

Small Scale Agriculture in Enhancing Household Food Security in Rural Areas

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ABSTRACT Agriculture has a significant role in contributing to rural economic growth and ensuring food security. However, the agricultural sector has been exposed to challenges such as climate change and scarcity of resources that affect production. In spite of agricultural challenges, South Africa is still food self-sufficient nationally, except at household level. The study sets out to determine the effects of agriculture on household food security in rural areas. A survey was conducted in *uThungulu* District Municipality within six local municipalities using questionnaire and semi-structured interviews. Crop and livestock farming are recognised as the strategies to alleviate food insecurity. Agricultural policies need to be prioritised. Monitoring and evaluation tools must be developed to track whether these policies reflect the needs of rural populace. The Government should become the custodian of land and develop programmes that will enable rural people to access land to promote agriculture for improvement of food security.

INTRODUCTION

Agriculture has a significant role in contributing to rural economic growth and ensuring food security. However, the agricultural sector has been exposed to challenges such as climate change and scarcity of resources that affect production. South African Statistics (2013) showed that agriculture contributes 2.2 percent to Gross Domestic Product and agricultural practice by rural households has declined over the years. In spite of agricultural challenges, South Africa is still food secure nationally, except at household level. Alemu (2015) points out that food insecurity at household level is becoming a major challenge, as the majority of the populace is becoming more food insecure due to low rates of agricultural production, low access to food resulting from low income in rural areas. Tibesigwa and Visser (2016) show that in South Africa, an estimated 20.7 percent of households are involved in agriculture and sixty-five percent of these households practise agriculture purely for subsistence purposes to meet household food demand.

Nkonya et al. (2012) indicate that an estimated one-third of the world's crop land is losing topsoil faster than new soil is forming, and many of the poor live on degraded land that negative-

ly impacts on food production. Misselhorn et al. (2012) allude that from the year 2000, food security has become a crucial item in the global agenda and the subject of various inter-governmental processes. However, Margulis (2013) notes that international efforts to reduce world food insecurity have fallen considerably short of expectations and commitments.

Chan (2014) asserts that the Chinese Government's initiative was to assist Africa to solve its food security problem through establishment of China-Africa agricultural cooperation. Shisan-ya and Hendriks (2011) argue that dynamics that instigated food insecurity in South Africa is economic stagnation and poor agricultural policies, consequently lack of purchasing power. Furthermore, Modi (2015) estimated that millions of small scale farmers and agricultural cooperatives internationally live in marginal environments in rural areas. In addition, poor governance leads to lack of technical support of agricultural cooperatives and lack technical support. Therefore, this study intends to investigate if small scale agriculture can improve food security in rural areas particularly in *uThungulu* District since it has numerous food security projects being implemented and there is still a need for more food security intervention.

Agricultural Cooperatives and Improvement of Food Security

Vandenberg (2006) clearly states that cooperatives are an important means by which poor people group themselves together to improve their economic situation. Vorley (2012) states that agricultural cooperatives in an African context are characterised by small family subsistence farming on less than 5 hectares of land with mixed farming systems. Furthermore, Mujawamariya et al. (2013) state that cooperatives aim to help small and poor farmers without radically changing the distribution of economic power. Anim et al. (2015) point out that the agricultural sector has identified co-operatives as catalysts for sustainability of agricultural initiatives. Allahdadi (2011) argues that the existence of agricultural cooperatives plays a role for rural farmers through improving the stability of the farming sector, improving market access for their products and strengthening their position in the agri-food chain. Despite these initiatives, agricultural co-operatives and rural smallholders are still facing numerous challenges that constrain their progress and ability to farm effectively and produce marketable surplus. South Africa is reported to have inadequate access to economic resources to invest in agriculture and this is more perceptible in rural areas.

Agricultural cooperatives lack management skills, corporate governance and not using business principles to operate (Anim et al. 2015). However, Thaba et al. (2015) contend that only twenty percent of agricultural cooperatives that are sustainable are those controlled by white South Africans and heavily supported by the former apartheid regime. It has been noted by Ncube and Kang'ethe (2015) that white people in South Africa still dominate as commercial farmers and are in control of the fresh produce, with sky-rocketing prices that favour them as producers. Agricultural cooperatives that can provide a decentralised system of food and employment maintain a higher level of income and food security to sustain rural livelihoods (Chambo et al. 2009). The South African legislative enshrines food security as a human right whereby everyone must have access to food.

Legislative Framework on Food Security

Hendriks and Olivier (2015) point out that the main purpose of the White paper is to ensure unbiased access to agriculture and promote

the influence of agriculture in the development of all communities and society at large to build the national economy, in order to improve income, food security, employment and quality of life. Furthermore, White paper on agriculture of 1995 binds South African Government to addressing both national and household food security through creating access to food. However, De Cock et al. (2013) argue that although South Africa is food self-sufficient as a nation, many households remain food insecure and this suggests that previous food security policies in South Africa had failed because the black majority is still denied access to market. Furthermore, the current South African government is struggling to satisfy essential needs of the poor and still experiencing critical shortages in material, social and human resources, and have few opportunities for economic activity.

Altman et al. (2009) argue that South African food policies focus on rural food insecurity, with an emphasis on food production, not food access. South Africa has progressively engaged in the fight against hunger and poverty through its policies and programme interventions. Kepe and Tessaro (2012) assert that viewing South African food security policies clearly shows that the Government has taken the issue of food insecurity as a matter that needs more attention, particularly in rural areas where the majority are vulnerable. Modi (2015) states that it is estimated that millions of small farmers globally live in marginal environments, including rural areas, and lack policy and technical support for their indigenous farming systems. Qureshi et al. (2015) argue that effective policies are particularly crucial to economies consisting of smallholder farmers, who face increasingly unstable markets with price inflation and the bearing of climate change. Alemu (2015) state that South African national policy planning is limited as there is silence about the spatial dimensions of food insecurity in the country. Okunlola et al. (2016) note that South African agricultural policies are still biased towards large-scale commercial farming because the government extension programmes do not meet the needs of smaller-scale farmers.

Study Objective

The objective of this study is to determine the effect of small scale agriculture in enhancing household food security in rural areas.

METHODOLOGY

A survey was conducted in *uThungulu* District Municipality within six local municipalities namely, *Ntambanana*, *Mthonjaneni*, *Nkandla*, *Mfolozi*, *uMlalazi* and *uMhlathuze* (Fig.1).

This district is located in the north eastern region of the *KwaZulu Natal* (KZN) Province and is predominately rural. The district has the third highest population in the province with plenty arable land utilised to produce horticultural crops and vegetables. *UThungulu* District has its share of subsistence farmers who have the land as their only asset, characterised by under-development and high levels of poverty. Both quantitative and qualitative research methods were used in this study. The questionnaire was administered to respondents (n=147) who were available and willing to participate in the study. The questionnaire included the informa-

tion based on crop and livestock farming practices. Interview sessions were conducted with focus groups (n=7) which consisted of 109 members who were agricultural cooperatives, and three key informants using semi-structured questions. The focus groups and key informants were purposively selected to participate in the survey because of their involvement and in-depth knowledge on agricultural activities.

After data collection, both quantitative and qualitative data were interpreted together. All quantitative data was cleaned and coded, and the Statistical Package for Social Sciences (IBM SPSS22) computer program was used to develop descriptive statistics, percentages, frequencies and tables. Content analysis was used to analyse qualitative data, where the researchers generated themes from the interviews. The researchers started by listening to the voice recorder repeatedly to internalise the content and

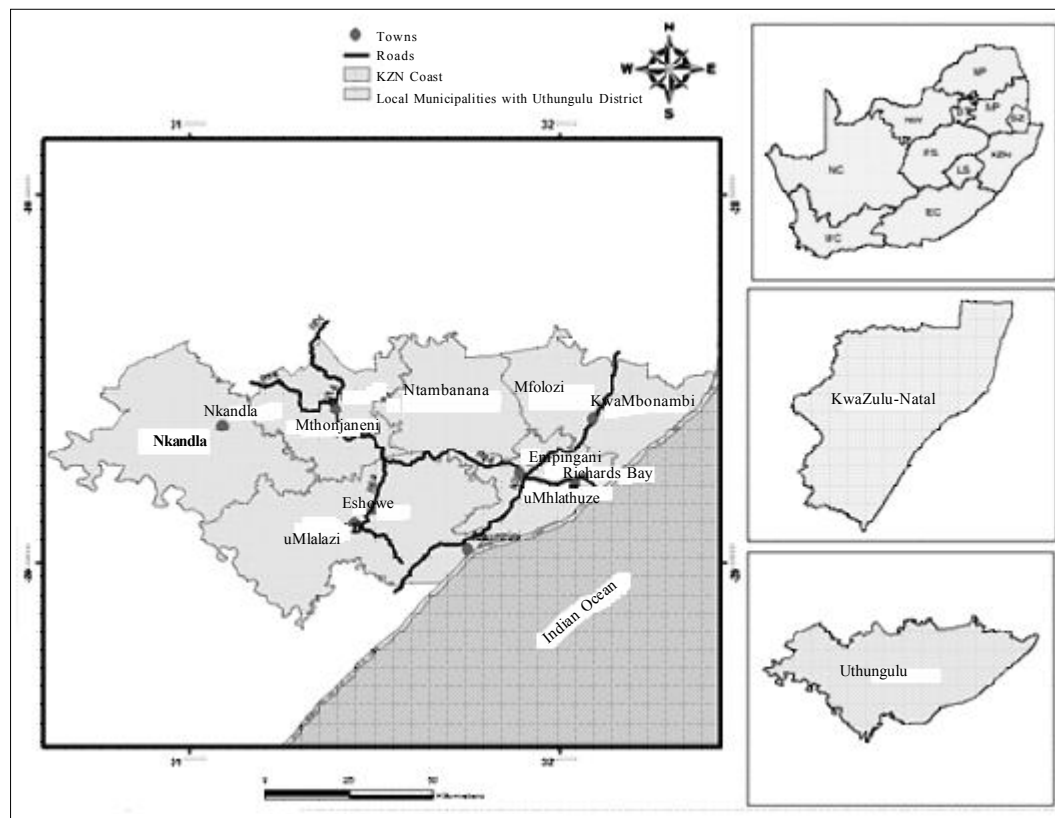


Fig. 1. Map of uThungulu District Municipality

transcribe it verbatim. Transcripts were read through carefully and ideas were written down in the margin as they came to mind, so that no data was left out.

FINDINGS AND DISCUSSION

The findings indicate that respondents rely on crop farming activities as the strategy to alleviate food insecurity, such as crop and live-stock farming. Poulsen et al. (2015) noted that farming activities may provide a source of food and income for households and assist in reducing food insecurity situations. Table 1 portrays involvement of respondents in crop farming.

Table 1: Crop Farming in uThungulu District

<i>Purposes of farming</i>	<i>Percentage (%)</i>
Subsistence	49.7
Commercial purposes	6.1
Both consumption and commercial	10.9
Not farming	32.7
Did not respond	0.7

The findings show that 49.7 percent of respondents practised crop farming, which comprised community and home gardens for subsistence purposes. Ngcoya and Kumarakulas-ingam (2016) attest that small-scale farmers in KZN normally grow crops to supplement purchased food on postage stamp size plots of land. These findings reiterate those of Baiphethi and Jackobs (2009) that the rural populace produces most of the food for consumption purposes through community and home gardens; unfortunately, these gardens are present in communities with higher than average household income. The respondents indicated that subsistence farming has been seen as the coping mechanism to alleviate food insecurity at household level and the majority have low purchasing power because of their poor socio-economic status. It was reported that 32.7 percent were not involved in farming activities due to lack of support services from government. This indicates that the majority of respondents had constraints to participate in agriculture as the vehicle to improve their quality of life and as the source of income. Six percent were commercial farmers; 10.9 percent practised both subsistence and commercial farming. Those who were practising subsistence and commercial farming indicated that their

gardens were open to the public to promote and secure the right to healthy and culturally appropriate food, and ensuring that local farmers are in full control of all aspects of food production. However, according to Anim et al. (2015), subsistence-based production in rural areas has shown a decline because of limited resource mobilisation and allocation affecting vegetable production.

Ten percent of the respondents practised commercial farming but were unable to access markets; their produce did not meet required standards and the price was determined by the market which consequently did not generate profit. Furthermore, Barham and Chitemi (2009) affirm that major obstacles faced by smallholder agricultural farmers are lack of market access. Fifty-eight percent of the respondents revealed that they received free poor quality seeds from the Department of Agriculture and Rural Development (DARD) which consequently led to less production whilst forty-two percent did not receive seeds at all. The findings of Pereira et al. (2014) maintain that the SADC region is faced with the deterioration of subsistence agriculture that led to an increase in intervention of agricultural cooperatives by both public and private institutions.

Agricultural Cooperatives and Crop Farming

The Government initiated agricultural cooperatives in rural areas as a vehicle to enhance the development of small-scale farmers and food security, through inputs and outputs that would make a meaningful contribution to the market. Mujawamariya et al. (2013) state that agricultural cooperatives in South Africa are characterised by small family subsistence farming on less than five hectares of land with mixed farming systems. These focus groups reported that their main activity was crop farming where they produce maize and beans, but they lacked knowledge and guidance on what to plough in which seasons and which method is relevant for the best farming to produce more. Kepe and Tessaro (2012) attested that the government has taken measured steps to alleviate food insecurity in outlying areas where the majority are vulnerable. The focus groups indicated that the purpose of formulating cooperatives was to address food insecurity issues and uplift poverty-stricken individuals, particularly women and youth,

through sustainable job creation and community projects. Vibert (2016) pointed out that most vegetable agricultural cooperatives in South Africa are dominated by women providing nutritious produce for households and vulnerable people in the community. The findings of the study concur with those of the USDA (2000) and ILO (2007) that agricultural cooperatives are formed as a business by a group of people who use its services and share in profits. All focus groups were assisted by DARD and local municipality officials to start agricultural cooperatives; however, no follow up was made to track their progress.

It transpired from focus groups that they were not business orientated on how to sustain their cooperatives due to lack of business workshops and trainings as emerging cooperatives. However, Mujawamariya et al. (2013) pointed out that Government had committed itself, stating that there are incentives and capacity building grants available for developmental-oriented cooperatives. Some focus groups indicated that to form agricultural cooperative it was not their initiative but top-down approach was used by government institutions including local municipalities and DARD by imposing agricultural initiatives. Uwizeyimana (2011) suggested that a bottom-up approach is an appropriate method, where people who live with the problems and understand them are in a better position to use their skills and understanding of the local context to formulate and implement possible solutions and policies that are most appropriate to local problems. This indicates that top-down approach portrays lack of community consultation and lead to projects being ineffective and as a result they collapse.

Knutson and Armbruster (2013) alluded that cooperatives are being overloaded with high expectations for alleviating food insecurity and overcoming subsistence economy through empowering entrepreneurs. The findings showed that agricultural cooperatives had many challenges that served as obstacles to achieve food security and stimulation of the local economy. This indicates that they lack institutional support which had failed to work directly at grass-roots level with low-income people like small-scale farmers and micro-entrepreneurs. White paper on Local Government (1998) emphasises that local municipalities should speed up the process of service delivery to meet the basic

needs of local people. Furthermore, the food security policy (Department of Social Development and Department of Agriculture, Forestry and Fisheries, (DAFF) 2012) ensures that all citizens are food secure through creating an enabling environment for all communities to produce more food and have control over its production.

The key informants indicated that the District has launched project called “*uThungulu Fresh Produce Market*” to address the triple threats of poverty, food security and unemployment in the District. This project is aimed at empowering the rural communities and small-scale farmers in uThungulu to have access to market. Ortmann and King (2007) stated that the Government has committed itself to providing a supportive legal environment for cooperatives. Lyne and Collins’ (2008) findings share the sentiment revealed in this study that few cooperatives survived in the development-oriented stage because of weak institutional support. The empowerment of agricultural cooperatives and rural farmers would benefit the rural populace; however, the majority rely on crop rather than livestock farming to achieve food security.

Livestock Farming and Food Security

The study revealed that 81.5 percent of respondents (Table 2) were not involved in livestock farming because of inadequate grazing land and livestock theft that was extremely high. They had a lot of fallen stock caused by severe drought and as a result they were discouraged to practise livestock farming.

Table 2: Livestock farming by uThungulu District

<i>Purpose of farming</i>	<i>Percentage (%)</i>
Subsistence	1.3
Commercial	1.4
Both subsistence and commercial	4.1
Do not have	81.5

Thirteen percent of the respondents had livestock for subsistence purposes, and 4.1 percent for both subsistence and commercial purposes. The respondents stated that livestock are a traditional asset and family’s inheritance; however, due to heavy drought they had no choice but to sell them at a lower price. Poulsen et al. (2015) indicated that women tend to participate more in

crop and poultry production, while men are involved in livestock farming. One percent of respondents were local commercial farmers and sold their livestock to local communities at bus and taxi ranks in towns as an income generation. Reddy et al. (2016) revealed South African National Development Plan (NDP) is silent on the role of livestock production and while the current argument is that small scale livestock farming is a vehicle to improve food security.

The livestock farmers were advised by the Government to cut herd size as sizzling temperatures sucked the moisture from pastures and left them without grass. This indicate that lack of resources including financial input from various government institutions to instil livestock farming as a means of income generation and one key informant alluded that small livestock farmers have a significant role to play in ensuring household food security and the overall growth of the agricultural sector. Obuoyo et al. (2016) show that over ninety percent of households in Kenya practiced livestock farming as the major economic activity to alleviate food insecurity. It transpired from the study results that very few households own livestock and Koch (2011) points out that during apartheid era the black majority were intentionally denied access to assets such as land, livestock and markets. This suggests that livestock farming in other developing countries has added to food security.

Agriculture and Access to Land

Land in developing countries is a sensitive issue, because it is at the heart of social, political and economic life in most African economies. In South Africa, land was forcefully taken from the black majority by the apartheid regime through Land Act of 1913, No.27. Moyo (2007) noted with concern that land as an asset forms the foundation for all human survival in terms of social and economic development. Focus groups indicated that their main challenge was to access entitlement to land. Another key informant indicated that the Comprehensive Agricultural Support Programme (CASP) was introduced to assist the populace that was previously disadvantaged by this Act. Toulmin (2008) emphasised that agriculture and natural resources rely heavily on the availability of land for contribution to the Gross Domestic Product, employment, and national and household food needs.

More than half of the respondents had no access to using land for agricultural purposes. The third key informant indicated that the estimated figure is forty-nine percent of black South Africans who have land access and the findings of the study indicated that 45.6 percent have access to land. The funding model which is Comprehensive Agricultural Support Programme (CASP) was established to identify the available land from previous white owners and this was given to potential farmers. The study findings complement those of Fukuda-Parr and Taylor (2015) that South African land reform policies have been supporting emerging farmers to improve their production-based entitlement. However, Toulmin and Quan (2000) argue that in most instances, land is being highly commercialised, while it is a primary means of subsistence farming and income generation, particularly in rural areas where their main purpose is to eradicate food insecurity.

In South Africa, particularly in rural areas, customary tenure system still exists where traditional authorities still hold powers to land ownership and distribution to its local people. According to Ngcoya and Kumarakulasingam (2016), land tenure is skewed in favour of men in *KwaZulu Natal* rural areas where female small-scale farmers are struggling to get access to land with the customary traditional leader's control. This is confirmed by some of the focus groups who were deprived access to land by traditional leadership, and then local municipalities were approached to assist without success. Concern has been also raised by Toulmin (2008) that the majority of traditional leaders have claimed stronger rights over common resources such as land, and even allocated it to outsiders for personal gain. This leaves local community members vulnerable to dispossession by local elites or by outsiders acting in alliance with local traditional leaders. This indicates that land is still a crisis and is also crippling food security in terms of productivity and practising agriculture to alleviate food security at household level. These study findings confirm Jayne's et al. (2003) findings that even though South Africa is a democratic country, severe land inequalities persist between traditional leadership, smallholders, commercial farmers and State farms.

Smith et al. (2013) noted that limited land affects food production; consequently, agricultural cooperatives are still unable to compete in

the market due to the small size of land and limited farming skills as compared to their counterparts. Okunlola et al. (2016) revealed that land reform in South Africa is not well-versed with any comprehensive approach for small farmer development and consequently there is skewed access and support mechanism to small farmers. The study revealed that commercial farmers are doing well compared to small-scale farmers because the latter have limited access to land as a resource for producing more food and other products. The study findings confirm Aliber and Hart's (2009) findings that food security initiatives or projects do not have clear guidelines on how cooperatives and smallholder agriculture should align land and agrarian reform projects in rural areas.

CONCLUSION

Agriculture is recognised as vehicle for food security and rural populace depends on subsistence farming as a coping strategy to alleviate food insecurity. The rural populace is more into mixed farming system including crop and livestock but crop is dominant through home and community gardens. Lack of livestock farming in black rural areas was caused by apartheid regime where blacks were denied access to assets such as livestock. Agricultural sector is more exposed to challenges such as scarcity of resources, lack of institutional support, poor quality seeds and drought; consequently, there is a low rate of agricultural production. Agricultural cooperatives were initially established as the vehicle to improve agricultural production to strengthen their position in the agri-food chain. Lack or failure of small scale farmers and agricultural cooperatives is due to lack of management skills and poor technical support from government. The study revealed that most agricultural projects were imposed in communities because the perceptions were still that food insecurity would be alleviated through agriculture only. This situation indicates lack of community consultation and failure of this agricultural initiative due to lack of agricultural workshops and trainings as emerging farmers as well as agricultural cooperatives.

Land in South Africa is still a major challenge and an obstacle towards improving rural agriculture due to lack of land entitlement. The land that is available is highly commercialised; con-

sequently, the black rural majority is unable to have access because they mainly practise subsistence farming. Furthermore, traditional leaders are the custodians of land in rural areas and their distribution is based on favouritism. These challenges are crippling the productivity of agriculture as means of food security and source of income generation. The South African government needs to prioritise agriculture policies and develop monitoring and evaluation tool to track whether these policies reflect the needs of rural populace.

RECOMMENDATIONS

The recommendations are to ensure that the challenges that are currently faced by the agricultural sector will be addressed properly to improve production and food security. The government should organise workshops and trainings that are directed at empowering small scale farmers and agricultural cooperatives with business skills as well as new technological farming methods. Moreover, government should develop programmes that will promote livestock farming as means of income generation and provide them with necessary support services such as financial assistance, livestock farming trainings and provide them with skills to commercialise livestock. The government should become the custodian of land then develop programmes that will enable rural people to access land to promote agriculture for improvement of food security and economic development.

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