Agriculture and food security in Lesotho: Government sponsored block farming programme in the Berea, Leribe and Maseru Districts

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Abstract: This research paper attempts to investigate the contribution of block farming to assuring food security in households of block farmers. The study used both secondary and primary sources of information. The secondary data was collected from government documents, electronic resources as well as books. The primary data was obtained from farmers participating in both maize and wheat block farming in the selected areas. In addition, qualitative information was collected from government officials responsible for block farming project. The results of the study are analysed qualitatively and quantitatively. The Lesotho government has implemented different agricultural programmes to increase production in agriculture since colonialism. Although many colonial rural development strategies in Lesotho focused more on preventing and controlling soil erosion, there were some agricultural development projects implemented in some parts of the country. The agricultural rural development programmes implemented in Lesotho since colonialism were meant to reduce poverty and improve the living standards of people. And block farming is one of such agricultural development projects. Block farming is...
not a new agricultural rural development project in Lesotho. Block farming project was introduced under Senqu River Valley Integrated Rural Development Project in the 1970s. The idea was to increase food production among Basotho farmers. This agricultural initiative was revived in the New Millennium. The government of Lesotho entered into sharecropping with subsistence farmers through block farming programme. The purpose of government was to reduce poverty by increasing agricultural food production in the country.

Subjects: Development Studies; Regional Development; Rural Development

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1. Introduction

Agriculture in many rural areas of developing countries is particularly practised by peasants or small-scale subsistence farmers. According to Ellis (1988) peasants own some factors of production, especially labour, capital (in the form of farm inputs) and land. However, most of the landholdings are fragmented and often yield low produce. Therefore, in order to increase agricultural productivity individual fields of farmers are merged into a large block (Matenga, 2017). It is also opined by Julius (2019) that, block farming in Ghana was introduced by the government to provide youth with improved farming inputs and techniques. This was meant to introduce them (youth) to the market crops. Although block farming is commended for facilitating intensive farming, consolidation of fragmented landholdings into one large piece of land often displaces people from their residential places in some countries (Matenga, 2017).

Different agricultural models/systems (including block farming) in developing countries are meant to ensure food availability to people. Therefore, the food systems involve production, access and utilisation, and when these systems are stressed food insecurity often occurs (Gregory, Ingram, & Brklacich, 2005). Food insecurity is a challenge facing many developing countries. For instance, Spore (1998) asserts that food insecurity is very acute in developing countries where over 800 million people were undernourished in the 1990s. As a result, many people are dependent on food relief or food handouts. Furthermore, food imports and subsidies form important strategies to assure food security in many countries (Kannan, Dev, & Sharma, 2000). However, reliance on food aid for food security is not a sustainable measure. Therefore, increasing agricultural productivity is considered an important initiative to assure food availability in many parts of the world (Zilberman, Kaplan, Kim, Sexton, & Barrows, 2014). In this case, many countries have implemented different agricultural programmes and projects that are used to assure adequate food stocks to the citizens. However, an endeavour to increase food production for self-sufficiency is often determined by different factors such as access to land, capital and natural hazards (Faridi & Wadood, 2010; Teng & Morales, 2013).

Food availability in the country does not usually determine one’s access to it, but people need to be entitled to access the available stocks in the economy. According to Dreze and Sen (1989) entitlement to food can be determined by different factors such as endowments that include assets, labour power, own production of food, and income from other self-employment. In addition, Tacoli (2013) posits that low income is another factor contributing to urban food insecurity especially in Asia and Africa.

1.1. Colonial agricultural rural development projects in Africa

Improving agricultural productivity particularly in many African countries is not a new phenomenon. Research shows that colonial governments have implemented different agricultural programmes and projects to increase productivity in agriculture. For instance, colonial rural development strategies in some African countries focused more on improving agricultural production and conservation of the environmental resources. In this regard, the colonial government
introduced the Usambara Conservation Scheme in Tankanyaika in the 1950s to reduce soil erosion (Feierman, 1990). Another rural development project implemented during the colonial period in Africa was Improved Farming Systems in Northern Rhodesia between 1940s and 1950s. According to Dixon-Fyle (1977) the Improved Farming System introduced a number of measures to combat soil erosion that include among others; destocking and building of counter ridges and grass strips. In addition, the project promoted the use of kraal manure to increase agricultural productivity (Dixon-Fyle, 1977). It is further argued by Musambachime (1987) that a fish conservation project was introduced at Mweru-Luapula, Zambia. In this case, the colonial government conserved the depleting fish stocks by introducing the closed and open harvesting seasons.

Improvement of agricultural productivity during colonial Africa was also done by introducing the state marketing boards. In this case, evidence reveals that, the colonial government introduced state marketing board in Rhodesia. Although the state marketing boards were meant to assist farmers improve farming, many of them impacted negatively on farmers. They purchased peasants’ produce at low prices, thus generating surplus income for the state (Cliffe, 1988). As a result, this impacted negatively on agriculture in Rhodesia and elsewhere in Africa.

1.2. Modernisation of agricultural methods in developing countries

Introduction of new agricultural methods to increase production in agriculture became more common in developing countries during the modernisation era starting from the 1950s. According to Rostow (1960) many Third World countries adhered to the use of traditional agricultural methods that resulted in low agricultural production during the 1950s and 1960s. Therefore, Rostow advocated diffusion of improved farming methods in agriculture. In this scenario, there were different measures adopted by developing countries to increase food production. First, the Green Revolution (GR) technologies were adopted by many developing countries in the 1960s and 1970s as an approach to increasing agricultural productivity. Although the Green Revolution technologies were first used in Mexico in the 1940s (Sonnenfeld, 1992), they were welcome by many Asian countries such as India, Pakistan and many others to increase food production. According to Ahmed and Javed (2016) farm mechanisation in Pakistan has resulted in increased food production in most parts of the country. It is also indicated by Bernstein (1992) that, after being a net importer of grain between 1951 to 1975 India became the main producer of food during the Green Revolution period, and 30 millions of tons were collected in the government reserves between 1984 and 1985.

Second, Community Development Approach (CDA) was initiated by the British government, United States of America and France (Holdcroft, 1984) and promoted by governments of developing countries and the United Nations after independence to reduce poverty (Campfens, 1997). There were different programmes of Community Development Approach, but improving agricultural productivity was the main concern. As a result, many Integrated Rural Development Projects were introduced in some different developing countries in the 1970s to reduce poverty by improving agriculture and modernising other sectors of the economy (Machethe, 1995). Many Integrated Rural Development Projects received financial support from the international organizations such as the Food and Agricultural Organisation and the bilateral organisations such as the Canadian International Development Assistance (Basler and Brunswick-Völkenrode 1979; Ferguson, 1994). Many integrated rural development projects were meant to be participatory in nature where the local people would be involved in implementation of the projects. However, many of the area based rural development projects lacked popular participation from the beneficiaries (De Janvry, 2004; Nemes, 2005). In addition, they were implemented in certain geographic regions, hoping that the benefits would trickle down to some other parts of the country (Sallinger-McBride & Picard, 1989), an expectation that failed to materialise.

Third, the Gene Revolution (biotechnology) was introduced in developing counties after the failure of the Green Revolution technologies in the 1980s and 1990s through the assistance of the World Bank (Fresco, 2001). The use of biotechnology is considered an important move to
provide adequate food to an increasing population in the world. And this can be achieved by the important features of this new agricultural technology. For instance, Genetically Modified Organisms are commended for being insect and drought resistant (Davies, 2003). Therefore, they provide good yields where they are practised. It is further indicated by Zilberman et al. (2014) that biotechnology produces food rich in vitamins. Therefore, increasing food security should not only focus on food stocks only but providing food with vitamins.

1.3. The causes of declining agricultural productivity in recent years

Increasing food insecurity in developing countries, and particularly in Africa is ascribed to different factors. For instance, the World Bank and International Monetary Fund's macro-economic reforms (Structural Adjustment Programmes) that were adopted in the 1980s and early 1990s are associated with the current status of declining agricultural productivity. The SAPs advocated the reduction of government subsidies on smallholder farmers. This measure impacted negatively on poor people, and mainly smallholder farmers. For instance, Abugre (2000) posits that reducing government subsidies resulted in low agricultural productivity because without subsidies many small scale farmers resorted to the use of simple/primitive technologies. And this affected productivity negatively. In this respect, Steward (1994) points out that in many African countries, small-scale agriculture suffered lack of access to technology and poor access to inputs because of reduction of agricultural subsidies. Furthermore, reduction in public expenditure has brought about limited supply and access to critical production facilities such as irrigation facilities (Steward, 1994).

The recent cause of increasing food insecurity in developing countries, and particularly in Africa is associated with change in climate conditions (Spore, 1998). According to Harper (2001), global warming seems to be a menace to food security as many crop yields are highly dependent on a mix of temperatures, soil conditions and rainfall patterns. Harper (2001) continues to show that heat stress could severely reduce the productivity which in turn together with growing population and higher food prices could seriously jeopardize the world’s food security. The amount of warming is expected to increase but will be more severe in the southern latitudes resulting in a huge harm to the crops specifically on the Less Developed Countries (Harper, 2001). It is further indicated in the literature that climate change is associated with low availability of food in many households in southern Africa (Gregory, Ingram and Brklacich 2005). This could be caused by reliance of farming in many low-income countries on unreliable rainfalls. In addition to resulting in low agricultural production, especially in rain-fed agriculture the changing climatic conditions have a devastating effect on the environment. In this scenario, environmental degradation, especially soil erosion that results in loss of arable land is mainly associated with climate change in many African countries (Strauss, 2000).

1.4. Food production in the new millennium

Lack of access to food still remains a challenge even in the new millennium. And this has forced the United Nations to include some goals that deal with hunger and food production. First, Goals 1 and 2 of the Millennium Development Goals put more emphasis on the reduction of poverty and hunger. The Millennium Development Goals (MDGs) represent the international community’s collective commitment to create a better tomorrow for billions of people by prioritizing efforts to reduce poverty and hunger (UNDP, 2010). The first Millennium Development Goal aimed at halving the proportion of people whose income is less than 1 dollar per day between 1990 and 2015 and that would be achieved by increasing agricultural productivity (UNDP, 2010). However, extreme poverty, hunger and malnutrition still remain a challenge in many countries despite some achievements in the MDGs. For example, in Lesotho out of the population of around 2.109 million, 57.1 per cent live below the poverty line while 709,394 people are food insecure and in need of food assistance (World Food Programme 2016)

Second, the Sustainable Development Goals (SDGs) were also established by the United Nations and adopted by many countries to continue from where the MDGs have stopped. Building on the unfinished business of the MDGs, the 2030 Agenda for Sustainable Development is adamant to
promote good nutritional status for realizing inclusive development. Forming part of the wider 2030 Agenda for Sustainable Development, the 17 Sustainable Development Goals (SDGs) that build on the MDGs were adopted and their focus was on international development (Thomson, 2015). Their intention is to go beyond the MDGs and to provide a comprehensive vision and framework for the evolution of all countries in the years ahead (Osborn, Cutter, & Ullah, 2015). Specifically, the SDGs aim to ensure “universally shared common global vision of progress towards a safe, just and sustainable space for all human beings to thrive on the planet” (Osborn et al., 2015, 2).

In fact, the UN’s first SDG aims to eradicate extreme poverty for all people everywhere while the second SDG aims to end all forms of hunger, achieve food security and improved nutrition and promote sustainable agriculture (Osborn et al., 2015). The target of the SDGs is to achieve these by 2030 through ensuring that all people have access to sufficient and nutritious food all year round through the implementation of three strategies. And these are; promotion of sustainable agricultural practices, supporting small-scale farmers to ensure equitable access to land, technology and markets, and ensuring international cooperation in investment, infrastructure and technology to improve agricultural productivity (UNDP, 2016).

1.5. Economic background of Lesotho
Lesotho has been experiencing a major food security crisis since 2012. FAO (2009) and WFP (2016) estimates put the figure of people vulnerable to food insecurity in the country at 549,000 constituting about 30 per cent of the total population. This is exacerbated by poor farming practices and continuous drought. The country is vulnerable to climatic conditions that affect harvest yields and cause great loss to livestock (WFP 2016). As a result of poor farming methods and climatic conditions, Lesotho is one of the many developing countries that are dependent on food-aid and imports (Makenete, Ortman, & Darrooch, 1997). In most cases, food aid often involves dumping of surplus food products into the poor countries by the rich ones (Madziakapita, 2008).

Food aid has many consequences in the host countries. First, it does not solve the issues related to poverty and food insecurity in the long run. This is because food donations do not provide a sustainable supply of food to the poor people; they provide a short term relieve used as a political weapon and a commercial enterprise (Mukeere & Dradri, 2006). Secondly, they create dependency on donor countries. This is a menace to food production in the recipient countries and it leads to food insecurity. Evidence shows that people who are dependent on food aid are not willing to produce food for themselves. They look for humanitarian aid from government or Non-Governmental Organizations (NGOs). Thirdly, food aid depresses prices in the local markets and this is destructive to the local economy. It further upsets the private commercial channels of food trade and marketing. When many people depend on food handouts, the local producers suffer because their goods lack a market. In some cases, food donations force prices on agricultural goods to go down and this affects local producers negatively.

According to the Lesotho Vulnerability Assessment Committee (LVAC), Lesotho, like the rest of Southern Africa, faces its most serious food security crisis since the severe drought of 1992. The country is classified as the least developed, with low income and a food deficit. With regard to food availability, it is ranked 132 out of 173 countries assessed (National Nutrition and Cluster Survey 2002). The May 2002 emergency food security assessment projected that 160,000 people, or 9 per cent of the rural population, were in need of food assistance from September to November 2002. Population estimates for Lesotho vary from 2.0 million to 2.2 million (LVAC 2002). By July of the same year, the number of people that needed food assistance increased to 600,000. Three months later, in November/December, the number of food insecure people increased from 108,797 to 760,000 (42 per cent) (LVAC 2002). The incidence of food insecurity is so serious and widespread that even the districts, which are normally classified as having a high agricultural productivity in the lowlands are among the vulnerable ones. Cereal unavailability and the declining purchasing power have, in turn, resulted in families surviving without food or having
one meal per day while in some areas famine is beginning to claim lives and to worsen malnutri-

The state of emergency has been declared on famine and war against HIV/AIDS. This is because the HIV/AIDS pandemic has affected agricultural production negatively. The declining agricultural production has contributed to extreme incidences of poverty due to deteriorating health status of people. As a result, Lesotho ranks 127 out of 174 countries on the UNDP’s Human Development Index with the poverty line of M124.00 (about £8 per month). This situation means that about 68 per cent of Basotho are poor (May, Roberts, Moqasa, & Woolard, 2001).

1.6. Methods of data collection

The study gathered secondary data using the available literature. A literature review on food security was conducted from various sources such as journals, books, and government of Lesotho policy documents (from 1977 to present), the internet, and from previous research studies that were relevant to this study. These sources were mainly used to provide a theoretical perspective to the issue under study in both developing countries as well as in Lesotho. In order to gather data on food security in Lesotho, documents such as the Five Year Development Plans (from 1970 to 1998), The Silo magazine and books were used.

Primary data was gathered through the use of structured interviews which allowed face-to-face interaction between the researchers and the respondents, thereby giving the researchers a chance to observe the respondents’ gestures. Therefore, primary data was collected from the maize block farmers, wheat block farmers and the official in the Ministry of Agriculture and Food Security. The government official was responsible for block farming programme in Lesotho.

1.7. Sampling and sampling techniques

1.7.1. Snowball sampling

The researchers did not know farmers who participate in block farming in the study areas. Therefore, snowball sampling technique was used to select both maize and wheat block farmers. As a result, a sample of 61 (60 from block farmers, and one official from the Ministry of Agriculture and Food Security) respondents was covered. The total sample of 40 maize block farmers was selected from Ha Molipa and Ha Ts’ekelo. Furthermore, a total sample of 20 wheat block from Mokema and Ha Toloane was selected. One officer responsible for block farming in the Ministry of Agriculture and Food Security also formed part of the interviewed people.

2. Results and discussion

2.1. An overview of intensive crop production: block farming in Lesotho

According to the officer in the Ministry of Agriculture and Food Security, block farming was introduced in the financial year 2005/2006 by the government of Lesotho working hand in hand with the Standard Lesotho Bank with the aim of reducing food insecurity among the citizens. The other aims of introducing block farming were to subsidize farmers as well as creating job opportunities for the owners of the tractors that are used for cultivation. This system is said to have been introduced throughout the country in the ten districts. The crops that are grown include maize, wheat, sorghum and beans depending on the climatic conditions in each district. Block farming is said to be mainly sponsored by the Lesotho government and the local farmers that provide their land for growing the crops. The officer indicated that the government spends around M123 000 000.00 per year depending on the areas of land to cover.

According to government official from the Ministry of Agriculture and Food Security, block farming was introduced in the study areas in the financial year 2016/2017. The main purpose of the government was to assure food security among farmers who cannot afford to cultivate their fields due to financial problems. In this regard, the Lesotho government assists farmers by
providing agricultural inputs such as fertilizers, seeds, insecticides and tractors. Therefore, block farming is highly subsidized by the Lesotho government. The main crops under block farming include maize which is grown at Ha Molipa and Ha Tšekelo, and wheat that is grown at Mokema and Ha Toloane. Introduction of these cereal crops responded to an increasing food insecurity that was among other reasons associated with many fields remaining fallow for many years.

One female farmer who acts as coordinator between block farmers and the government indicated that joining block farming is free but only covers the fields on the area chosen for block farming by the government. And government and farmers sign a 3-year contract. There is also a division of labour between government and farmers. In this respect, the Lesotho government shoulders most of the responsibilities including provision of agricultural inputs such as tractors, seeds and fertilizers, while farmers make their labour available mainly during the weeding and harvesting time. The research findings show that block farming is a sharecropping between the Lesotho government and the farmers. Initially, the government was going to get 60 per cent of the produce while the farmers were to get 40 per cent of the produce. However, the agreement was revised for wheat block farming, and the government gets 50 per cent and the farmers also obtain 50 per cent of the produce.

The officer from the Ministry of Agriculture and Food Security further revealed that the government’s share from block farming is sold to Lesotho Flour Mills based on the quality. This means that Lesotho Flour Mills buys the produces only when they are of good quality. When the produces are not of good quality, they are sold to the ordinary people. When asked about whether the government is benefitting from block farming, the officer indicated that the government is benefitting from block farming. The benefits that the government gets include among others the produces that it sells to accumulate some wealth. The officer further pointed out that block farming is contributing to food security in the country because other farmers are unable to cultivate their fields due to shortage of money to buy the inputs and machinery. However, there are some challenges in relation to block farming. Among the challenges, the officer pointed out that the government is running a loss according to the economic perspective especially when looking at the fact that in some areas the crops were not harvested. An example of such a case is at Mokema where the wheat was not harvested and went to a waste.

2.2. Age of block farmers

Many African societies depend on agriculture for making a living where both men and women participate. However, many studies have revealed that farming in many African societies is left in the hands of women, the elderly and young people. For instance, it is stated by the FAO (1977) that many young men left farming in the Senqu River Valley Agricultural Development Project and migrated to South African mines for employment opportunities. This is a common trend in some African countries where young men migrate into towns for paid employment.

Against the above background, the research findings show that 45 farmers participating in block farming age 51 and above. There are three main conclusions that can be made from these results. First, agriculture in Lesotho is in the hands of the elderly people. Second, many people aged above 50, especially those found in the 60 and 70 age brackets are mostly pensioners (for those who were working). Some pensioners do not have money to invest in agriculture, and this can affect agricultural production negatively. Third, the elderly people are not eager to venture into new innovations. In support of this statement, Dercon and Krishman (1996) stipulate that age has also been found to affect the rate of household adoption of innovations which in turn affects household productivity and livelihood strategies. And this can be reflected by their participation in government supported agricultural development projects.

There is also an interesting observation that can be made from the field data. The young people are found in small numbers in block farming. For instance, the results indicate that 5 farmers found in block farming age 31–35. This is a small number when taking the level of youth unemployment
into consideration in the country. This is because youth unemployment has been on an increase in recent years due to lack of employment opportunities in the formal sector. For example, employment in the public sector declined by 1.0 per cent in 2012 following a marginal decrease of 0.1 percent in the previous year (Central Bank of Lesotho, 2012). However, it can be noted that many young people do not consider farming as a way of employment or making a living. Therefore, it is very important to change the mind set of young people as far as farming is concerned.

2.3. Gender of maize block farmers
The historical analysis of agrarian societies referred to agriculture as a male-dominated activity. However, these traditional and societal perceptions changed overtime with the discovery of paid employment in towns. The advent of modern industries has resulted in the migration of men into towns to seek paid employment. As a result, women stay home looking after family members and taking care of agricultural activities. Therefore, agricultural activities in most African countries and elsewhere are performed by the females while their husbands are employed in towns as migrant workers.

It is evident from the research findings that there are changing roles of male and female people in society. Although farming is considered a male-dominated activity, the current situation shows a contradictory view. For instance, there are 42 female farmers in block farming compared to 18 male farmers. The unequal distribution of gender in block farming can be linked with an exodus of men to seek employment in towns and outside the country. The cultural practices show that men are breadwinners in the families. Therefore, when agriculture provides little returns they often migrate. In this case, evidence shows that agriculture in Lesotho has been in decline for the past decades due to physical and economic factors. The physical factors include among others, increasing soil erosion and changing weather conditions, while the economic factors are listed as lack of employment opportunities in the country. In this regard, some male people migrated into South African mines, plantations and industries in search of employment opportunities, while some women stay behind taking care of the families.

Block farming has contributed positively to the livelihood of the farmers as they are now able to cultivate their fields that had been lying fallow for several years. This is better explained by one female widow who indicated that “block farming is good because I had not cultivated my fields for years because I have no money to spend on farming as my husband passed on”.

In block farming, men and women participate in the cultivation of maize and wheat but the majority of farmers are women. This means that, women are the ones who fully engage in farming activities as they do a lot of work. Even though other people believe that block farming contributes to food security, others especially those whose fields are not on the chosen areas do not believe that it can bring food security.

The recent studies show that with the retrenchment of many Basotho men from the South African Goldmines, there is an increasing movement of Basotho women working as domestic workers in South Africa. And this suggests a new form of gender relations in farming in rural Lesotho, where men are now back in farming and women migrating into South Africa.

2.4. Marital status of block farmers
The contribution of agriculture to food security at household level cannot be underestimated in many developing countries. In this regard, agriculture provides the means of sustenance among single, married and divorced people alike. However, the results of the study show that 36 block farmers are widowed. These research findings suggest that agriculture is the main source of livelihood for the widowed people. It can be assumed from these research findings that many widowed people do not have partners or a helping hand for maintenance of the households. Therefore, many of them consider farming as the main source of making a living. In addition to the
widowed people, a large number of block farmers is made up of married people. For instance, about 21 block farmers are married. These research findings indicate that, married people also depend on agriculture for making a living and supporting of household members. For instance, one respondent pointed out that she participates in farming to cater for her household's needs such as feeding four orphans and other five of her own children.

### 2.5. Educational level of maize block farmers

It is indicated in the literature that education plays an important role in the development of countries, especially in production. However, the current situation in Lesotho provides an opposite view. For instance, the results of the study indicate that 42 block farmers have primary education. These results suggest that many people participating in block farming have a low level of education. Therefore, it is correct to argue that there is no link between level of education and participating in farming in most peasant societies. This is because agriculture is considered the main source of livelihood in many agrarian societies.

When taking the statistics of people participating in block farming into consideration, it can be observed that about 3 people participating in block farming have tertiary education. These results suggest that farming is done mainly by people with low level of education. This is because they do not have many chances of getting employment in the formal sector. At this juncture, it is right to argue that, low agricultural productivity in Lesotho can be associated with lack of farming skills because of low educational background. This is because when agriculture is practised mostly by people with low level of education, productivity is affected. For instance, they are not in a position to research on modern farming practices and techniques. In addition, many agricultural workshops are conducted in English, as a result, the illiterate farmers are often left out. Evidence from the literature further shows that, smallholders are not willing to adopt new agricultural technologies, but the advent of block farming has empowered farmers as far as innovation of new technologies are concerned.

There are several conclusions that one can make from the above research findings. One, level of education helps farmers to use production information efficiently because a better educated person can acquire more information and becomes a better producer (Amaza, Bila, & Iheanacho, 2006). Two, people with tertiary education are less interested in farming, and this affects agricultural productivity. Therefore, it can be suggested that educated people should participate actively in block farming by providing their skills and capacity to innovate new farming techniques. And this can increase agricultural production in the country.

### 2.6. Employment status of maize block farmers

Many developing countries are faced with high unemployment rate. As a result, some people participate in agriculture to make a living, while others are employed in non-agricultural activities. However, the majority of people in the poor countries make a living from subsistence farming. Therefore, farming is considered the major source of income. However, research on Lesotho reveals that working on the family farms is not considered work by some men in Lesotho, but working in South African goldmines. In support of this, Mensah and Naidoo (2013) assert that Basotho mine workers regarded their work in South African mines as a career and would hold on to it until retirement. Furthermore, there is increasing number of Basotho women migrating to South Africa to work as domestic workers (Crush, Dodson, Gay, Green, & Leduka, 2010). The increasing unemployment rate in the country can be traced as far back as the 1860s with exodus of Basotho men working in South African Kimberley mines (Modo, 2001). However, an escalating unemployment rate can be witnessed in the 1990s during the introduction of Structural Adjustment Programmes (SAPs) in 1991 by the Lesotho government. The adoption of SAPs by the government also coincided with the massive shedding of jobs by the South African gold mines starting the 1990s. As a result, unemployment rate was estimated at 45 per cent in the 1990s by the Sechaba Consultants (Gay & Hall, 1994). However, unemployment rate decreased starting the new millennium due
to the introduction of African Growth and Opportunity Act (AGOA) in 2000. Many people were employed in the textile industries, thus contributing to a decline in unemployment rate. For instance, unemployment rate was estimated at 25 per cent in 2008 by the Bureau of Statistics (BOS 2009).

It is noted from the field data that, although high unemployment rate plummeted in the past decades, about 51 block farmers consider themselves unemployed. This perception can be linked with historical situation where many people were employed in the South African mines. It is indicated earlier that many Basotho men do not consider farming as work but getting paid employment in towns or South African mines. It can be deduced from these research results that, although farming is considered to employ a large number of people in developing countries, many Basotho do not consider it as a form of employment. In this case, farming is a supplementary source of income, while employment in non-agricultural activities is the main source of a living to curb poverty, unemployment and food insecurity. In addition, some block farmers make a living out of the social safety nets, old age pensions.

2.7. Household size of maize block farmers

It is indicated in the literature that household is a unit of production and consumption. Many smallholder farmers in Africa and elsewhere depend on unpaid household labour for working on the farms. Therefore, large households ensure availability of labour. It is also stated that the produce from farming is consumed within the household. However, large households can be detrimental to available food stocks. This is because households with many members are more vulnerable to food insecurity compared to those with fewer members (Chanetsa, Vhurmuku, & Tarakidzwa, 2003). Against this background, the field results reveal that about 36 block farmers have household sizes ranging between 5 and 9 members. These results suggest that a large number of block farmers have availability of labour to perform some agricultural chores such as weeding, ploughing, harvesting and many others. Therefore, large households are important for the availability of labour. It is therefore argued by Crehan (1992) that household is a unit of production, while Ellis (1988) opines that peasant farming depends mainly on family labour. On the contrary to being a unit of production, a household can be a unit of consumption (Crehan, 1992).

There are some social factors that can be linked to large household sizes in the rural areas. And one of them is the high prevalence of HIV/AIDS which has left many children without parents. Many orphans live with their relatives, and thus increasing the size of household members. Although it is stated earlier that the large households ensure availability of labour on family farms, children are only increasing the number of dependents (mouths to feed). As a result, most of them are not economically active.

2.8. Criteria for joining block farming

Many Integrated Rural Development Projects (IRDP) were implemented in Lesotho in the 1970s. Many of these projects followed a top-down approach where government was involved in initiation of the projects, and the local people were expected to implement them. Therefore, many IRDPs were not participatory, people in the area development projects were expected to join. As a result, many of them (IRDPs) failed due to lack of community involvement in the decision making.

In the case of block farming, the research findings reveal that people are free to join. Therefore, the statistics show that all the 60 respondents were free to join block farming. It can be assumed from these results that, the state led top-down approach is no longer applicable in the contemporary era. However, this conclusion is contradicted by the views of some block farmers. For instance, farmers are free to join block farming as long as their fields are in the area demarcated for such type of a project. And this is illustrated by one block farmer who explained that everybody in the demarcated area is free to join. However, the farmer further explained that, one person who was not around during the touting of block farmers by government officials was also included under the block farming scheme. There are two main observations that one can make from the
above statement. First, block farming is not participatory as farmers are arguing. This is so because, even during the IRDPs in the 1980s and 1990s fields that were in the areas demarcated for development were included under the scheme. Second, in reality farmers are not given an opportunity of deciding to join block farming or not. This is illustrated by the fact that even a farmer who was not present during the initiation of the scheme was also considered to be part of the project. In this case, one can conclude that, block farming in Lesotho still follows statist development approach of the past years where farmers were not consulted on what they want.

2.9. Acquisition of land
The most common method of land ownership in many African countries is the customary one. Communal ownership of land (where the land ownership is passed on to the descendants) has been practised in Lesotho and elsewhere for a long period of time. It is noted from the field results that land ownership in the study area followed the same trend. In this case, about 54 block farmers have inherited the land from their ancestors. Criticisms against customary land tenure system are well documented and beyond discussion in this research paper. However, one can argue that, lack of security of tenure restricts farmers to secure loans from commercial financial lending institutions to increase agricultural productivity. Therefore, it can be correct to argue that, declining agricultural productivity in Lesotho can be linked to freehold tenure. Although the Lesotho government has introduced the leasehold tenure from 2010, the outcomes of the new land tenure system have not yet been realized.

2.10. Agricultural inputs
According to Ellis (1988) peasant farming depends on the use of simple technologies that hinder productivity. And this called for government intervention to provide smallholder farmers with agricultural subsidies to increase production. In addition, the introduction of agricultural development projects since the colonial period introduced farmers to improved farming technologies. The Lesotho government introduced different agricultural development policies and programmes to support smallholder farmers since independence. Some of the policies supported farmers with agricultural inputs such as fertilizers, tractors, insecticides and many others. This was meant to promote and increase agricultural productivity in the country. Therefore, some agricultural development projects that supported farmers with agricultural inputs were introduced in the country. And these include among others, Thaba-Bosiu Integrated Rural Development Project, Food Self-sufficiency Programme and Co-op Lesotho. It can be noted from these research findings that the Lesotho government has for a long time been committed to increasing agricultural production in the country. The role of the Lesotho government in providing agricultural inputs to smallholder farmers can still be observed in block farming. This is because 100 per cent of block farmers pointed out that, agricultural inputs are provided by the government. Although the involvement of the Lesotho government in supporting small-scale peasant farming is currently noticed, government support deteriorated in the late 1990s due to implementation of the Structural Adjustment Programmes (SAPs) in 1991 (Makenete et al., 1997). The SAPs urged some developing countries to cut subsidies on small-scale farmers, and his affected agricultural production. As a result, food insecurity and poverty increased.

2.11. Arrival of agricultural inputs
Improved farming inputs are of great value because they assist in revitalizing the farming sector. Therefore, the timely arrival of inputs is imperative because that could help raise crop yields that are of good quality. Many programmes fail to succeed due to time constraints that are major challenge. Crop farming is seasonal therefore any delay that may be there can cause a hindrance to better quality products. According to the Lesotho Poverty Reduction Strategy Paper (PRSP) (2012), developed by the International Monetary Fund (IMF), agriculture is the main source of employment and income in rural areas therefore it should be done properly for better products. However, the poor management of the sector continues to exacerbate poverty and food insecurity.
This critical state of affairs has led the government to adopt better farming methods, improved seeds as well as improved technology.

The government’s policy of subsidizing inputs is a good idea especially for the poor people who are unable to buy the inputs whose prices have escalated. However, the untimely supply and inadequate supply were noted as major complaints by the majority of households. The research findings reveal that the agricultural inputs do not get to farmers on time in the study area. For instance, 43 block farmers indicate that, the inputs do not arrive on time while only 17 farmers show that they arrive on time. The findings suggest that, the crops will not reach maturity as when winter comes they will be negatively affected leading to a loss. In this case, one block farmer said ‘I think the inputs arrived late because there was drought and probably the government decided to hold onto the inputs until rain comes for fear that farmers might consume them as it has been the case in some villages’.

The farmer further argued that late arrival has resulted in immaturity of maize in some areas. However, in some places where agricultural inputs arrived on time, productivity has been enhanced thus resulting in good yields.

2.12. Share cropping between government and farmers

In its quest to fight the problem of food insecurity, the government introduced block farming in which crops are shared between farmers and the government. This becomes beneficial to the farmers because the majority of them are unable to cultivate their land and getting a share is much better than not getting anything. Since the government is the one that provides the inputs, it also decides on how products are going to be shared. According to findings of the study, the farmers consider block farming as a sharecropping. This is because the government provides the inputs and the farmers provide the fields for cultivation. And all the 60 farmers revealed that block farming is some kind of sharecropping in which the government gets 60 per cent of the produces while the farmers get 40 per cent of the produce. Despite all the efforts made by the government, food insecurity remains a major challenge in Lesotho even in the twenty-first century (Turner & Clifton, 2009). Lesotho is therefore highly dependent on food imports to meet its food needs. Furthermore, the Lesotho Vulnerability Assessment Committee (2002) asserts that Lesotho depends on 70 per cent food imports mainly if not all from South Africa. As a result of the prevailing food insecurity situation, in January 2016, the Lesotho Prime Minister declared a state of emergency on food insecurity and requested development partners to intervene and support government efforts in dealing with the situation. Among the efforts made by the Lesotho Red Cross Society as a development partner, it supports agricultural production through the provision of inputs and agricultural training to curb the problem.

2.13. Considerations for the share received

It has been the efforts of the Lesotho government and other development partners to assist the farmers in crop production through hybrid seeds, fertilizers as well as farming equipment. Since the government incurs some expenses in this endeavour, it is only fair that it recoups its expenses through sharing the produce with the farmers that were assisted. For the fact that block farming is a sharecropping calls for questions like whether farmers are happy with the way they share or not.

The research findings reveal that 46 block farmers are satisfied with the share they get from block farming, while 14 farmers are not satisfied with the share they get. As much as a large number of farmers is satisfied with the share they get, the share does not sustain many of them because of their large household sizes. The implication of the satisfaction of the majority of farmers may be attributed to the fact that some block farmers have many fields under block farming as a result they get more produces unlike a few farmers with only one field. Another reason why other respondents are satisfied with the share is because of the high prices of inputs that make it difficult for the majority
of farmers to cultivate the land themselves and they become happy with the least they get from block farming. Many respondents who are satisfied indicated that they were not able to cultivate their fields as farming has become very expensive and they cannot afford to finance it since they are not working. For instance, one male farmer explained that:

“I think share cropping is a good engagement, it’s a win-win situation for me, if the proceeds are few, I do not get hurt or disappointed because I did not put anything in. What I expect is my share no matter how little it may be”.

2.14. Utilization of the share

According to the results of the study, utilization of maize harvested differed among the respondents. This is because 51 farmers are mainly producing for home consumption while only 9 farmers are both consuming and selling the products. The analysis on the level of food production in the households and its utilization of harvested maize by respondents indicated that, it is only a few that can afford to consume and sell the products. The majority of respondents indicated that, as much as they use the products mainly for consumption, they do not sustain them until the next harvesting season. This could be associated with the fact that many households are large due to the effects of HIV/AIDS as the household head has to take care of the orphans of this scourge. One respondent explained that for her to assure food availability in the family, she gets some money from her children who are working in towns in the industries. Others pointed out that they are on social grant from the government while others have retired and earn some pension.

2.15. Benefits of block farming

The research findings show that 57 block farmers benefit from block farming while only 3 farmers claim not to benefit from block farming. The response of the majority can to a large extent be attributed to the fact that farmers were unable to cultivate their fields before this system was introduced. Therefore, they are happy that at least they are getting some food from their fields of which if it was not for block farming, they would not have been able to cultivate them. In fact, the majority of them even recommend that block farming should cover everybody in the study areas and other parts of the country so that they also reap the fruits. They also indicated that block farming has improved agricultural production in their area. Agricultural production has improved because there are some fertilizers that are applied to the soil that has lost fertility due to poor farming methods. However, a small percentage of respondents explained that they do not get benefits from block farming. One lady explained that:

Block farming is not beneficial to us farmers because the government is not considerate as they make us share the produce with them even during bad harvests. We were expecting that the government would not share with us when harvests are not good.

2.16. Challenges facing block farming

Challenges are often met in farming especially in countries that are poverty stricken like Lesotho as well as unpredictable climatic conditions that come as a result of global warming. Some challenges impact negatively on the outputs. From the results of the study, 26 block farmers show that the main challenge they face is theft especially from non-block farmers. This is because the non-block farmers are dissatisfied with not being part of the system. This can only imply that the system was not fully communicated with the community members that is why they did not feel a sense of ownership and ended up causing destruction in the fields. The second highest number (20 farmers) indicated that drought poses a major challenge to farming. This is because some fields were not ploughed on time due to drought because the land was so hard and after planting, the rain did not fall until it was late. About 9 farmers claimed that the fields were vandalized while 3 farmers pointed out that the inputs delayed to arrive. One farmer clarified that, as much there was theft and vandalism, it was mostly done by the herd boys. The relationship between block farmers and non-block farmers was good to an extent that in some cases, the non-block farmers helped block farmers to harvest their fields.
2.17. Wheat block farmers at Mokema and Ha Toloane

Wheat Block Farming was introduced by the Lesotho government through the Ministry of Agriculture and Food Security in the annual year 2016/2017 in Mokema and Ha Toloane villages. And the main purpose of the programme was to increase agricultural production and create employment opportunities in the country. It was realized that majority of people are unable to cultivate their fields because of expensive agricultural inputs and that even those who still cultivate them are not productive because the soil has lost fertility and they are unable to buy fertilizers. Poor soil is to a large extent attributed to poor farming methods of the farmers. Therefore, this called for the government adopting the strategy of block farming to reduce food insecurity.

The agreement between the government and the farmers was a verbal contract. And it stated that, the government would help farmers in some selected areas to grow wheat on their fields for three consecutive years. It was further agreed that the government was to perform all the duties until the harvesting period and thereafter the products would be shared equally. Unlike in maize block farming where the sharing is in the ratio of 60 per cent (for the government) to 40 per cent (for farmers), in wheat production sharing is following 50 per cent to farmers and 50 per cent government. In other words, in wheat block farming, the proceeds were shared equally. Although many farmers are happy with the share they get, they complained that the share does not sustain them to the next harvesting season therefore are forced to seek piece jobs performing family chores or helping other farmers in their fields. Many farmers said they benefit from block farming and would even recommend that this type of farming is applied country wide. However, those who were unable to get the products said they did not benefit and would not recommend it country wide unless some improvements are done. The farmers indicated that since it was their first time to be engaged in block farming, they did not know if the government would still take a share if production was not good.

The agricultural produce that is shared between farmers and government is the result of the women’s work. Women farmers are dominating both maize and wheat farming in the study areas. The results of the study reveal that 48 wheat block farmers are women while 12 are men.

3. Conclusion

The agricultural sector in Lesotho is dominated by small-scale farmers who produce mainly for consumption. However, productivity in subsistence farming has been affected by severe droughts in recent years. As a result, food insecurity is increasing among many rural households. Therefore, food donations have played an important part in assuring short-term access to food in most parts of the country, especially during the drought seasons. Reduction of food insecurity in Lesotho has been on the agenda of government since independence. As a result, there are different strategies that the government have employed to increase food production, and block farming is amongst them. This type of agricultural development programme is implemented in some parts of the country, mainly the lowlands. This is one of the agricultural development programme that emulates the area development projects implemented in the 1970s. The government of Lesotho selects areas that can be suitable for this type of farming. And the fields of different farmers found in the specific geographic locality are included under the block. This type of farming provides farmers with access to food, mainly on short term. The strategy has also failed to reduce Lesotho’s food dependence on other countries, especially South Africa. in addition, despite the introduction of block farming Lesotho still imports foodstuffs from countries such as Japan, and many rural households depend on food aid during the dry seasons. Therefore, block farming programme in Lesotho needs to be revisited so that it can reduce the existing food insecurity, and the country’s dependence on the outside world for both food imports and donations.

4. Recommendations

There are several challenges that the researchers observed during the study that need attention of stakeholders involved in food production, especially the Lesotho government. As a result, the
following recommendations are made to the Lesotho government to increase food production under block farming:

First, the government through the Ministry of Agriculture and Food Security has to cooperate and improve the situation of block farming in the study areas. This can be achieved by deploying extension officers at each village to supervise farming. This will help to ensure that farmers at the lower levels have access to knowledge regarding crop farming management, skills and technical advice and sustainability in general.

Second, the district agricultural officers together with extension officers and other stakeholders in the districts dealing with food security should also recognise and provide support to the block farmers by providing training and advice for the betterment of the strategy. Regular workshops should be organised country wide so that farmers from different districts can interact and share their experiences of block farming. These efforts should be taken by both local extension officers and also district officers to educate the farmers on proper use of agricultural methods including application of modern agricultural inputs.

Third, participation of farmers in this system appears to be very minimal thus that should be changed. It is therefore recommended that the farmers become involved as primary stakeholders who have the obligation to meet their immediate food security needs and improve their incomes.

Fourth, there should be a clear agreement made between the government and block farmers so that block farmers will be knowledgeable and feel obliged to fully participate in the project.

Fifth, clear policy should be formulated and developed which will foster relationships among stakeholders to ensure accessible use of the farming inputs together with land use. A policy should advance self-confidence of farmers and provide them with the needed skills to overcome educational barriers that hinder their path to economic liberation.

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Note
1 1 Loti (plural = Maloti) is equivalent to USD 15.34.

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