvegetated areas within Thabo Mofutsanyane, contributing to the poor air quality.

Noxious odours from land uses such as abattoirs, pig farms, brick making and spray painting are a problem in Phuthaditjhaba near the Thabo Mofutsanyana District offices.

According to the Agro-meteorology committee (2014), the pasture is poor in the Free State Province but reasonable in Mangaung Metro and Xhariep Districts that are under irrigation. Veld fire caused damage to infrastructure and livestock mortality in Mohokare, Maluti-A-phofung and Dihlabeng Local Municipalities. According to the Agro-meteorological committee (2014), veld fires were reported in Harrismith which resulted in loss of lives, damage to infrastructure and livestock mortalities.

Farmers in Reddersburg, Jagersfontein and Edenburg are affected by hail which increase the rate of sheep mortality especially in Jagersfontein.

Farmers in Ficksburg suffered cattle mortality due to an unknown disease.

Finally, there is a problem of overgrazing in the Maluti-A-Phofung (IDP, 2012).

2.2.2 Climate challenges

Drought is one of the major agro-climatological hazard which affects agricultural production in Free State (Moeletsi et al., 2016). According to the IDP (2016), Maluti-a-Phofung municipality has experienced rainfall below average over the past few years. Below normal rainfall in most parts of the province which showed the signs of drought (Agro-meteorological Committee, 2015). Very cold conditions have been reported especially in Frankfort, Wepener and Fauresmith. Consequently, insufficient rainfall has created pressure with regard to the supply of water for agriculture, household, industrial and business usage. Therefore, Free State province was declared a state of drought disaster in September 2015. The yields of maize, sunflower and grain sorghum were significantly affected by drought in the municipality (Agro-meteorological Committee, 2016).

Agro-meteorological Committee (2015) reported veld fires associated with dry conditions in Thabo Mofutsanyane District which damaged infrastructure, veld, and livestock mortalities. Agro-meteorological Committee (2016) reported veld fires and light snow in Paul Roux and Qwa Qwa, which damaged crops and vegetation. Veld fires were also reported in Koppies, Kestell and Harrismith Agro-meteorological Committee (2015). Frost is also regarded as the one of the major natural hazards which affect agricultural production in Free State Province (Moeletsi et al., 2016). The condition of natural field is reasonable but wilted due to frost which affect the planting dates especially in maize fields (Agro-meteorological Committee, 2016).

2.2.3 Socio-economic challenges

According to the IDP (2016), South Africa is having high unemployment rate. Maluti a Phofung has the worst unemployment rate within the Thabo Mofutsanyane District and the other local municipalities have unemployment rates that are below the district and provincial unemployment rates. Most of the Thabo Mofutsanyana District Municipality citizens are self-employed and others engaging in cultural artifacts such as sculpting, pottery in order to earning some living out of it. According to the (IDP, 2016), not all communities of Thabo Mofutsanyana District Municipality have access to government facilities that provide social services. In many cases the facilities are dilapidated and not well maintained. Budgetary constraints have negatively affected care facilities for the aged and challenged. Youth have turned to alcohol and drugs, and there has been an increase in violence against women and children.

Table 2.1: Summary of the main environmental, climate and socio-economic challenges faced by smallholder farmers at the project study sites in South Africa

Environmental	Climate	Socio-economic
Air pollution	Drought	Poverty
Land degradation	Floods	Unemployment
Overgrazing	Frost and hail	Poor infrastructure
Veld fires	High rainfall and temperature variations	Education

2.3 Major stakeholders relevant for InnovAfrica project

To ensure the project has wider impact on the livelihood of the smallholder farmers, Department of Agriculture, Forestry and Fisheries (DAFF), Free State Department of Agriculture and Rural Development, traditional leadership, VKB Agriculture and non-governmental organizations such as African farmers association of South Africa (AFASA), will be involved in the process of analysis, planning, implementation, monitoring and evaluation, and knowledge sharing.

The involvement of the DAFF will provide institutional supports to the project and assist by taking the project outcomes into policies and the development plans that will ensure that the **InnovAfrica** project recommendations are put into action, to ensure nutrients and food security for smallholder farmers while sustain the environment. Furthermore, the involvement of the Free State Department of Agriculture and Rural Development will assist by providing the extension advisory to the research group and farmers for wider dissemination of the SAI systems to the smallholder farmers. Moreover, the involvement of the African farmers association of South Africa (AFASA) will ensures the wider dissemination and uptake of information through field days, demonstrations, and participatory evaluations of project activities. The involvement of the VKB Agriculture as one of the stakeholders will assist in provision of equipment and inputs. Moreover, the involvement of the traditional leadership will allow the allocation of the enough communal fields where experiments to validate SAI systems of the **InnovAfrica** project will be conducted.

3. Promising Sustainable Agriculture Intensification, Extension and Advisory Services and Institutional Approaches in South Africa in general and in specific project sites

3.1 Sustainable Agriculture Intensification systems

The production of smallholder farming in South Africa is often characterized by low yields due to limited water and nutrient availability, degraded soils, ineffective water and nutrient management practices (Walker and Schulze, 2006). Consequently, the ineffective water and nutrient management practices have resulted in serve environmental impacts such as groundwater depletion, soil fertility degradation, soil erosion and leaching of nutrients into downstream (Goldblatt, 2010). Therefore, conservation agriculture and soil-water management are the most promising SAI systems that has the potential to contribute to improved productivity and ultimately food security while at the same time ensuring environmental sustainability in South Africa

(Blignaut et al., 2015). Conservation agriculture consists of three basic principles i.e. continuous minimum mechanical soil disturbance, permanent organic soil cover and diversification of crop species grown in sequences and/or associations (Meyer and Burger, 2011). Within this context, zero-tillage, crop rotation, intercropping, use of crop cover, green and animal manure practices are the most common methods that have been promoted and used by smallholder farmers in South Africa (Smith et al, 2016). The **InnovAfrica** project will upscale maize-legume rotation, maize-legume intercropping practices as the SAIs systems in South Africa for wider adoption by smallholder farmers in Site 2 (Phuthaditjhaba). Furthermore, with reference to the Site 1 (Harrismith), where crop production is mainly for livestock consumptions, InnovAfrica project will upscale maize-fodder legume intercropping, maize-fodder legume rotation and fodder-legume cropping systems.

Water is one of the key and the limiting natural inputs in the agricultural productivity in South Africa, and yet water productivity for rainfed agriculture is low in most sub-Saharan Africa farms (Moeletsi and Walker, 2013). As little can be done to increase the amount of rainfall or the number of rainfall events, adaptive strategies for smallholder farmers to rainfall variability in South Africa have focused on increasing the amount of water that enters the soil, while the amount of moisture lost through runoff and evaporation is minimized (Annandale et al., 2011). Within this context, different soil-water management practices such as mulching, planting on contour and rain water harvesting have been recommended to smallholder farmers to improve soil moisture content and water-use efficiency (Moswetsi et al., 2017). However, these soil-water management practices are rarely adopted in smallholder farming mainly due to low priority of government to agriculture, women and youth not targeted, illiteracy, lack of resources, knowledge and skills (Cele, 2016). Although soil-water management practices is not one of the SAIs to be tested or scaled-up in the **InnovAfrica** project, increasing rainwater productivity through soil-water management practices in rainfed farms is the key element of increasing agricultural yields while reducing environmental impacts from soil erosion and leaching of nutrients from agricultural fields. Integration of indigenous knowledge and scientific agricultural management practices to enhance rainwater productivity would increase adaptive and adoption capacity of smallholder farmers. It is recommended that soil-water management practices should be scaled-up in South Africa, as one of the SAI systems for the **InnovAfrica** project.

3.2 Innovative Institutional Approaches

In order for smallholder farmers to actively use and adopt different SAI systems to improve their food and nutrient security while sustaining environment, they need timely information, inputs, capacity-building, policy support and linkages with markets and formal and informal extension networks (Van Niekerk et al, 2011). Consequently, the weak or absence of vibrant support institutions at local level is one of the major challenges that constrain smallholder farmers to ensure long-term sustainability of the farming business in South Africa (Muchara and Mbatha, 2016).

Despite the significant institutional progress made to ensure that South Africa is nationally food secure, mobilizing civil society to implement agricultural projects and processes, poor integration between government departments in terms of project and programme implementation; and lack of institutional capacity to implement existing programmes remains the major challenges that need to be overcome at local level (Chitiga-Mabugu et al., 2013). This calls for the implementation of

capacity building initiatives to ensure sustainability of the smallholder farmers. The MAP is one of the capacity building initiatives that has shown potential to contribute sustainable agriculture through wider awareness and better integration of different stakeholders in Africa (Brouwer et al., 2013). Woodhill and van Vugt, (2011) defined MAPs as a process of interactive learning, empowerment and collaborative governance that enables stakeholders with interconnected problems and ambitions, but with often-different interests, to be collectively innovative and resilient when faced with the emerging risks, crises and opportunities of a complex and changing environment.

In this case country, **InnovAfrica** project will test the MAPs as one of the IIAs that is likely to ensure long-term sustainability of the smallholder farming business in South Africa. **InnovAfrica** project refer to the MAPs members as the expertise based on their experience in specific region. Moreover, MAPs will be engaged at all the project stages to maximize impacts of the results such as addressing production and marketing constraints and identifying opportunities to generate innovative product value chain pathways (WP4), ii) developing policy frameworks (WP5), and iii) dissemination and upscaling suitable SAI systems (WP6). Furthermore, the different stakeholders will be involved through a multi-dimensional approach such as demonstrations, workshops, seminars and farmers' information days. Involving related stakeholders will reduce vulnerability, enhance resilience of smallholder farmers and increase their adaptive capacity while sustaining their environment since they will be directly involved in the development, validation and selection of the SAI systems.

3.3 Extension and Advisory Services

There is plenty of information available in the public domain that covers various aspects of the SAI system in South Africa. However, such information is often scattered and presented in complex academic and scientific language that most of the illiteracy smallholder farmers fail to understand and utilize. Consequently, the lack of knowledge, skills and access to agricultural extension and advisory services is one of the major challenges facing smallholder farmers to adopt the SAI systems in South Africa (Cele, 2016). Despite the attempts of the South African government to promote access to agricultural EASs to the previously disadvantaged black smallholder farmers, EASs is less efficient because of the low level of literacy, shortage of the extension staff which is often under-resourced and under-qualified (Liebenberg, 2015).

Different EASs approaches have been used, given that there was no single approach suitable for all the regions of South Africa, given the diversities and dynamics of these regions. The participatory extension approach, participatory learning approach, participatory rural appraisals, rapid rural appraisals, participatory technology development, farmer field schools, innovative farmer workshops, and look-and-learn tours are the most EASs systems that have been promoted and implemented to improve productivity and ultimately food security of the smallholder in South Africa (Liebenberg, 2015). Despite efforts made in EASs in the past, food and nutrient security remains a major challenge for smallholder farmers in South Africa, due to inefficient implementation and adoption innovative technologies. Therefore, there is a vital need to explore new and different EASs approaches to know which approach is suitable for a particular region.

The Integrated Farm Planning (PIP) approach is a visionary farm plan that is development by all family members to transform smallholder farmers into more productive and sustainable farms (Kessler et al., 2016). Therefore, PIP approach is all about changing farmers' mind-sets, motivating and empowering them to transform their reality by conscious collective action. **InnovAfrica** project will test PIP approach as one of the promising EASs that is currently successfully being implemented in Burundi. The PIP approach will be tested in two communities of the Site 2, using a mother-baby approach. Where innovative farmers will be mothers, from which the other farmers can view, learn and adopt the successful SAI systems. Furthermore, farmer-led technology dissemination approaches will be employed such as the innovative farmers will subsequently train other farmers after graduation from the scientific researcher and or extension officer for wider dissemination of the SAI systems in the area. **InnovAfrica** project will also work with the agricultural co-operatives and community organizations.

Smallholder farmer's response to climate change and variability is highly depended on the information they obtain and use to decipher appropriate coping and adaptation strategies (Gukurume, 2014). Therefore, the need for advance warning at local level to smallholder farmers of the likely occurrence of extreme weather events and advices on how to cope and adapt, is becoming urgent as climate variability advances (Zwane and Montmasson-Clair, 2016). With the current explosive development in communication and information management technologies, it is now possible to make available meteorological, climatological, and hydrological information to farmers on near-real time (Lobo et al., 2017). The dissemination of the agrometeorological, value chain, market advisories in near-real time can assist farmers to prepare and make appropriate farm-management decisions to increase their productivity while they also sustain their environment. Although automatic advisories system that sends near real-time information to the farmers in their smartphones is not one of the EASs to be tested or scaled-up in the **InnovAfrica** project, such tool can assist to disseminate the crucial information to assist smallholder farmers to make on farm-related decisions and adopt strategies to cope with weather-induced risks on daily basis. Furthermore, dissemination of the agricultural advises on value chain, markets and funding opportunities through mobile telecommunication networks (via SMSs) directly to individual farmers can ensure long-term sustainability of the farming business of the smallholder farmers in South Africa.

4. Main VC actors/stakeholders, markets for the products

4.1. Background

InnovAfrica project selected farmers under the category of smallholder and subsistent farmers. Famers in site 1 are smallholder farmers who have bought land and it is assumed that they are interested in maximizing their income by selling their produce at a higher price. In site 2 the selected farmers are having diverse farming operations. Types of the farmers found at this site range from organized groups of farmers who are registered as a cooperatives and farm on big hectares of a communal land to households with access to fields of about 1 hectare. These famers are from historically excluded background and are made of vulnerable groups, in particular, youth and black women.

The government of South Africa is divided into three levels: national, provincial and local (municipal). Local government (including both district councils and local municipal councils) is primarily concerned with the coordination and implementation of development initiatives in the Free State Province. Government through its Public entities such as the Land Bank and Agricultural Research Council offer farmers variety of support programmes financial grant towards farmer support offerings such as Comprehensive Agricultural Support Programme (CASP), Land Care programme, Illema/Letsema and others to alleviate a dire situation of farmers.

It is important to note that in the Free State province there are a number of role players who partnered with the government to influence the provincial agricultural landscape. These include Private Agricultural Cooperatives which work with the Provincial Department to provide the right kind of support to smallholder farmers. Their support ranges from mentorship, to the provision of inputs, to research and technology assistance. Including the handling and storage of grain; the marketing of grain and agricultural derivatives; the marketing of primary farming inputs through commercial outlets; animal feed depots; the provision of credit; insurance brokers; and agricultural machinery and implements with supporting parts centres and workshops. Some of these cooperatives include AFgri, GWK, Senwes, Suidwes, OVK and VKB.

These good intentions are frustrated by the fact that smallholder farmers are faced with various challenges including human capital in the form of lack of skills, experience and knowledge and financial support (Khaphayi and Celliers, 2016).

4.2 Farming challenges

Specific challenges developing smallholder farmers are facing are:

1. Production limitations

Availability and affordability of key inputs such as seed, fertilizers, pest control inputs, and machinery for cultivation of the field.

2. Human capacity

Without skills, the farmers are unable to apply new knowledge to improve farm incomes. Farmers rely on the guidance of extension services. Additional challenges such as poor infrastructure, inadequate financial resources and weak institutional structures hinders the extension efforts to assist the farmers.

3. Financial assistance

Access to credit for smallholder who do not own land therefore they cannot raise credit from the formal financial institutions. Credit is used to purchase production inputs. Since production capital is essential for any farming operation, it is crucial that smallholder farmers be able to secure capital.

4. Market access and lack of transport

Markets are far from the farms in big cities and small towns. Transport becomes an issue for many smallholder and subsistence farmers. Lack of transport and high transport costs results in farmers not being able to get their fresh produce to the market, resorting to farm-gate sales, which reduce their margins.

4.3 Opportunities for the farming communities

1. Sustainable farming practices

Smallholder farmers have low incomes and are normally risk-averse. Farmers are normally advised to adopt intercropping which gives a more stable cash flow and is a way of diversifying income on scarce land resources.

2. Provision of infrastructure

Roads, energy and/or electricity provision is gradually being attended to by government. It is believed that improved rural infrastructure will expand rural production and create sustainable rural livelihoods.

3. Public-Private partnership

Agricultural Cooperatives and other private stakeholders through the Provincial Department are well positioned to provide the right kind of support to smallholder farmers.

4.4 Selected crops for InnovAfrica Project

Maize, legumes (dry beans) and other fodder crops are selected for the experimental trials at the **InnovAfrica** projects sites. This section will elaborate on the value chains of maize, legumes, specifically dry beans and other fodder crops. It is important to emphasize that South African grain production is made of both commercial and subsistence producers.

In South Africa, maize is the most important staple food crop as a source of carbohydrate, protein, iron, vitamin B, and minerals for more than 50 million people. Dry bean is a product high in protein and important in the consumers' daily diet. In terms of combating malnutrition, it has a very important role to play and in view of the fact that it is a vegetable protein, its value is even greater (Dlamini, 2015). Though it has an important role to play its market is relatively small. Farmers tend to alternate the areas cultivated between maize and dry beans.

4.4.1 Maize Value Chain

The maize market value chain (Figure 4.1) can be broken down into the following levels (DAFF, 2014):

- producers of maize (farmers);
- silo owners (who store maize for their own account and on behalf of others);
- traders in maize (who market and sell maize);
- millers of maize (who convert it into usable form); and
- end users

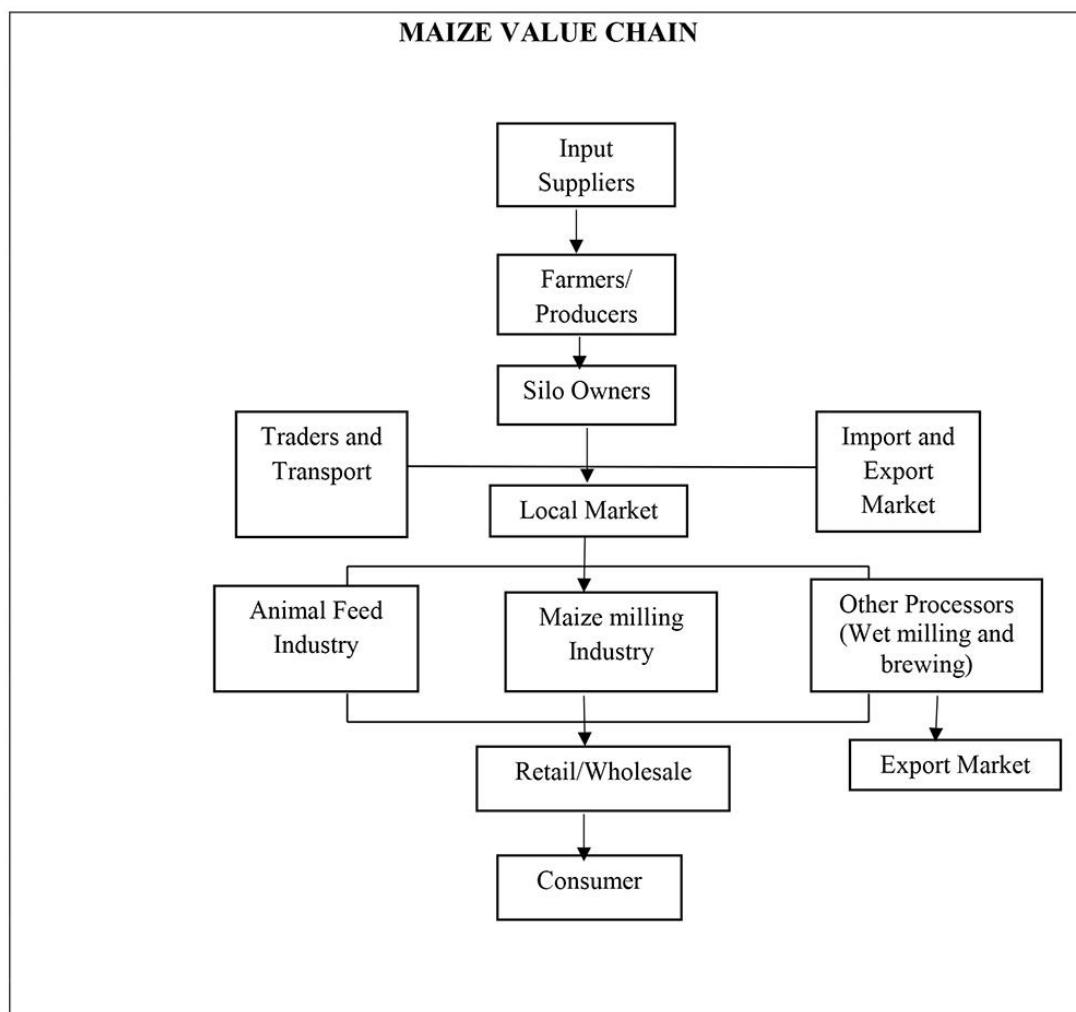


Figure: Maize value Chain

The maize value chain is discussed per level of activities that is primary, secondary and tertiary. The primary sector consists of input suppliers, producers and silo owners. Silo owners provide storage facilities to handle the crops, to store maize safely and to supply it to buyers on a continuous basis throughout the year.

The secondary sector is made of millers and animal feed manufacturers. According to DAFF (2014), millers convert maize to maize meal for human consumption while animal feed manufacturers use yellow maize for the manufacture of broiler and layer feed rations. Maize products in the form of hominy chop (white maize by-product) are used in feedlots.

The tertiary sector consists of traders, retailers and transporters. Traders move the produce to the domestic or export market. There are three types of traders in the maize industry: hedgers who use futures and options to protect an existing portfolio against possible adverse market movements; arbitrageurs who profit from price differentials of maize in different markets; and speculators who use futures and options in the hopes of making a profit on short-term movements in prices. The retail sector provides infrastructure and services for the distribution of maize products from the

millers to the final consumer. Transport helps to move the maize from the farmers to the silo owner, from the silo owner to the miller and from the intermediaries to the final consumers.

The South African animal feed industry

The germ, gluten, husks and steep water that are obtained from wet milling are put to valuable use in animal feed production, and they find their way into the supplements of animal feed. This industry supplies feed to all farmed animals in the country and some are exported to BLNS countries. The industry is divided into the formal feed industry (members of the Animal Feed Manufacturers Association) and the other includes feedlots, smaller feed mills and home mixers. The feed industry consists of about 100 – 150 feed millers of different sizes. The formal feed industry is responsible for about 60% of all feeds produced in South Africa.

Maize Sector Conduct

This section further expands on the workings of the maize sector. There have been cases where the maize sector was exposed to the Competition Commission ruling-this demonstrates the ability of government to create an enabling environment that stimulates private sector investment and minimize market distortions within the staple food market. Traub (2015) states the market conducts with the strategies that firms within a given industry utilize in order to compete. Such strategies include pricing, advertising, mergers and acquisitions and can include both tacit and /or explicit collusion. According to Traub (2015) several studies examined the maize subsector and found evidence of possible non-competitive pricing behavior within the supply chain.

The farmers in site 1 are participating in the described value chains and informal markets. They are not necessarily involved in all the activities of the value chain; for example, they use maize for human consumption and some for animal feeds at the farm. The markets are still dominated by major commercial farmers nevertheless; the emerging farmers are steadily making inroads in the maize industry.

4.4.2 Dry Beans Value Chain

Figure 4.2 shows the supply chain for dry beans in South Africa. Dry beans are either canned or sold in pre-packed quantities, the latter dominates the market. According to industry experts, the canning side of the market is in the region of 15,000 to 17,000 tonnes per annum (Dlamini, 2015).

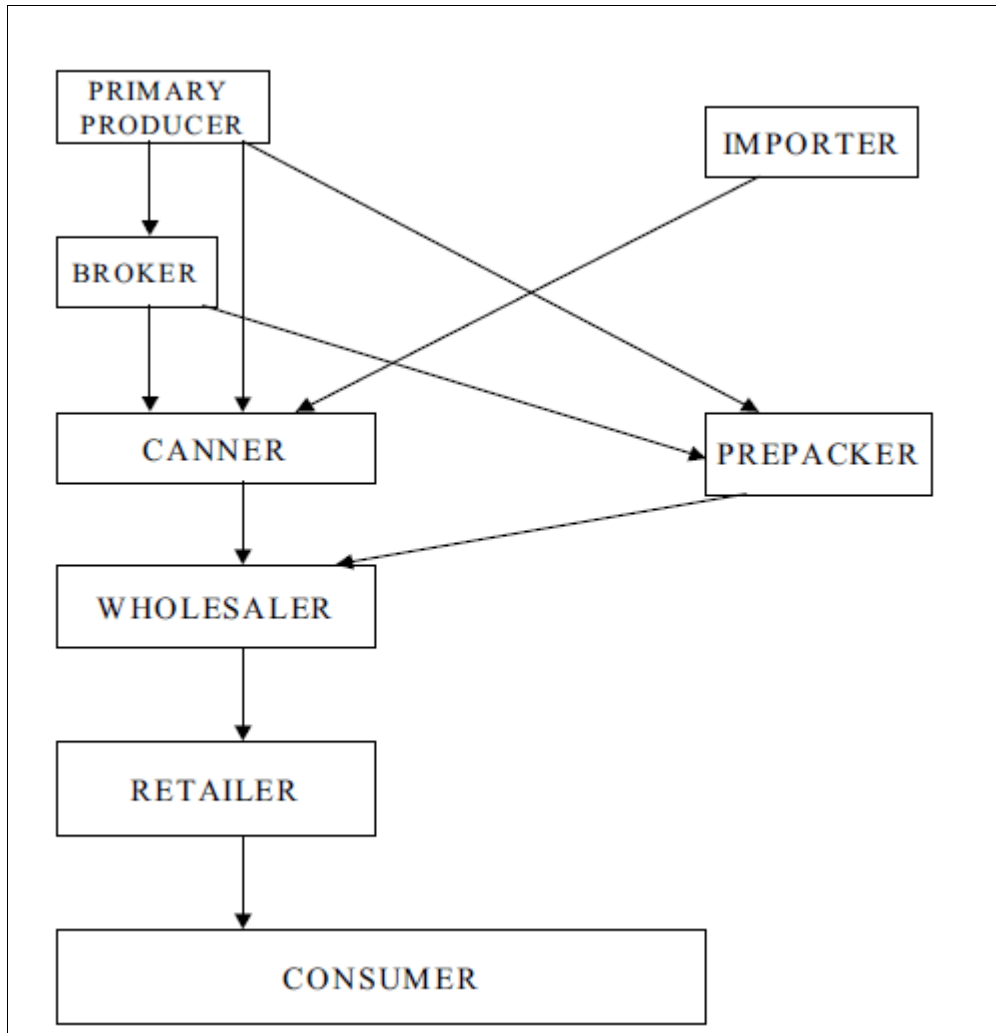


Figure 4.2: The dry bean supply chain (Source: *Dry Bean Producers' Organisation*)

5. Policies and institutional mechanisms

5.1. Policies and institutional mechanisms in South Africa

In South Africa, the Presidency has a mandate to coordinate and integrate government policies (Drimie, S. 2016). Established in Section 27.1.b and 28.1.b of the South African constitution (RSA 1996), everyone in South Africa has the right to food. Therefore, the state has the responsibility to take legislative measures within its available resources to achieve the realization of this right (Drimie, S. 2016). Since the establishment of the law in 1996, various policies around agriculture have been developed for a more robust agriculture sector. The three common focus areas have been improving the competitiveness of commercial agriculture in a free market dispensation, improving participation by disadvantaged communities, and protecting the natural resource base (Drimie, S. 2016; Hart and Aliber, 2010). Therefore, agricultural policies have an important role to play with regard to improving agricultural production and further combating challenges in the South African smallholder agricultural farming (Magingxa and Kamara, 2003). Over the past years, South Africa has been on a process of reviewing its policies regarding food production and

marketing. The major focus of economic reform has been on improving the access to land for poor farmers, water and institutional support systems to combat rural poverty (Magingxa and Kamara, 2003).

5.2 Policies and strategies related to smallholder farming

5.2.1 Agriculture Broad-Based Black Economic Empowerment (AgriBEE)

The Broad-Based Black Economic Empowerment Act, No 53 of 2003 ('the Act') was established to promote equitable access and participation of black people in the entire agricultural value chain (Government gazette, 2008).

5.2.2 Empowering women and youth

The government has a strategy of empowering both women and children especially in the agricultural sector through funding and mechanization (Hart and Aliber, 2010).

5.2.3 National Development Plan (NDP)

The National Development Plan (NDP) of 2012 has become the overarching government development agenda (NPC 2012). In addition, the NDP recognizes agriculture to be a primary economic activity in rural areas and therefore aims to eliminate poverty and reduce inequality to create one million new jobs by 2030. The government aims to priorities in maintaining and supporting the agriculture value chain through the New Growth Path, which targets opportunities for 300 000 households in agriculture smallholder schemes and 145 000 jobs in agro-processing by 2020 (Provincial budgets and expenditure review, 2010). This plan implies that job creation, agricultural productivity, and providing aid to poor households to cope with increases in food prices are important. In terms of safety nets, access to social grants for eligible households should be maintained and public work programmes utilised and expanded to develop rural infrastructure (Drimie, 2016).

The intention of the NDP is to realise a food trade surplus of which one-third should be produced by small-scale farmers or households to ensure household food and nutrition security (Provincial budgets and expenditure review, 2010). Although a number of such programmes and plans have been put in place, 23.1 % of the South Africans in rural households remain vulnerable to food shortage. In response to this dilemma, in October 2013 the government started an initiative called the Fetsa Tlala integrated food production initiative which aims to promote food security, address the structural causes of food insecurity and eventually eradicate hunger (Provincial budgets and expenditure review, 2010).

5.2.4 Rural Development and Land Reform

The purpose of the national Rural Development and Land Reform is to create and maintain an equitable and sustainable land dispensation, and to act as a catalyst for rural development to ensure rural livelihoods and decent work. Therefore, land reform programmes have been put in place to assist smallholder schemes through support for infrastructure, marketing, finance and extension services; these initiatives are further intended to support job creation (Provincial budgets and

expenditure review, 2010). Furthermore, land reform programmes are intended to catalyze rural development and empower rural communities. However, the slow pace of land reform and unsettled land restitution claims create uncertainty for farm investment. The lack of skills, inputs, market access and inadequate support have resulted in the failure of farm projects intended to be sustainable and economically viable (Provincial budgets and expenditure review, 2010). It has introduced reforms to improve access to land and to redress skewed ownership patterns. Land reform focuses on land restitution, tenure reform and land redistribution. The land and agrarian reform project aims to increase the number of black entrepreneurs in agribusiness; provide access to agricultural support services for emerging black farmers; increase production by emerging black farmers; and increase trade by previously disadvantaged people.

5.3 Institutional framework for agriculture

5.3.1 National departments and agencies

The national Department of Agriculture Forestry and Fisheries is responsible for formulating policy and the regulatory framework for agriculture. The department also creates an enabling environment for equitable access to opportunities, establishes norms and standards and provides financial assistance and other support to farmers (Provincial budgets and expenditure review, 2010). The agricultural sector is supported by various state agencies that provide services to provincial departments of agriculture and farmers. This includes the Agricultural Research Council, which promotes research and innovation; the National Agricultural Marketing Council, which provides advisory services and statutory instruments in the marketing of agricultural products; and the Land Bank, which provides wholesale and retail funds to farmers, historically disadvantaged people and rural entrepreneurs (Provincial budgets and expenditure review, 2010).

5.3.2 Provincial and local government

Provincial departments of agriculture are the main implementers of agricultural policies and programmes. They work to improve the use of agricultural land and provide extension services to beneficiaries of land redistribution. They also help the DAFF to identify beneficiaries of land redistribution for agricultural purposes. Local government provides water services and allocates land that it owns for agriculture. Municipalities are also involved in regulating fresh produce markets, abattoirs and food safety standards. National, provincial and local government work together to ensure that agricultural and land priorities are incorporated into municipal integrated development plans. (Provincial budgets and expenditure review, 2010)

5.4 Multi-Actor Platform discussions

Through the discussions, the MAPs raised the concern that policies need to be updated to develop rural communities. Furthermore, most farmers in the rural areas obtain farmlands through the allocation by the chief in the village.

6. Gender, youth - mainstreaming, challenges, opportunities

6.1. Gender mainstreaming

6.1.1 Gender challenges

Gender is about the sex of the farmers (men or women). Women are more involved in production than men, but men are the main decision makers (Koatla, 2012). Gender mainstreaming is the public policy of assessing the different implications for women and men of any planned policy action, including legislation and programs, in all areas and levels, with the aim of achieving gender equality (www.environment.gov.za. 08.09.2017). Proper care facilities, access to government services, violence against women, children and the vulnerable lack of skill development. Policy programs such as the Affirmative Action legislation stress its importance that the Maluti-A-Phofung Municipality and other stakeholders of involving women in skills development and economic emancipation (FIDP, 2017).

Men move to cities to look for jobs leaving women in rural areas to take care of children. This makes them less likely to find jobs than men. Access to water is still a challenge in Maluti-A-Phofung. Many communal taps are situated more than 200m, meaning women and children have to walk longer distances to get water (FIDP, 2017). The majority of the farms in Maluti-A-Phofung are owned by men, but they are managed by women (Koatla, 2012). Most decision decisions related to agriculture are made by men and there are less women participating in agriculture in the municipality (Koatla, 2012). This proves that women do more agriculture related and household work than men. Even though women makes great contribution to agriculture and socio-economic development, their efforts are less recognized.

According to the DIDP (2014), violence against women and children is one of the major challenges in the Maluti-A-Phofung. The religious and social norm which classify women as secondary or subordinates leaves them vulnerable, dependent and exploited (Koatla, 2012). Age is important in running and success of the farms. Many farmers in the Maluti-A-Phofung are getting older (51 years and above) which necessitates the involvement of the youth in farming (Koatla, 2012). Moreover, the youth should be motivated to take over their parent's farms such as Masichaba (female farmer). She indicated during **InnovAfrica** kick-off workshop that after her father passed away and realizing that her mother is older; she decided to take over the farm and she is running successful. Moreover, Masichaba proved the argument by Koatla (2012) that women's involvement will allow the adoption of technologies in farm management as she adopted technologies such as bio-gas. According to Koatla (2012), the majority of women in the municipality do not have access to land and other resources that they can use to improve their lives. Furthermore, married women in the Maluti-A-Phufong municipality experience more challenges in terms of food access and availability as men have control over cash.

6.1.2 Gender opportunities

According to the IDP (2017), the Maluti-A-Phofung have programs aiming at empowering women, children and people with disability. The municipality will have awareness campaigns on the rights women, children and people with disability. Create free society by reducing the number of women and children abused and raped (IDP, 2013). Increase the number of small scale and emerging farmers (at least 30% must be women and 5% people with disability) have received training and became successful commercial farmers. The various projects which are available for

women, children and people with disability such as the affirmative action plan, disability plan, women day celebrations.

6.2. Youth

6.2.1 Youth mainstreaming

Youth in South Africa are all the people who fall within age ranging from 14 to 35 years. Generally, the South African youth is aspire to fill their lives with entertainment and avoid all manual labour, such as that common to farming (Brown, 2012). Consequently, South African youth avoid to follow livelihoods within the agricultural sector, as farmers in particular. Brown (2012) reported that about 70 % of the youth are unemployed in South Africa. However, youth constitute a significant asset to the economy of South Africa and has been targeted in a number of interventions at this sector. NYD (2015) described youth as a key agents for social change, economic expansion and innovation and their imagination, ideals, energy and vision are essential for the continuous development of society. Therefore, youth, particularly those in the rural areas, are the future of the South African agriculture (Brown, 2012). However, the youth in rural areas receive fewer employment and information opportunities than the youth in urban areas. Consequently, youth emigrate from rural areas to sake better opportunities in urban areas.

6.2.2 Challenges faced by youth

Focusing on the project study sites, youth dominate the population of the Maluti a Phofung municipality (Maluti a phofung IDP, 2010). The main challenges faced by youth in the project study sites is the high rates of youth unemployment, poverty, new HIV/AIDS infection, number of school drop-outs, teen pregnancy, violence and crimes committed by youth (Government Gazette, 2015).

Looker and Naylor (2009) proposed that, regardless of the rural youth feeling pleased with their private and family life in most cases, and regardless of seeing home and family as vital, numerous rural youth now see their rurality and their choice to live in their home communities as letdowns, also in relation to education or to job and career. In the lack of systemic answers to alleviate and address the risks of residing home for rural youth, numerous young people symbolize socioeconomic problems as an inability to ‘get very far’, and often see themselves as having few options.

Despite the large number of primary schools in the rural environment, very few secondary schools exist in rural areas. The implication of this is that scholars are forced to attend schools in urban areas, sometimes to the disadvantage of the scholar (cost- and time implication and unreliable scholar transport). The aforementioned, together with some unlawful employment practices on farms force the student to leave the school at an early age. This statement correlates with the level of education in rural areas. Based on the above, it will be imperative to provide a Secondary School at each of the identified rural service centres. The facilities must also be flexible to provide ABET training, skills transfer courses and launching of awareness programmes (Maluti a phofung IDP, 2010).

6.2.3 Youth opportunities

To empower the youth, the district has implemented the environment Expanded Public Works Program (EPWP). Within the program there are projects such as Youth Jobs in Waste, Youth Environmental Service (YES), Upgrading Seekoie-Vlei Nature Reserve Project and Sterkfontein Nature Reserve Project (FIDP, 2014). The district also ensured the mainstreaming of vulnerable groups such as women, children, youth and people with disability as first priority during the implementation of programs such as substance abuse, prevention and rehabilitation, care and services to older persons, crime prevention and support, services to persons with disabilities, child care and protection services and victim empowerment (Draft IDP, 2015).

Dihlabeng Local Municipality have experiential learning training for the youth and health awareness campaigns which benefited local and farming communities (especially schools and youth), projects such as right to learn campaign which benefits the youth and women (IDP, 2016). The Maluti-A-Phofung Municipality has projects that are aimed at empowering and uplifting the youth, Maluti youth lifestyle Centre (SASSS) which is implemented at Phuthaditjhaba. The center include the following Maluti Sterkinekor cinema film and photography studio, Maluti times and television project, digital gaming & entertainment and technology training center, development center, analytics/intelligence center and simulated driving center (Final IDP, 2016).

6.3 MAPs discussions

According to the MAPs discussion during the field visits, lack of the job opportunities, knowledge, skills, infrastructure, mechanizations and funding were the main challenges faced by youth, specifically those that are involved in agriculture farming. The field visit during the kick-off workshop also supported the findings by Koatla (2012) that young people are interested in office work and they are less interested in agriculture.

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