

**COMMUNITY TRANSFORMATION IN BUIKWE DISTRICT:
THE ROLE OF AGRICULTURE**

BY

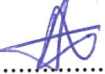
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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE
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UNIVERSITY**

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DECLARATION

I Adongo Brenda, declare that this dissertation is my work and has never been submitted for the award of a degree, diploma or any other academic qualification before.

Signature:  Date: 3/10/18

ADONGO BRENDA

APPROVAL

This dissertation entitled 'community transformation in Buikwe district: the role of agriculture' was done under my supervision and has been submitted to the College of Education, Open and Distance Learning at Kampala International University with my approval as the supervisor.

Signature.....

Date.....

KAMULEGEYA SIRAJE

DEDICATION

Dedicated to my dear parents for their mentorship and support.

ACKNOWLEDGMENT

My appreciation goes to all those persons who made this study a reality. I am grateful to the academic staff of the College of Education, Open and Distance Learning at Kampala International University and the respondents who participated in the study. Thanks also go to my dear mum and dad and to my beloved sisters and brothers. God bless you all.

ABBREVIATIONS

IFAD: International Fund for Agricultural Development

DNA: Deoxyribonucleic acid

GDP: Gross Domestic Product

FAO: Food and Agriculture Organization

MAAIF: Ministry of Agriculture, Animal Industry & Fisheries

KEY TERMS

Agriculture: The science and art [or practice] of cultivating the soil, producing crops and raising livestock and in varying degrees the preparation and marketing of the resulting products.

Development: The state of being developed.

District: An administrative unit for local government.

Poverty: The state of one who lacks a usual or socially acceptable amount of money or material possessions.

Rural: Relating to the countryside and its people, life and agriculture [or related activities].

Rural development: Development that benefits rural populations.

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ABSTRACT

This study examined community transformation in Buikwe district and the role of agriculture. This was after the realization that environmental conditions (i.e., fertile soils and the equatorial climatic conditions [reliable rainfall and warm temperatures]) make the potential for agriculture real in Buikwe District. The challenge was how to tap into this potential even when the necessary infrastructure and human and financial resources were still wanting. Agriculture generates unlimited forward and backward linkages, investment opportunities, foreign exchange, employment, taxes, new skills and technologies as well as reducing poverty and food insecurity. It is also a key in economic diversification and community transformation. The study specifically sought to achieve the following objectives: to identify the agricultural practices in Buikwe District; to establish the role of agriculture in the socio-economic development of Buikwe District; and to examine strategies for transforming agriculture in Buikwe District. To achieve the stated objectives, the study was guided by the following research questions: what agricultural practices are in Buikwe District? What is the role of agriculture in the socio-economic development of Buikwe District? What strategies can transform agriculture in Buikwe District? The study was qualitative and conducted using a case study design and a non-probability sampling technique involving purposive sampling to select the sub-county, villages and respondents. It was upon the researcher to identify the sub-county, villages and respondents likely to provide the best information. A sample of 45 respondents was selected for the study. The respondents included farmers, elders, mothers, household heads, land owners and agricultural officials from Najjembe sub-county. The data were collected using interviews and observations [for primary data] and documents analysis [for secondary data]. The analysis of the data generated by the interviews and observations involved a phenomenological approach by emphasizing a deep understanding of the observed phenomena and views of the participants, literal description and narration of the emerging issues out of which authentic conclusions were made. During the interviews and observations, the researcher noted down in his diary the relevant issues (episodes, situations, events or instances) for accurate reporting. The main themes that emerged from the field notes and interviews were noted down. The study found out that the agricultural practices in Buikwe District were predominantly on small scale either for commercial or subsistence [involving both livestock and crop husbandry]. Other practices were: agro-forestry, plantation farming [tea and sugarcane]. The study also found out that the role of

agriculture in the socio-economic development of Buikwe District included the reduction in poverty, generation of employment and business opportunities and enhancement of food security. Lastly, the study established that among the strategies for transforming agriculture in Buikwe district included: land reforms, multi-sector approach, investments [both private and government] that foster agricultural productivity, environmental sustainability, market integration, infrastructural development and capacity building. The study concludes by noting that the farming practices in Buikwe District will for some years to come largely remain at subsistence or small scale [with increasing commercialization] not until those who wield power and influence realize the role of agriculture in community transformation. Given the lack of immediate alternatives, the transformation of Buikwe District through agriculture will be the main stay of life though at a pedestrian speed. This will be the case given the structural bottlenecks that infest the agricultural sector [and the economy of Uganda as a whole]. Buikwe District could become a major agricultural hub in Uganda if there were substantial investments in the infrastructure [power, roads, storage and facilities], sustainable use of land resources, capacity building [manpower training and development] and agrarian land reforms. Short of this, transforming agriculture in Buikwe District will continue to be a dream with no light at the end of the tunnel. The study recommends the need for agrarian land reforms, capacity building and investment in the infrastructure as a way of reforming the agricultural practices in Buikwe District [in order to harness the agricultural potential that is largely unexploited]; increased investment in agriculture given the strong multiplier effect and linkages it generates in the transformation of Buikwe District; and substantial investments in the infrastructure [power, roads, storage and facilities], sustainable use of land resources, capacity building [manpower training and development] and agrarian land reforms as a way of transforming agriculture in Buikwe District.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the background, problem statement, purpose, specific objectives, research questions, significance and scope of the study.

1.2 Background to the study

Since the colonial days, agriculture has been the main stay of Uganda's economy accounting for the largest percentage of the GDP and employing and transforming hundreds of thousands of Ugandans who are predominantly rural. By one measure at least, agriculture ranks as one of the extraordinary success stories of Uganda since independence. Community transformation has been conceived as a response to the increasing external pressure on communities. In the past, rural communities were able to react by increasing specialization to take advantage of comparative advantages and economies of scale (FAO, 2006). However, globalization and increased competition from other areas in the same country or from another part of the world make this strategy less and less successful. Of the world's 1.2 billion extremely poor people, 75% live in rural areas and for the most part they depend on agriculture, forestry, fisheries and related activities for survival (Gustavo & Kostas, 2007). The actors in rural areas need to apply new strategies, based on mobilization and the interconnection of different fields (FAO as cited in FAO, 2006) in agriculture, environment and tourism among others. Globally, as noted by Lean (2006), roughly one quarter of the Earth's terrestrial surface is now under cultivation with more land converted to crop production in the 30 years after 1950 than in the previous 150. This study therefore, examined the correlation between agriculture and community development (i.e., the role agriculture in community transformation, poverty reduction, and overall development).

1.3 Statement of the problem

The promotion of the rural economy [agriculture] in a sustainable way has the potential of increasing employment opportunities in rural areas, reducing regional income disparities, stemming pre-mature rural-urban migration and ultimately reducing poverty at its very source. In

addition, development of rural areas may contribute to the preservation of the rural landscape, the protection of indigenous cultures and traditions while rural societies could serve as a social buffer for the urban poor in periods of economic crisis or social urban unrest (Gustavo & Kostas, 2007). The rural economy plays an important role with regards to employment, since the economic growth in urban centres is too slow to generate sufficient employment to absorb the migrated labor force, particularly in transition countries. The contribution of agriculture is obvious in rural areas where it is one of the major economic activities, although small semi-urban centres play a major role in the economic growth of rural areas (FAO, 2006). Three quarters of the world's 1.1 billion extremely poor people live in rural areas and depend on agriculture for their survival [that is, more than 800 million children, women and men held back by lack of access to information, knowledge, land, water, financial services, and other assets essential to overcoming poverty] (Lean, 2010). An OECD report concerning the future of rural areas concluded (OECD, 2006 as cited in FAO, 2006) that the major shift necessary to guarantee the future vitality of rural development is the diversification of the rural economy [agriculture inclusive]. Thus, rural and agricultural development and equitable distribution of the benefits of economic growth are crucial for the global reduction of poverty and hunger. Numerous studies have provided evidence that the impact of economic growth on reducing hunger and poverty depends as much on the nature of the growth as on its scale and speed. For example, a World Bank analysis of data from India, found that growth in rural areas and in the agriculture sector had a much greater impact on reducing poverty than did urban and industrial growth (FAO, 2006). Other studies that analyzed the relationship between growth and reduction in hunger revealed a similar pattern. These and other examples tend to support the conclusion that economic growth in the agricultural and rural sector has a much greater impact in reducing poverty and hunger than do urban and industrial growth. Therefore, socio-economic transformation in rural areas may depend heavily on agriculture and related sectors, especially in areas where tourism and the incentive to invest in industry are very low.

1.4 Purpose of the study

The purpose of this study was to examine the role of agriculture in rural development in Bukwo District

1.5 Specific objectives

The study was guided by the following objectives:

1. To identify the agricultural practices in Buikwe District.
2. To establish the role of agriculture in the socio-economic development of Buikwe District.
3. To examine strategies for transforming agriculture in Buikwe District.

1.6 Research questions

The study was guided by the following research questions:

1. What agricultural practices are in Buikwe District?
2. What is the role of agriculture in the socio-economic development of Buikwe District?
3. What strategies can transform agriculture in Buikwe District?

1.7 Significance of the study

Information on agriculture and community transformation in Buikwe District is sketchy or based on generalized data from the whole country. This study generated data presumed to be useful for a framework of action into the integration of agriculture in the development of Buikwe District. The findings, recommendations and conclusions will hopefully, benefit agriculturalists [at all levels], environmentalists, foresters, land use and economic planners, politicians, government, NGOs, academics and opinion leaders. Thus, they will have to base their decisions and actions on researched information. The researcher also hopes that this study will form a basis for further research into agriculture and rural transformation in Uganda.

1.8 Scope of the study

The study on community transformation in Buikwe district and the role of agriculture was carried out in Najjembe sub-county. The study focused on agricultural practices, role of agriculture in the socio-economic development and strategies for transforming agriculture. The study was qualitative and conducted in July 2018 based on a case study design and purposive

sampling technique. A sample of 45 respondents was selected for the study. The respondents included farmers, elders, mothers, household heads, land owners and agricultural officials across Najjembe sub-county. The data were collected using interviews and observations for primary data and documents analysis for secondary data.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the literature related to agricultural practices, role of agriculture in the socio-economic development and strategies for transforming agriculture which all related to the objectives of the study.

2.2 Agricultural practices

Both subsistence (i.e., nomadic pastoralism, shifting cultivation, bush fallowing, etc.) and commercial (i.e., ranching, dairying, horticulture, factory farming, plantations, etc.) agricultural practices are a reflection of the environmental, political, socio-cultural and economic conditions that control or determine their occurrence (Leong & Morgan, 1982; Witheric, 1995; David, 2002; Agriculture, 2009).

2.2.1 Subsistence farming

Subsistence farming is common in crowded, poorer, underdeveloped countries and in depressed areas even in advanced countries (Agriculture, 2009). In this case, farming production [of both crops and livestock] is for home survival [and the surplus is for sale to access industrial goods like sugar, cooking utensils and clothes among others] (Agriculture, 2008, 2009, 2014; David, 2002). According to Agriculture (2008, 2009, 2014); Leong and Morgan (1982); Witheric (1995) and David (2002), this type of farming is characterized by the following: the farms may be less than 1 acre (0.4 hectares) in size, often fragmented or scattered and the land is of poor quality; the family that works such a farm usually does it to provide enough to live on only through intensive hand labor using simple tools [such as hoes, machetes, axes, sticks, etc] and the surplus is for sale to access industrial goods [like sugar, cooking utensils and clothes among others]; farm production is low given the small plots, lack of mechanization and the application of chemicals as well as ignorance on part of the farmers; the farmer engages in several activities to survive (e.g., mixed cropping, mixed farming, hunting, gathering and fishing in nearby streams or swamps). There is now a growing element of commercialization of subsistence farming with

many farmers producing for market though on small scales (Agriculture, 2008, 2009). Subsistence farming involves the following:

2.2.1.1 Slash and burn agriculture [shifting cultivation]

Slash and burn agriculture [shifting cultivation] is part of subsistence farming. It is a deforestation technique used to clear large areas of forest [predominantly in tropical and subtropical areas] for agricultural and other purposes (Slash and burn agriculture, 2008, 2009, 2014; Agriculture, 2008, 2009; Leong & Morgan, 1982; Audrey, 2003; David, 2002). It is widely used in the sparsely populated forests of Africa, northeastern South America and parts of southeastern Asia. In many forested areas in the tropics the regeneration of mineral components in the ground, after frequent agricultural use, takes a very long time. There is considerable pressure to find new, unused arable land to farm. This land is obtained by clearing expanses of virgin forest and later burning the wood. The formerly used fields are often abandoned or allowed a phase of reforestation before cultivating again. However, it may take ten years for an area to become agriculturally useful once more.

According to Leong and Morgan (1982) and David (2002), the salient features of slash and burn agriculture include the following: huge areas of the forest are destroyed through slash and burn because an average rural family needs about 62 to 99 acres of rotation land; when the clearing takes place, ashes from the burnt vegetation fertilize the soil and after two to three years of cultivation, the mineral elements of the humus in the soil are extensively exhausted and the growth of weeds increases and further cultivation is unwise and becomes impossible without a new clearing. Depending on the population density of the settlement, the reforested areas are put back into cultivation at interval. Other salient features include a sustained serious permanent damage on the forest from overuse that may transform it into a sparse landscape of scrub or grassland. Slash-and-burn cultivation has been criticized for destroying habitats and ecosystems and reducing the variety of species. In addition, the removal of trees also speeds up soil erosion, which adds sediment to rivers and increases the severity of seasonal flooding.

2.2.1.2 Nomadic pastoralism

Nomadic pastoralism is also a form of subsistence farming. This is a term used to describe an economy based predominantly on the herding of animals such as cattle, goats, sheep, donkeys and camels (Nomadism, 2008, 2009, 2014; Leong & Morgan, 1982; David, 2002). Pastoral societies are mainly found in central and south-west Asia [such as the Basseri of southern Iran], East Africa [such as the Maasai, Turkana and the Karimojong] and as far north as the Arctic Circle [where the Saami herd reindeer]. Livestock are raised mainly for traditional reasons of social prestige and wealth, but commercial stock rearing is increasing [like in the cattle corridor of Uganda, Botswana and northern Nigeria]. The salient features of nomadic pastoralism include the adaptation to life in harsh environments such as arid grasslands or semi-deserts [where the soil is often too poor to sustain an agricultural economy, but the vegetation can be used for animal husbandry]; rearing of herds to produce dairy foods, blood [let from the living animals], meat, wool, hides and dung used for fuel; movement of pastoralists as dictated largely by the needs of their animals; resistance to change [almost as if they are left over from the past era and have somehow missed the supposed evolution towards agriculture]; versatility and mixed economies [sedentarism and trade]; and hierarchical chiefdoms, with a male elder as the head of each household and descent traced through the male line and the basic socio-economic unit is usually the immediate family. Other salient features include large groups often dispersed into smaller units when food is scarce or at times of migration; and during fertile periods, large numbers congregate together. Pastoralists also tend to place less emphasis on material goods and their culture is often rich with myth and ritual. Thus, livestock is given great spiritual and social significance by pastoralists (e.g., it provides wealth and social status; it plays a large part in the ritual content of their religion and the ideological content of their culture as a whole).

2.2.1.3 Bush fallowing

Subsistence farming could also be carried out in form of bush fallowing. With bush fallowing, land is cultivated permanently but at different intervals owing to population pressure, which gives way to settled farming (Leong & Morgan, 1982; David, 2002). Basically, the term fallow refers to land that is plowed and tilled but left unseeded during a growing season (Agricultural technology, 2014). According to Audrey (2003), bush fallowing is a modified form of shifting cultivation common in the equatorial rainforests [and grasslands] of Africa where a small part of

the forest is cleared by cutting and burning and crops are planted. When fertility of the soil is exhausted, another clearing is made and farmers cultivate it, but they continue to live in their village, they do not themselves move.

2.2.2 Commercial farming

For commercial farming, production [of both crops and livestock] is for sale or export (Audrey, 2003; David, 2002). In more developed, less crowded countries [such as the United States, Australia and Canada]; a single farm may reach as far as the eye can see in any direction and often run by large corporations that use only the latest machines and technology. Such commercial farms are the big agricultural producers in developed nations and operated much like other industries. Many are family run, but the family functions as management for the parent corporation. As noted by Leong and Morgan (1982), Witherick (1995) and David (2002), commercial farming involves large-scale plantations [concentrating on citrus, coffee, cocoa, tobacco, tea, pineapple, sugar cane, palm oil, rubber, sisal and other export crops]; dairying and ranching; horticulture; and factory farming. Specialization is part of commercial farming where a major crop or a few major crops that account for half or more of the farm's gross sales are produced. These are crops best suited to the land and climate and to the skill and financial ability of the farmer.

2.2.2.1 Plantation farming

Plantation farming is another aspect of commercial farming. A plantation is a large area of land that is usually privately or government owned and employs resident labour to cultivate a single commercial crop (Leong & Morgan, 1982; David, 2002; Audrey, 2003; Plantation, 2014). Plantation agriculture is generally found in tropical and subtropical regions. This type of agriculture has achieved new degrees of efficiency in Central and South America and some other areas where such crops as cocoa, sugarcane, coconut, banana, pineapple, breadfruit, and other tropical plants are raised under efficient agricultural methods. Typically, plantations develop as settlements grow and slash-and-burn farming exhausts the land. Villagers then turn to tending groves of coconut, breadfruit, banana, citrus, and avocado trees that can thrive permanently under tropical and subtropical soil and climate conditions. The rubber plantations of Sumatra and Malaya, cocoa plantations of Africa and Central America, and the sugar and coffee plantations

throughout the tropics are probably the best methods of using the land under existing conditions (Leong & Morgan, 1982; Plantation, 2014). Forests have only recently become regarded as croplands to be managed for continuous production, like plantations, with specialized techniques and machines for planting, harvesting, and replanting.

2.2.2.2 Horticulture

Horticulture is also part of commercial farming. It is a branch of plant agriculture dealing with garden crops [generally fruits, vegetables and ornamental plants] and covers all forms of garden management and intensive commercial production. Horticulture is divided into the cultivation of plants for food [pomology and olericulture] and plants for ornament [floriculture and landscape horticulture] (Horticulture, 2014; Audrey, 2003). Pomology deals with fruit and nut crops. Olericulture deals with herbaceous plants for the kitchen, including, for example, carrots (edible root), asparagus (edible stem), lettuce (edible leaf), cauliflower (edible flower), tomatoes (edible fruit), and peas (edible seed). Floriculture deals with the production of flowers and ornamental plants; generally, cut flowers, pot plants, and greenery. Landscape horticulture is a broad category that includes plants for the landscape, including lawn turf, but particularly nursery crops such as shrubs, trees and climbers (ibid). The specialization of the horticulturist and the success of the crop are influenced by many factors such as climate, terrain and other regional variations (Horticulture, 2014).

2.2.2.3 Ranching and dairying

Ranching and dairying are also an integral part of commercial farming. Ranching as an activity involves the breeding and rearing of animals [cattle, horses, sheep or goats] on a large scale on a ranch (Audrey, 2003; Ranch, 2014). On the contrary, dairying is branch of agriculture that encompasses the breeding, raising and utilization of dairy animals [primarily cows] for the production of milk and the various dairy products processed from it (Audrey, 2003; Dairying, 2014). Milk for human consumption is produced primarily by the cow and water buffalo though the goat also is an important milk producer in China, India and other Asian countries and in Egypt as well as in Europe and North America (Dairying, 2014).

2.2.2.4 Irrigation

Commercial farming could as well involve irrigation. This is the artificial application of water to land and artificial removal of excess water from land, respectively (Irrigation and drainage, 2014; Audrey, 2003). Some land requires irrigation or drainage before it is possible to use it for any agricultural production. Irrigation and drainage improvements are not necessarily mutually exclusive. Often both may be required together to assure sustained high-level production of crops. Irrigation is frequently used as insurance against drought in more humid regions. In areas having intermittent rain for five or six months with little or none during the remainder of the year, irrigation is essential throughout the dry season and may also be needed between rainfalls in the rainy season (Vegetable farming, 2014). Land irrigation could be by surface irrigation and sprinkler irrigation. A level site is required for surface irrigation, in which the water is conveyed directly over the field in open ditches at a slow non-erosive velocity. Where water is scarce, pipelines may be used, eliminating losses caused by seepage and evaporation. Sprinkler irrigation conveys water through pipes for distribution under pressure as simulated rain (Vegetable farming, 2014). Irrigation requirements are determined by both soil and plant factors. Soil factors include texture, structure, water-holding capacity, fertility, salinity, aeration, drainage and temperature while the plant factors include type of crop, density and depth of the root system, stage of growth, drought tolerance and plant population.

2.3 Role of agriculture in socio-economic development

The role of agriculture to an economy is multifaceted together with its multiplier effect and therefore a cause for the socio-economic transformation of a country [such as Uganda]

2.3.1 Economic growth

In developing countries such as Uganda agriculture is the main stay for economic growth both directly and indirectly. Over the years from 1987 to 2005, agriculture in Uganda performed well, growing at an average 3.8%, faster than population growth at that time. The sector was thus a major contributor to the success of Uganda's poverty reduction efforts in the 1990s. Relative to other countries [in the region and worldwide], Uganda's long term agricultural growth trend has been impressive (World Bank as cited in Ministry of Agriculture, Animal Industry & Fisheries, 2010). This long and sustained period of growth earned Uganda the distinction of being one of

the most successful countries in terms of achieving high rates of poverty reduction. However, the evidence suggests that, more recently, the performance of the sector has been less impressive than was expected. Real growth in agricultural output declined from 7.9% in 2000/01 to 0.1% in 2006/07 (UBOS Statistical Abstract as cited in Ministry of Agriculture, Animal Industry & Fisheries, 2010), before recovering to 1.3% and 2.6% in 2007/08 and 2008/09, respectively. This rate of growth has been below the population growth rate of 3.2 %, implying that per capita agricultural GDP has been declining. Agriculture exerts considerable influence on overall GDP Growth. While the share of agriculture in GDP has declined as industry has grown, it still made up 21% of the observed growth between 2001- 2005 and also accounts for a significant proportion of growth indirectly, that is through forward and backward linkages with the service and industrial sectors (World Bank as cited in Ministry of Agriculture, Animal Industry & Fisheries, 2010). Given that 73% of all households in Uganda are engaged in agriculture, a declining performance matters greatly for their livelihoods and represents a setback in the drive to eradicate poverty and create wealth.

2.3.2 Poverty reduction

Reducing poverty is one of the most conspicuous challenges to any authorities in power. Agriculture is one of the mortars that could be vital to poverty reduction in the developing world as it can employ tens of thousands of the youths and women. In Uganda, household surveys for the years 1992, 1999, 2002 and 2005 indicate that national poverty fell from about 60% in 1992 to 34% in 1999, rising again to 38% in 2002 and falling to 31% in 2005 (Ministry of Agriculture, Animal Industry & Fisheries, 2010). The fiscal year 1992/93 was a particularly bad year for agricultural production and corresponds to the highest measured poverty rate. The year 1999/00, which saw a large decline in the poverty rate, was the second in a row of three very good years of agricultural production. The year 2002/03 demonstrated positive but below average growth for the sector and this corresponded to the small rise in the poverty rate that year. These trends suggest that positive agricultural performance is strongly related to poverty reduction. Experience also suggests that one of the best ways of reducing rural poverty is agricultural production for the. Research has demonstrated that if agriculture in Uganda grew at 6% per annum, the national poverty headcount level would fall from 31.1% in 2005 to 17.9% by 2015. This would be well below the 28% Millennium Development Goal target. Moreover, the

absolute number of poor persons in Uganda would decline from 8.4 million in 2005 to 6.9 million in 2015 (Ministry of Agriculture, Animal Industry & Fisheries, 2010). This is the context in which agricultural development is so urgently required.

2.3.3 Food and nutrition security

Investment in agriculture could also be key a to food and nutrition security for poverty stricken countries [such Uganda] as it ensures a steady food supply. In aggregate, Uganda is food secure. Most people have enough food to eat and also enjoy a varied diet. However, the food and nutrition security situation is unsatisfactory. While, between 1992 and 1999, the country's average caloric intake per person per day improved, from 1,494 to 2,193, it declined again, to 2,066 in 2002 and then to 1,971 in 2005. Although the overall trend is still clearly positive, the average intake is less than the recommended daily calorie intake of 2,300.4 As for the proportion of the Ugandan population that is food insecure, this reduced from 83% in 1992/93 to 59% by 1999/2000 (Ssewanyana as cited in Ministry of Agriculture, Animal Industry & Fisheries, 2010), before rising back to 63% and 66% in 2002/03 and 2005/06 (UBOS as cited in Ministry of Agriculture, Animal Industry & Fisheries, 2010). At the same time, the indicators of nutritional status, unsatisfactory as they were, have improved a little. The prevalence of stunting among children aged five years and below declined from a national average of 45% in 1988/89 to 38% in 1995 and the rate has remained much the same since then. This means that one in three children in Uganda is stunted, the result of which will be long lasting negative impacts on their cognitive outcomes as well as on the labour productivity of their households. There is also a widespread lack of knowledge on food and nutrition issues despite there being functioning channels of communication. This may be reflected in other problematic indicators. Iron deficiency anemia is at 65% in children less than five years and at 30% in all women; vitamin A deficiency is at 28% in children less than five years and at 52% in all women (MAAIF/MoH as cited in MAAIF, 2010). There is also obviously a high incidence of vulnerability to hunger and starvation amongst the IDPs, neglected children, orphans, and refugees, those most susceptible to the shocks of weather, climate change, price fluctuations etc. Between 2006 and 2008, poor households in Uganda faced additional stresses due to food price increases, experiencing cuts in their purchasing power of between 10-15%. Some households probably went hungry. However, as world prices for grains and rice increased between 2006 and 2008, prices of every staple food

in Uganda [except sweet potatoes] also rose substantially (World Bank as cited in MAAIF, 2010). As a result, consumers faced substantial reductions in purchasing power. This implies that strategies to improve food and nutrition security must pursue enhancing incomes through on-farm and off-farm activities. Agriculture's ability to generate income for the poor, particularly women, is more important for food security than its ability to increase local food supplies. An appropriate policy response is therefore a mix of mitigation and encouraging supply. In the medium term, broad-based economic growth could be expected to lift many of these people back out of poverty as their incomes begin to increase. Higher productivity in both the food and non-food sectors is at the core of poverty reduction (and the broader growth process).

2.3.4 Exports

For developing countries such as Uganda the export of agricultural commodities is one of the most vital sources of foreign exchange. Although its share in total exports is declining [as industry grows], the agriculture sector is still the biggest earner of export revenues in Africa [including Uganda]. In 2008, exports of primary agriculture commodities contributed 46% of Uganda's formal exports earnings. When combined with informal trade in agricultural produce, the contribution of agriculture to export revenue may be much higher. Furthermore, while agriculture's contribution to growth has been disappointing, the export data suggests a slightly different picture. The value of exports of primary agriculture actually grew 16% per year on average over the period of 2003 - 2008 (UBOS as cited in MAAIF, 2010). Part of this is accounted for by increasing exports of food staples to Kenya, Rwanda and more recently to South Sudan and the Democratic Republic of Congo. Exports of maize and beans to Kenya alone more than doubled from 2004 to 2008 and, in 2008/09, Uganda exported a quarter of its total marketable maize production [supplying half of Kenya's import demand]. Between 2001 and 2007, the COMESA market emerged as the largest market for Uganda's exports. Indeed, in 2007, COMESA accounted for 38% of total exports compared to 24% for the EU, once the largest market (MAAIF, 2010).

2.3.5 Employment

Providing employment and livelihoods and alleviating poverty, for a large percentage of the rural population (Lean, 2010) is among the main contributions of agriculture. Evidence shows that it is

as important to create rural jobs as urban ones in poor nations. Rural jobs are vital to slow down premature urban migration, propelled by rural poverty and lack of economic opportunity (Lean, 2010). In predominantly peasant – rural economies [including Uganda], agriculture is the single largest employer of people working either on subsistence or commercial farms. Agriculture is the largest employer in Uganda. The sector has increased its share of the working population from 66% in 2002/03 to 73% in 2005/06 (MAAIF, 2010). This increase in the share of the labour force is a challenge because, while there is structural change evident in the economy [as the share of agriculture in GDP declines and that of industry grows], labour appears to be still stuck in agriculture. Contrary to expectation, faster growing sectors of the economy are not contributing significantly to the labour market and the agriculture sector remains the mainstay for unskilled labour. This is probably due to the fact that industry is becoming more capital intensive as machines replace human labour but, whatever the cause the larger labour force in the agricultural sector has not resulted in more growth in the sector. More analysis is needed to understand this phenomenon.

2.4 Strategies for transforming agriculture

There have been different frameworks the world over about agriculture with regards to issues of policy and the extent to which this might affect the transformation of agriculture. Thus, the transformation of agriculture requires a multifaceted and multi-sector approach given the different paradigms.

2.4.1 Farmer field schools

Investments in agricultural research by and for poor rural farmers can increase income and food security [and do so sustainably]. Spectacular returns can be achieved, as United Nations agencies discovered when they introduced Farmer Field Schools to Africa, helping to unleash a powerful movement that is enabling poor rural people to increase their income and food security (Lean, 2006). These schools are small groups of farmers who conduct agricultural research to improve their productivity. Facilitated by researchers, extension workers or the farmers themselves, they build on their participants' traditional knowledge through hands-on, experiential research and learning in the field. Sixty per cent of participants are women. First established in central Java in 1989 by the FAO to fight a rice crop-destroying insect, the schools are now a huge success in

East Africa and Asia. The annual incomes of a sample of poor Kenyan farmers participating in the schools rose by at least 150%. Average crop yields climbed by at least 20% and some farmers more than doubled their output (Lean, 2006). The families of participating farmers in Uganda increased their food security. These results are impressive, but even they do not show the most important effect: participants in Farmer Field Schools can become more independent and confident decision-makers – and leaders of their own development. Five years after the schools were introduced to Africa [in programmes jointly funded by FAO and IFAD], 95 % of the original groups are still working together. Moreover, people who have graduated from them are participating in setting up Farmer Field School Networks (i.e., independent associations owned by farmers, governed by elected boards and financed by contributions from members). The networks now support about 2,000 Farmer Field Schools in East Africa [nearly 50,000 people benefit directly]. They organize research that focuses on their highest priorities and needs (i.e., commercial access to fertilizer, seeds and other inputs) and build profitable market chains for their products. Farmers are also using them to increase the flow of relevant information among the groups and speeding the transfer of innovations, indigenous knowledge and technical advances (Lean, 2006).

2.4.2 Capital investments

Capital investment is a must if agriculture was to play a major role in rural transformation [especially hunger and poverty reduction]. Getting agriculture moving in developing countries is therefore, an important step towards sustainable development. But it takes more than ideology to achieve this. As noted by lean (2006), five basic prime movers are required for investment, development and coordination (i.e., new technology produced by public and private investments in agricultural research or imported from the global research system and adapted to local conditions; human capital in the form of professional, managerial and technical skills produced by investments in schools, agricultural colleges, faculties or agriculture and on-the-job training and experience; sustained growth of biological capital – such as by genetic and husbandry improvements of crops, livestock and forests – and physical capital investments in dams, irrigation, roads, grain storage, etc; improvements in the performance of institutions such as in marketing, credit, research, extension, and settlement; and favourable economic policy environment and political support for agriculture over the long haul). Worldwide experience has

shown that no single prime mover, such as new technology or higher prices, can by itself increase agricultural production and sustain it over time. The challenge is to mobilize public and private investments in all five as a policy package over a period of decades

2.4.3 Genetic strategies

Among the areas for the transformation of agriculture include research in plant genetics [such as germplasm] to understand plant resistance to diseases and elements. The germplasm of each crop species possesses significant genetic variation for resistance genes. Scientists continually collect natural variation in germplasm from areas where crop species have evolved so as to conserve genetic diversity for future plant breeding. This is because pathogens display remarkable diversity and the ability to evolve and form new races that can overcome resistance genes, often within just three to five years. Recent biotechnological advances show there is great similarity, in the genetic code or DNA of such resistance genes irrespective of the plant species. These ‘race-specific’ genes have long been the backbone of resistance, but using them inappropriately can lead to a ‘boom-and-bust’ cycle [a period of high yields from a widely sown resistant variety followed by serious losses when it is attacked by a new race to which it is susceptible and is not quickly replaced] (Lean, 2006). Stringent monitoring can identify the presence of a new race long before it causes an epidemic, but most farmers [especially poor ones] do not change varieties until after the devastation. Disease-causing spores of most pathogens, including those of wheat rusts, can be carried far by the wind to disperse a new race, often aided by the continuous span of major food crops over millions of hectares. These factors have driven the search for alternative longer term genetic strategies to combat major diseases such as wheat rusts and rice blast.

2.4.4 Land reforms

Agriculture and rural development partly rest on land reforms. Land reform is a purposive change in the way in which agricultural land is held or owned, the methods of cultivation that are employed or the relation of agriculture to the rest of the economy (Land reform, 2014). Reforms such as these may be proclaimed by a government, by interested groups or by revolution. The concept of land reform has varied over time according to the range of functions which land itself has performed: as a factor of production, a store of value and wealth, a status symbol or a source

of social and political influence. Land value reflects its relative scarcity, which in a market economy usually depends on the ratio between the area of usable land and the size of that area's population. As the per capita land area declines, the relative value of land rises and land becomes increasingly a source of conflict among economic and social groups within the community (Land reform, 2014).

The efficiency and competitiveness of the rural sector is dependent on a coherent approach regarding land tenure. Land fragmentation is an important factor affecting many transition countries and its resolution through land consolidation would give young farmers, in particular, an incentive to invest in their holdings and to remain in rural areas (FAO, 2006).

Farm structures and land tenure patterns must be adapted to the dual objectives of increasing food production and promoting wider distribution of benefits of agrarian progress. Highly unequal structure of land ownership is the single most important determinant of highly inequitable distribution of rural income and wealth. Land reform may take the following forms: transfer of ownership to tenants who already work the land to create family farms; transfer of lands from large estates to small farms, rural cooperatives or state farms; and appropriation of large estates for new settlement. Land reform is most urgent today because income inequalities and unemployment in rural areas have worsened; rapid population growth threatens further worsening existing inequalities; and recent and potential technological breakthroughs in agriculture can be exploited primarily by large and powerful rural landholders resulting in an increase in power, wealth and capacity to resist future reform.

2.4.5 State involvement

According to Jayne, Steven, Minot and Rashid (2011), this approach relies on the state to carry out the marketing functions [of purchase/assembly from farmers, wholesaling, storage, transport, milling and retailing]. The state could also be involved in the provision of public goods (i.e., market rules and regulations, physical infrastructure, regulatory oversight of finance, market information, investment in new technology, organizing farmers into groups for means of reducing costs and risks of accessing finance, inputs, and marketing). Another approach is to rely on markets to carry out most of the direct food marketing functions and also the role of the state to be expanded to include direct marketing operations, especially in the arrangement of

imports, the management of food buffer stocks, and release of stocks onto markets when prices exceed a publicized ceiling price. The rationale for state operations is based on the premise that markets fail in some respects and direct rules-based state operations are necessary to maintain prices within reasonable bounds.

2.4.6 Addressing gender issues

Strategies for transforming agriculture must also address gender issues [especially in farmers' organizations]. Farmers' organizations worldwide continue to be dominated by adult men. This trend is often a result of deeply-rooted institutional norms and membership requirements that militate against the participation of more vulnerable actors [such as women and young people]. These gender and generation gaps in farmers' organizations limit the sustainability and cohesion of these groups and jeopardize efforts to reduce poverty (IFAD, 2012). To overcome these constraints, IFAD and other donors have provided incentives and implemented capacity-development activities to encourage people to create more inclusive organizations. Innovative approaches have been piloted with the aim of supporting genuine processes of organizational change. These work towards establishing a broader consensus on the need for gender and intergenerational equity in producers' organizations. In addition, they strive to improve cooperation and mutual understanding among family members. Examples of innovative approaches include the implementation of the Gender Action Learning System in Uganda and the Closing the Gap methodology in Central America. Both methodologies provide simple and easy-to-use tools that enable women and men members of farmers' organizations to negotiate and develop a common vision for change. That vision encompasses various institutional levels (i.e., the household, the organization and the market), and incorporates the views and perspective of women and men farmers, including the young.

As a result of these approaches, many farmers' organizations have now developed the capacity to provide better-targeted support services that respond to the specific needs of different segments of the population. They have increased the participation of women and young people in leadership positions thereby fuelling transparency, democratic governance and sustainability. In some cases, young people and women have formed committees to create spaces where they can address their needs and elaborate their own development visions. Some farmers' organizations

have also promoted the development of women's brands. Overall, these experiences demonstrate that more inclusive farmers' organizations can become an engine of rural economies. Not only can they improve access to profitable markets and employment opportunities, but they can foster social cohesion and active citizenship (IFAD, 2012).

2.4.7 Cooperatives

The use of cooperatives is pivotal in rural development. A cooperative is an organization owned by and operated for the benefit of those using its services; they have been successful in a number of fields, including the processing and marketing of farm products, the purchasing of other kinds of equipment and raw materials and in the wholesaling, retailing, electric power, credit and banking and housing industries (Cooperative, 2014). The income from a retail cooperative is usually returned to the consumers in the form of dividends based on the amounts purchased over a given period of time. Cooperatives are important vehicles for the empowerment of rural women. Through these, women can access enhanced economic opportunities and transform their agricultural activities into commercial enterprises, while at the same time minimizing risks. Across Africa, women are heavily involved in agricultural production. However, they lack access to proper storage and processing facilities, and to the technologies that could provide them with opportunities for increasing their income. They also lack the skills to add value to their products. Enhancing rural women's production and processing skills can empower women socially as they organize and cooperate together. It can also empower them economically as they improve their negotiating abilities to attain better financial compensation and access to markets (IFAD, 2012). An enabling policy environment facilitates access to appropriate production and processing technologies and market infrastructure. The initiative would involve the sharing of information and best practices about farmers' cooperatives by developing a web portal or building on an existing one that hosts network members and posts information on cooperatives. Many good examples of such projects exist, such as dairy cooperatives in central Kenya, cassava initiatives in Nigeria and economic stimulus programmes in Kenya. The aim would be to identify models of cooperatives that are replicable across Africa (IFAD, 2012).

2.4.8 Micro-insurance

According to IFAD (2012) the micro-insurance initiative creates a community of microenterprise ventures whereby micro-insurance products offered by membership organizations would lead to empowered rural citizens, secured assets and enterprises, sustainable membership organizations and strong organizations with committed and confident members. The project would make insurance against losses available to smallholder farmers for a cost as low as US\$1 per month. To ensure success, the initiative would build on cooperative ownership, a common vision and strong leadership. In the success of these programmes, women must be included. To a great extent, rural financial programmes have been designed and implemented with a male head of household as client. For various reasons, these programmes have ignored the fact that women are economically active and engaged in productive activities in their own right [whether as women in male-headed households or as female heads of households]. Finance programmes have also largely ignored women's particular legal, social and economic needs. Micro-entrepreneurs, especially women, have no access to protection for their assets in cases of calamities, thefts, crop failures, illnesses or fires (IFAD, 2012). Micro-insurance products that are designed with smallholders in mind and that consider the specific needs of women to enable them to insure against unexpected shocks are thus, vital. They support a dynamic, sustainable agricultural sector and broaden women's economic opportunities.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the study area, research design, sample framework, sample size, methods of data collection, data analysis and limitations of the study.

3.2 Area of study

Buikwe District lies in the Central region of Uganda, sharing borders with the District of Jinja in the East, Kayunga along river Sezibwa in the North, Mukono in the West, and Buvuma in Lake Victoria. The District Headquarters is in Buikwe Town, situated along Kampala - Jinja road (11kms off Lugazi). Buikwe District has a total area of about 1209 Square Kilometres. The northern part of the district is flat but the southern region consists of sloping land with great many undulations; 75% of the land is less than 60o in slope. Most of Buikwe District lies on a high plateau (1000-1300) above sea level with some areas along Sezibwa River below 760m above sea level, Southern Buikwe is a raised plateau (1220-2440m) drained by River Sezibwa and River Musamya. The mean annual rainfall is 11,000mm distributed over 106 rain days, with peaks in March – May and September – November. Temperatures range between 16oC and 28oC throughout the year. Both relief and climate provide good potentials for investment in production of cash and food crops, horticulture and floriculture on a commercial basis. Existing commercial farms in the District also provide a good background for experience sharing for those investors who want to venture in such areas. The northern part of Buikwe District is flat but the southern region consists of sloping land with great many undulations; 75% of the land is less than 60o in slope. Most of Buikwe District lies on a high plateau (1000-1300) above sea level with some areas along Sezibwa River below 760m above sea level, Southern Buikwe is a raised plateau (1220-2440m) drained by rivers of Sezibwa and Musamya. Both relief and the climate provide a good potential for investment in cash and food crop, horticulture and floriculture on a commercial basis. There are two main categories of soils namely; Ferralitic soils and Ferrisols. Generally, the vegetation cover is of the forest / savannah mosaic characterized by patches of dense forest in the south and scattered trees in shrubs and grassland of the north.

Natural forests on private land and government-controlled forests are a characteristic of this region. The wetland vegetation comprise of typha, miscanthus, hyparrhenia species, some cyperaceous and creepers, mostly convolvulaceae. Swamp forest tree species such as pseudospondiasmicrocarpa, mitrogyra species, tarbementana, ficusspp, brideliamicrautha and phoenix reclinata shrub vegetation include some edible plants such as psidium guava and afromoniumaugustifolium. The several species found in the district are utilised by the local community for food, fuel, building materials, medicines and raw materials for especially for crafts.

3.3 Research design

A case study design was used in this study for an intensive, descriptive and holistic analysis. The respondents presumed knowledgeable on the topic of study were selected using purposive sampling so as to collect only relevant and focused data. The data collected were qualitative. Such data were obtained through interviews and observations [for the primary data] and the review of literature [from journals, textbooks and government documents] for secondary data.

3.4 Target population

The target population consisted of farmers, elders, women, mothers, household heads, land owners and agricultural officials from Najjembe sub-county and presumed knowledgeable about agriculture and community transformation.

3.5 Sample framework and sample size

The study used a non-probability sampling technique involving purposive sampling to select the sub-county, villages and respondents. It was upon the researcher to identify the sub-county, villages and respondents likely to provide the best information. A sample of 45 respondents was selected for the study. The respondents included farmers, elders, mothers, household heads, land owners and agricultural officials from Najjembe sub-county. The data were collected using interviews and observations [for primary data] and documents analysis [for secondary data]. After engaging 45 respondents in the interviews, it was assumed that no more new information was likely to emerge (i.e., the data saturation point was realised and accordingly the sample size was determined instead of being fixed in advance).

3.4 Data collection

The data collected were both primary and secondary. Primary data were collected using field observations and interviews while secondary data were collected by documents analysis (i.e., by the review of journals, official records, government publications, reports and internet search).

3.4.1 Interviews

Face-to-face interviews were held between the researcher and respondents to get the views on agriculture and rural development in Buikwe District. An interview questionnaire [questionnaire schedule] with both structured and unstructured questions was formulated by the researcher. The structured interviews involved a list of open-ended questions that were asked to all respondents in the same manner [appendix A]. The unstructured interviews involved the researcher asking questions according to the responses of the respondents. In the interviews, the researcher asked questions: to identify the agricultural practices in Buikwe District; to establish the role of agriculture in the socio-economic development of Buikwe District; and to examine strategies for transforming agriculture in Buikwe District. Forty-five respondents who included farmers, elders, women, mothers, household heads, land owners and agricultural officials across Najjembe sub-county were purposively selected for the interviews. These were presumed to be knowledgeable on the topic of study. Thus, the researcher was able to collect data that were hard to observe and also to seek clarifications on certain issues.

3.4.3 Observations

Disguised observations were also used to gather the data that could not be captured through the interviews. In this regard, a list of items to be observed was made. The list consisted of the size of gardens/farms, crops grown, live stock reared, farming practices, farm tools/machines, soils, storage facilities, transport, and formal and informal activities [appendix B] found in the area of study. During the observation process, the researcher noted in his diary the relevant issues related to the objectives of the study.

3.6 Data analysis

The data collected were first edited to rid of it of errors (i.e., inconsistencies). Themes [subjects of discussion] related to the objectives of the study were then created. This was preceded by the qualitative analysis of the data. That is, by the literal description and narration of the subject matter (i.e., content analysis of the emerging issues). This was then followed by the making of authentic conclusions from the data.

3.7 Limitations of the study

The study on community transformation in Buikwe district: the role of agriculture could have covered all the sub-counties in Buikwe district. However, the case study design and purposive sampling technique relegated the study to a relatively small area of Najjembe sub-county. The study was also qualitative which made the interpretation of the findings highly subjective. The tools that were used in data collection (i.e., observations and interviews) also had their own drawbacks. Further, the study was conducted for a short period of time [for only one month in July 2018] using a relatively small sample of 45 respondents. This obviously limited the scope of the data collected. Thus, the methodological shortfalls could limit the generalization of the study and lower its validity and reliability.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This study examined community transformation in Buikwe District and the role of agriculture. This was after the realization that there were numerous ways through which agriculture could be central in the socio-economic transformation of rural areas where over 3 billion people lived in 1997 and this figure had been projected to increase to almost 3.3 billion by the year 2010. People living in the countryside comprise considerably more than half the population of different nations of the world. The vast majority of the world's poorest people are located in rural areas and engaged primarily in subsistence agriculture. The challenge was how to harness agriculture to make it a vehicle for rural transformation. The data collected were qualitatively analyzed by the literal description and narration of the subject matter (i.e., content analysis of the emerging issues) followed by the making of authentic conclusions. The analysis, interpretation and discussion of the findings are presented under the following subsections that relate to the objectives of the study: agricultural practices in Buikwe District; role of agriculture in the socio-economic development of Buikwe District; and strategies for transforming agriculture in Buikwe District.

4.2 Agricultural practices in Buikwe District

The first objective of this study was to identify the agricultural practices in Buikwe District. To achieve this objective, respondents were asked to identify the agricultural practices are in Buikwe District. The data on this objective were analysed under the question: what agricultural practices are in Buikwe District? The results showed that the agricultural practices that are in Buikwe District included the following:

The results showed that intensive subsistence farming was one of the major farming practices in Buikwe District. It involved the maximum use of the land with neither fallow nor any waste space owing to the high population density that was causing scarcity of land. The crops grown included: sugarcane, tea, coffee, bananas, maize, potatoes, cassava and vegetables [such as pumpkins, cabbages, tomatoes, onions and eggplants]. In some areas, however, it was evident

that little soil conservation measures [such as mulching] were put into practice. The implication is that the soils continuously suffer degradation in form of soil erosion exacerbated by heavy rainfall, over cultivation and devegetation.

The results also showed that livestock rearing was one of the agricultural practices in Buikwe District. It involved the rearing of a few livestock [not comparable to the number reared by nomads or ranchers] basically for prestige, storage of wealth [for sale in future] and milk [in case of cows]. Other animals reared included goats, sheep, rabbits and pigs. Generally the livestock rearing involved zero grazing at home and roadside grazing. This could be explained due to the shortage of land that could not allow grazing on several acres. Besides, the cultural orientation was towards cultivation.

The results showed that monoculture [the practice of growing the same crop each year on a given acreage] was widely practiced. This involved cases of households concentrating on a single crop such as coffee, bananas, potatoes and maize. The concerns here are the requirements for successful monoculture management skills since the entire nitrogen need of non-legume crops must be met by purchased fertilizers or by use of manure which local farmers may not afford. In monoculture, the farmer is completely dependent on chemical insecticides, disease-resistant plant varieties, soil fumigation, and similar methods of controlling insects and diseases that are usually controlled by crop rotation. This implies that monoculture leaves the local farmer in Buikwe District vulnerable to vagaries.

The results also showed that mixed cropping was widely practiced evident from the numerous crops [such as maize, beans, cassava, vegetables and bananas] grown on the same plot. The implication could be that such a measure enhances soil fertility, or the soils could be fertile to support mixed cropping, or it could be a strategy adopted by the locals to enhance food security and income sustainability as well as controlling plant diseases.

The results revealed that small-scale commercial farming [of both crops and livestock] was widely practiced. This involved small plots of crops cultivated for sale (e.g., plots of tomatoes, potatoes, coffee, sugarcane and tea) and few dairy cows reared to produce milk for sale. The small-scale commercial farming was in part a result of lack of economic motivation, inadequate financial resources, shortage of land and limited farm knowhow.

The results also revealed that agro-forestry was widely practiced in Buikwe District as a land-use approach that yields wood products and crops as well as foliage for livestock fodder. Trees and crops were found to be grown together on the same tract of land in various patterns and cycles. The trees were planted around the perimeters of the small farms probably to provide fuel-wood, building materials, demarcate land and to serve as windbreakers and to control soil erosion. Among the trees cultivated included fruit trees for mangoes, avocado and jackfruit and trees that provide wood-fuel and building materials such as eucalyptus and pine.

The results revealed that vegetable farming was a major agricultural practice in the district. Vegetable farming involved home gardening to provide vegetables exclusively for family use. Bean, cabbage, eggplant and tomato were the desirable home garden crops. Market gardening involving the production of assorted vegetables for the local market was also practiced – thanks to the development of feeder roads that had rapidly extended access to the available markets in the neighboring districts. This implies that the market gardener was no longer forced to confine his operations to the local market.

4.3 Role of agriculture in the socio-economic development of Buikwe District

The second objective of this study was to establish the role of agriculture in the socio-economic development of Buikwe District. To achieve this objective, respondents were asked to establish the role of agriculture in the socio-economic development of Buikwe District. The data on this objective were analysed under the question: what is the role of agriculture in the socio-economic development of Buikwe District? The results revealed numerous roles of agriculture in the socio-economic development of Buikwe District as shown in the discussion below:

The findings showed that agriculture was important in the eradication of poverty and hunger in Buikwe District. Poverty is said to exist when people lack the means to satisfy their basic needs [those necessary for survival or as broadly as those reflecting the prevailing standard of living in the community]. Thanks to agriculture, there were hardly cases of people near the borderline of starvation or death from exposure due to malnutrition, inadequate housing, poor clothing, ill health, low levels of education or skills, inability to work, high rates of disruptive behaviour and improvidence that have often been found to exist with poverty. Thus, agriculture had become a major source of domestically-anchored linkages on hunger and poverty reduction. Food security

had been increased in Buikwe District by the diversification of food production. Obviously, the contribution of agriculture to poverty reduction in the district had been several times higher than that of other sectors. Thus, agriculture has been the fundamental factor for district's poverty reduction and food security.

The results revealed that there were forward and backward linkages [multiplier effect] associated with agriculture in the district. The forward linkages were mainly in the agro-industries [flourmills], restaurants and schools that provided the market for the produce. Similarly, the main backward linkages were with the agro-industries that produced the animal feeds and shops that sold chemicals, fertilizers and farm equipment. This implied that agriculture was a major employer in Buikwe District where the majority of the people were engaged in agriculture for a livelihood. The results revealed that agriculture was raising employment and wages of the unskilled. Agriculture was found to be labour intensive and dominated by the unskilled [many of whom were poor].

The findings showed that there was empirical evidence that suggested that agriculture was pro-poor by which agricultural growth reduced poverty. Small holders were found inadequately endowed with land and lacked other assets like physical and human capital. Expansion of the agricultural sector was found beneficial to the small-holders and pulled some of them out of poverty. Most measures of poverty were based directly or indirectly on the cost of access to food. With the price of food generally reduced in Buikwe District, there was an improvement in the welfare of the poor. Their real incomes increased because food was the main component of their consumption basket. In addition, the bulk of the staples produced and consumed in the district were traded in local markets and in neighbouring districts. Given these channels through which agriculture reduces poverty, it should come as no surprise that the overwhelming empirical evidence showed that agricultural growth was not only pro-poor, but more pro-poor than growth in other sectors of the economy. In Buikwe District, most agricultural output came from small holders and therefore, this was the most important pro-poor channel of reducing poverty.

The findings showed that agriculture in Buikwe District was making a transformation into commercial farming. Commercial farmers were now turning into the employers of the unskilled

labour. With commercial farm transformation, farmers in the district were becoming interlinked with the rest of the economy [in particular with urban markets]. Agriculture was therefore, having an important effect on the employment and wages of the unskilled workers in the district.

4.4 Strategies for transforming agriculture in Buikwe District

The third objective of the study was to examine strategies for transforming agriculture in Buikwe District. Thus, respondents were asked to examine strategies for transforming agriculture in Buikwe District? The data on this objective were analysed under the question: what strategies can transform agriculture in Buikwe District? The results revealed the following:

The study showed that there was need for land reforms as a strategy for transforming agriculture in Buikwe District. It was evident that small-holder farmers lacked security of tenure on land and this was halting their ambitions to expand farming. The majority lacked title deeds and therefore, lacked collateral to access loans. Many of the interviewees acknowledged that landownership could permit them access to loans to build the necessary infrastructure, purchase machinery and implement techniques to improve production. Land consolidation was also found necessary as the small fragmented plots were deemed unsustainable for modern farming. The implication was that agrarian reforms were necessary for agricultural and rural development if farming families were to pursue goals beyond home survival and think along the economic logic of profit.

The results revealed that transforming agriculture in Buikwe District required a multi-sector approach. This was because agriculture had strong links with other sectors [such as tourism, forestry, trade, agro-processing, transport, education, etc.]. Therefore, investment in other sectors could as well transform agriculture and overall rural development (e.g., road improvement could allow access to markets while education could inject in new farming techniques). All these were bound to increase opportunities and the possibility of poverty reduction and food security.

The results showed that there was need for investments [both private and government] that foster agricultural productivity (e.g., equipment, storage, processing, hybrid varieties, etc.). There was a danger that a decline of agricultural investment could be accompanied by increased rural poverty and food insecurity [some of which will find their ways into the urban areas]. At the same time, programs [such as vocational training] which increased the human capital of the rural poor and

allowed them to enter more remunerative labour markets were found to be powerful tools that ensured a smooth transition of people out of agriculture without increasing poverty. Such programs were bound to free land for sustainable agriculture and related activities.

The study found out that there were agricultural practices that were disregarding environmental sustainability (e.g., deforestation, monoculture, cultivating up and down the hills, over cropping, etc.). Therefore, sensitization on sustainable farming practices had to take a centre stage [as it could be crucial in the conservation of the land resources]. By maintaining agricultural [and forestry activities] sustainably, environmental risks could be reduced (e.g., direct damage caused by rain-wash, landslides, mudflows, etc. could be prevented).

The study found out that market integration could transform agriculture for rural development by creating links with in the local economy [especially with urban centres and schools] and also open new links with larger markets [regional, national or even global]. However, caution must be taken since opening the local agricultural sector [in Buikwe District] to foreign and domestic competition could challenge the position of small-holder farmers in the market (e.g., they could be subjected to competition pressures from cheaper goods from other sources). In addition, large commercial farmers were more than likely to have an advantage in producing what smallholders were producing since they operate with capital intensive technologies and human and managerial capital. Never the less, opening up markets [whether regional, national or even global] could create opportunities for farmers in Buikwe District. Thus, the cooperation of local and national leaders was very important in market creation.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusion, recommendations and areas for further research. The first section demonstrates the summary according to the objective of the study; the second section is about the conclusions based on the summary. The third section gives recommendations drawn from the conclusion. The fourth section puts forward possible areas for further research.

5.2 Summary

This study examined community transformation in Buikwe district: the role of agriculture. The environmental conditions (i.e., fertile volcanic soils and the equatorial and temperate climatic conditions [reliable rainfall and moderate temperatures]) make the potential for agriculture a reality in Buikwe district. The challenge was how to tap into this potential even when the necessary infrastructure and human and financial resources were still wanting. Agriculture generates unlimited forward and backward linkages, investment opportunities, foreign exchange, employment, taxes, new skills and technologies as well as reducing poverty and food insecurity. It is also a key in economic diversification and rural transformation. The study was qualitative and conducted using a case study design and purposive sampling technique. The data were collected using interviews and observations [for primary data] and documents analysis [for secondary data]. The objectives of the study were: to identify the agricultural practices in Buikwe district; to establish the role of agriculture in the socio-economic development of Buikwe district; and to examine strategies for transforming agriculture in Buikwe district. The study found out that the agricultural practices in Buikwe district were predominantly on small scale either for commercial or subsistence [involving both livestock and crop husbandry]. Other practices were: agro-forestry, market gardening and small plantations of sugarcane, tea, coffee and bananas. The study also found out that the role of agriculture in the socio-economic development of Buikwe district included the reduction in poverty, generation of employment and business opportunities and enhancement of food security. Lastly, the study established that among the strategies for transforming agriculture in Buikwe district included: land reforms,

multi-sector approach, investments [both private and government] that foster agricultural productivity, environmental sustainability, market integration, infrastructural development and capacity building.

5.3 Conclusions

In view of these findings, the following conclusions were made:

The first objective of the study was to identify the agricultural practices in Buikwe district. The study concludes by noting that the farming practices in Buikwe district will for some years to come largely remain at subsistence or small scale [with increasing commercialization] not until those who wield power and influence realize the role of agriculture in rural transformation.

The second objective of the study was to establish the role of agriculture in the socio-economic development of Buikwe district. The study concludes by noting that given the lack of immediate alternatives, the transformation of Buikwe district through agriculture will be the main stay of life though at a pedestrian speed. This will be the case given the structural bottlenecks that infest the agricultural sector [and the economy of Uganda as a whole].

The third objective of the study was to examine strategies for transforming agriculture in Buikwe district. The study concludes by noting that Buikwe district could become a major agricultural hub in Uganda if there were substantial investments in the infrastructure [power, roads, storage and facilities], sustainable use of land resources, capacity building [manpower training and development] and agrarian land reforms. Short of this, transforming agriculture in Buikwe district will continue to be a dream with no light at the end of the tunnel.

5.4 Recommendations

In view of the above conclusion, the researcher made the following recommendations:

First, the study recommends the need for agrarian land reforms, capacity building and investment in the infrastructure as a way of reforming the agricultural practices in Buikwe District [in order to harness the agricultural potential that is largely unexploited].

Secondly, the study recommends the need for increased investment in agriculture given the strong multiplier effect and linkages it generates in the socio-economic rural transformation.

Thirdly, the study recommends the need for substantial investments in the infrastructure [power, roads, storage and facilities], sustainable use of land resources, capacity building [manpower training and development] and agrarian land reforms as a way of transforming agriculture in Buikwe District.

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APPENDIX A

INTERVIEW QUESTIONNAIRE [QUESTIONNAIRE SCHEDULE]

1. What ecological conditions exist in Buikwe District?
2. What agricultural practices are in Buikwe District?
3. What determines the agricultural practices are in Buikwe District?
4. What is the role of agriculture in the development of Buikwe District?
5. What should be the strategies for transforming agriculture in Buikwe District?

APPENDIX B

OBSERVATION CHECKLIST

1. Landscape
2. Weather conditions
3. Soils
4. Streams
5. Flora and fauna
6. Crops cultivated
7. Livestock reared
8. Farming practices
9. Infrastructure
10. Population density
11. Size of gardens
12. Farm equipment
13. State of the environment

