



ASHESI UNIVERSITY

Challenges Facing Ghanaian Subsistence Maize Farmers in Scaling Up Production and  
Transition to Agri-Business

By

Zethu Tanele Shabangu

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Science degree in Business Administration

Supervised by: Dr. Stephen Emmanuel Armah

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CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

DECLARATION

I hereby declare that this dissertation is my original work and none of its parts have been presented for another degree in this university or elsewhere.

Candidate's Signature: .....

Candidate's Name: Zethu Tanele Shabangu

Date: 11<sup>th</sup> May 2020

I hereby declare that the submitted dissertation and presentation of it were supervised in accordance with guidelines on supervision of the thesis laid down by Ashesi University.

Supervisor's Signature: .....

Supervisor's Name: Dr. Stephen Emmanuel Armah

Date: 11<sup>th</sup> May 2020

## CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

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## CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

## LIST OF ACRONYMS

GDP – Gross Domestic Product

FAO – Food and Agriculture Organization

ReSAKSS – Regional Strategic Analysis and Knowledge Support System

GAE – Government Agriculture Expenditure

GTE – Government Total Expenditure

TSU – Technical Support Unit

HLPER – High Level Panel Expert Report

UN – United Nation

## CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

### DEFINITION OF TERMS

**Agriculture** - is a farming practice that involves the cultivation of the soil for growing of crops and rearing of livestock (Zuma, 2013).

**Agribusiness-** is a business that produces, sell and distribute farm products on a large scale ("Agribusiness definition and meaning | Collins English Dictionary", n.d.).

**Subsistence agriculture** – agricultural practice for family consumption (Zuma, 2013).

**Commercial agriculture** - is the growing of crops and rearing of livestock for commercial purposes (Zuma, 2013).

**Qualitative research** - seeks an in-depth understanding of a social phenomenon within a certain natural setting (the University of Utah, n.d).

## CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

Agricultural productivity in Ghana has been declining for a while (Adombila, 2018). As a result, imports to the country have been increasing (Ghana Commercial Guide, 2019). The Daily Graphic news mentioned that food imports in Ghana averaged to \$2.4 billion every year and that includes maize, sugar, meat, rice imports and many other items (Adombila, 2018).

Secondary information gathered from different literature review explains why productivity in the Ghanaian agricultural sector has been decreasing. Most of the information gathered is situated around the case of smallholder farmers. Smallholder farmers are farmers practicing subsistence farming (A framework for the development of smallholder farmers through cooperatives development, 2012). Smallholder farming is one of the dominant sector in the in African agricultural sector (Zuma, 2013).

This study, therefore focuses on the Ghanaian subsistence maize farmers and the challenges they face, that prevent them from transitioning and scaling up production to agribusiness. Agribusiness is a business that produces, sell and distribute farm products on a large scale ("Agribusiness definition and meaning | Collins English Dictionary", n.d.). The main focus area is in Berekuso in the Eastern region of Ghana. The study will answer the following questions: what are the main challenges that compel Berekuso subsistence corn farmers to still practice subsistence farming in the 21 century instead of transitioning to agri- business? and what can be done differently to help subsistence corn farmers to transition to agribusiness?

Primary data for this study was collected using in-depth interviews with structured questions for the subsistence corn farmers to answer.

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# CHALLENGES FACING BEREKUSO SUBSISTENCE MAIZE FARMERS

## CHAPTER 1: INTRODUCTION

### Background

Agriculture is the engine of the economies of African countries. Most Africans increase agricultural output by cultivating more land and employing larger labor force (Zuma, 2013). According to Zuma, in 2013 statistics show that about 530 million Africans were practicing agriculture and are expected to increase to 580 million people in 2020. These agricultural people constituted 48 % of the entire African population as of 2013 (Zuma, 2013).

Agriculture is a farming practice that involves the cultivation of the soil for growing of crops and rearing of livestock. It is made up of subsistence and commercial farming in both crops and livestock. Subsistence farming is the dominant practice in Africa, where most families practice agriculture only for consumption (Zuma, 2013). Sometimes subsistence farmers grow more than what they need, and they end up selling the excess which gives them little income, but that is rare.

Commercial agriculture, on the other hand, is the growing of crops and rearing of livestock for commercial purposes. In the subsistence sector, farmers rely more on labor force as compared to commercial agriculture where farmers are capital intensive (Surbhi, 2018). In subsistence agriculture, farmers cultivate small areas and use manures for their crops. On the other hand, in commercial agriculture, large land is cultivated and there is a higher use of modern inputs for the crops (Surbhi, 2018).

Even though subsistence agriculture is the main type of agriculture practiced in Africa, some African families still lack food to eat and have no access to jobs. As such, the

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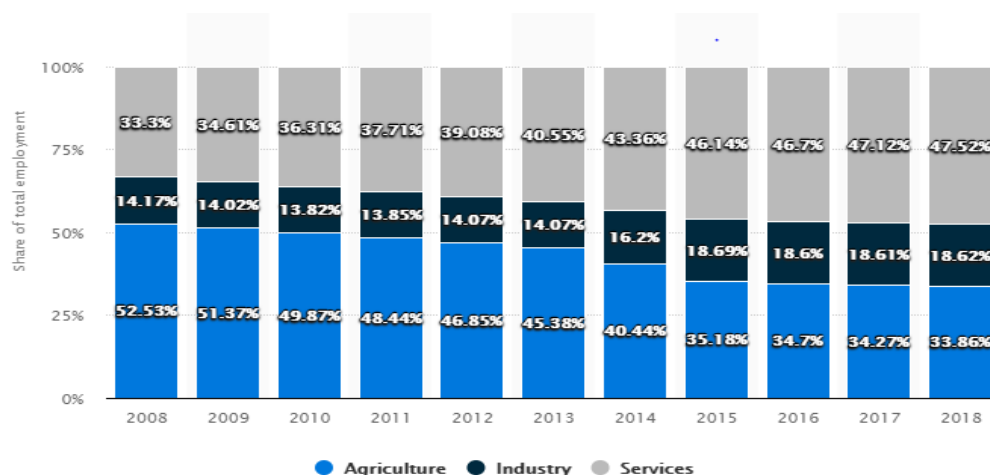
Pan African framework policy was established in 2003 at the African Union Summit that was held in Mozambique.

The main aim of this policy was to transform agriculture, promote economic growth, and provide a conducive living for every African. In this summit, African countries pledged to allocate 10% of public expenditure to the agricultural sector. Other aspects of the policy include a target of 6% annual growth in GDP ("Comprehensive Africa Agriculture Development Programme (CAADP) | Office of the Special Adviser on Africa, OSAA", n.d.).

Ghana was also part of the countries that pledged to allocate 10% of the public expenditure to the agricultural sector (Zuma, 2013). After pledging, Ghana was amongst the other African countries that experienced a reduction in hunger and poverty and an increase in productivity (Zuma, 2013).

Apart from that, Ghana is also one of the African countries that practice agriculture that has a significant positive impact on its economy. Ghana's economy is made up of agriculture, industries and services (Ministry of Food and Agriculture, 2017). According to statistic provided by Statista on the distribution of employment by economic sector in Ghana from 2008 to 2018, the distribution of employment in agriculture has been decreasing. As of 2018, agriculture employed 33.86 %, the industry employed 18.62% and services employed 47.52%. The graph below shows the changes in labor employment by sector and the decrease in employment in the agricultural sector as investigated by Plecher (2019).

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*Figure 1:* Distribution of employment by economic sector from 2008 to 2018 in Ghana

According to the Ministry of Food and Agriculture, there are major agricultural products that Ghana imports and that include rice, meat, maize, sugar, flour, chicken and many more.

Rice is a staple food in Ghana and it is also produced locally. The statistic shows that between 2014 and 2016, the share of locally produced rice to the rice available for consumption has been decreasing from 55% to 44%. It then increased to 47% in 2017 (Ministry of Food and Agriculture, 2017).

As per the Ministry of Food and Agriculture (2017), even though local rice production increased in 2017, Ghanaians still import rice as a result of taste and preferences. From 2012 to 2017, total imports for rice have been fluctuating but showing a greater value than the rice that was produced locally. In 2017, 53% of rice was imported and 47% of rice was produced locally.

Table 1 below shows the trend of the domestic production and import of rice.

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Table 1: *Rice Production and Import in Ghana*

Item	2012	2013	2014	2015	2016	2017*
Transit (@15% Import)	76,288	96,650	62,041	93,122	104,659	98,434.81
Total Imports	508,587	644,334	413,609	620,811	697,728	656,232.06
Imports Available (Total less Transit)	432,299	547,684	351,568	527,689	593,069	557,797.25
Domestic Milled Rice (@69% Extraction Rate)	331,898	392,972	422,829	443,000	474,498	497,018
Total Rice Available (MT)	764,197	940,656	774,397	970,689	1,067,567	1,054,815
<i>Share to Total Supply by Source</i>						
	2012	2013	2014	2015	2016*	2017
Domestic Rice	43%	42%	55%	46%	44%	47%
Imports	57%	58%	45%	54%	56%	53%

*Source: Computation from SRID Figures*

Likewise, meat produced in the country against meat imported reduced between 2016 and 2017 from 88.2% to 85.5%, which is better than rice importation (Ministry of Food and Agriculture, 2017). Table 2 below shows the trend of meat import and production in Ghana.

Table 2: *Domestic Production and Import of Meat*

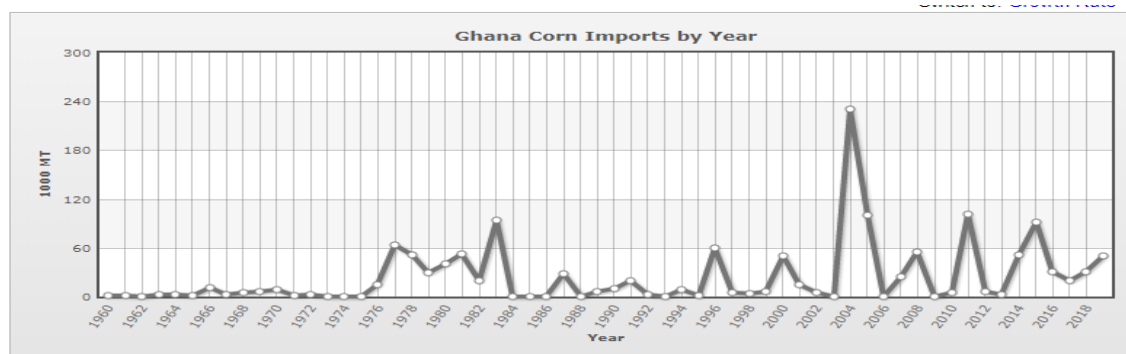
Items	Average (2011-2013)	2014	2015	2016	2017*
Import (MT)	99,087	45,817	48,144	21,142	27,803
Domestic Production (MT.)	126,984	143,603	150,751	157,810	164,125
% of Domestic Production	56.2%	75.8%	75.8%	88.2%	85.5%
<b>Total</b>	<b>226,071</b>	<b>189,420</b>	<b>198,895</b>	<b>178,952</b>	<b>191,928</b>

*Source: SRID, 2017 \*Provisional*

Apart from rice and meat, maize is another imported food even though it is also locally produced. Figure 2 below shows the trend of maize import from 1960 to 2018. According to the graph, between 1960 and 1974, the import of maize was very low.

However, from 1975 to 2018, the import started increasing and in 2004 it recorded the highest value of imported maize.

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(“Ghana Corn Imports by Year (1000 MT),” n.d.)

*Figure 2:* Ghana Corn Imports by Year

According to the Ghana Country Commercial Guide, the increase in imported food from other countries is due to the high demand for consumer-ready goods. This is caused by a shortage of products provided by the underdeveloped agriculture processing sector in Ghana.

As a result of the shortage of commercial products, Ghana is forced to operate using the free market with tariffs being relatively low so that they can allow and have easy access of imported goods into the country (Ghana Commercial Guide, 2019). Even though agriculture is mostly practiced in the country, subsistence agriculture remains the dominant sector (Ghana Commercial Guide, 2019).

Over the past years, statistics show that there has been a fluctuating but decreasing trend of GDP from agriculture. Figure 3 below shows the trend of GDP share of agriculture from 1960 to 2016. In the 1990s, the GDP share of agriculture was higher. Between 1976 and 1984, the GDP share was around 60%. However, as approaching the 2000s it started decreasing to below 40% and ended at almost 20% in 2016.

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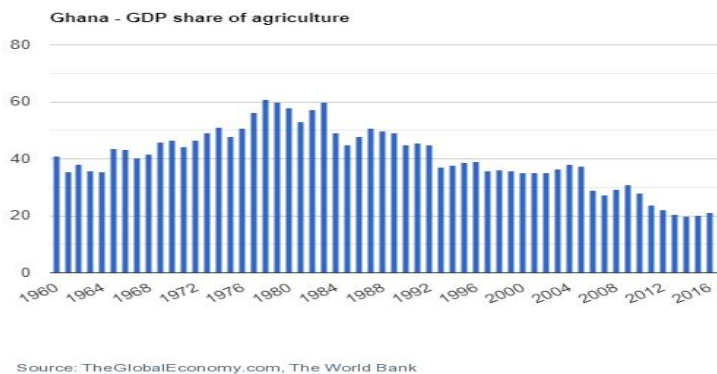


Figure 3: Ghana GDP share of Agriculture

The latest updates in figure 4 illustrate a slight change in the GDP from agriculture in millions in Ghana Cedis (GHS). This reflection of the past years shows a fluctuating trend from July 2016 to July 2019. In 2016, the GDP from agriculture was very low and showed a balance of about GHS 6310 million that was contributed by agriculture, and in 2019 again it reflected another low record of about GHS 6464 million. The rest of the other years, the GDP was fluctuating. Based on the statistics, it means that some factors play a major role in the agricultural sector’s productivity.

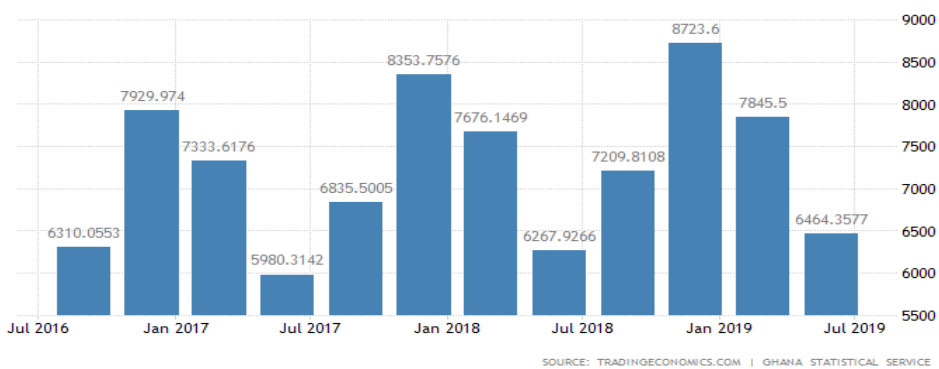
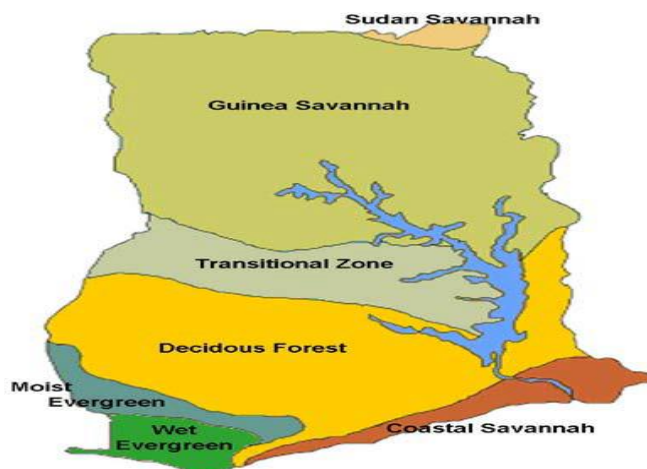


Figure 4: Ghana GDP from Agriculture

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Part of the agricultural productions practiced in Ghana include maize, pineapple, rice, cassava and many more. Maize is one of the major crops consumed and produced in different parts of Ghana and that include: Guinea Savannah zone which is in the northern part of Ghana, Transition zone, Forest zone and Coastal Savannah zone (Darfour & Rosentrater, 2016).

According to Darfour and Rosentrater (2016), many people depend on maize as their staple food and its production has been practiced worldwide and the consumption of maize in the southern part of Ghana is said to be increasing since 1965. Figure 5 shows the different parts where maize is cultivated in Ghana.



*Figure 5: Maize cultivation areas in Ghana*

According to Darfour and Rosentrater (2016), by 2014 maize was estimated to constitute 50% of the cereal production in Ghana. As of 2018 statistics in figure 6 show that maize production was the largest as compared to the other cereals including rice, with a percentage change of 10.7 from the previous year 2017 (Food and Agriculture Organization, 2019).

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Ghana				
Cereal Production				
	2013-2017 average	2017	2018 estimate	change 2018/2017
	000 tonnes			percent
Maize	1 785	1 986	2 199	10.7
Rice (paddy)	645	721	755	4.7
Sorghum	257	278	316	13.7
Others	158	165	182	10.4
<b>Total</b>	<b>2 845</b>	<b>3 149</b>	<b>3 451</b>	<b>9.6</b>

Note: percentage change calculated from unrounded data.  
Source: FAO/GIEWS Country Cereal Balance Sheet.

Figure 6: Cereal Production in Ghana

As the agricultural sector is the significant employer of the country's economy, the increase in imported food like maize and rice and the low productivity in the country will negatively affect the sector as well as the economy. However, the current government led by President Nana Akufo-Addo introduced fiscal reforms in response to some of the economic crisis, to make sure that the economy is not harshly affected.

The reforms include protecting social and priority spending and strengthening the financial sector. One of the reasons to establish this reform was to reduce the fiscal deficit that was caused by depending on borrowing in the past decades which also caused external debt to increase (The Report, 2019). As of now, Ghana is among the World's Bank list of eighteen African countries that are considered to have a high risk of debt (The Report, 2019).

In 2017, the President announced a policy "Ghana beyond Aid" where he pledged to manage the county's natural resources in a strategic way that will enable developments



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in the country, without external help (Jotie, n.d.). He also introduced “The one factory one district” policy, where he pledged to build a factory in every district in the country.

This policy aimed to enable the economy to transition from relying on the production and export of raw materials to the value-added industrialized economy (Jotie, n.d.). Lastly, the President’s response to this policy was implementing a free senior high school program, intending to invest in human capital in the next coming years and limit importing human workforce (Jotie, n.d.).

### Problem Statement

According to the Daily Graphic news reported in July 2018, the Minister of Finance revealed that the costs of food imports in Ghana is averaged to \$2.4 billion every year. The imported food include rice, meat, sugar, maize, flour and many more. One of the contributing factors to this amount of imports is the fact that, importers are taking advantage of business opportunities that are caused by a limited supply of food in the country because of low agricultural productivity (Adombila, 2018).

The President of the Chamber of Agribusiness also mentioned that the government fails to fund the agriculture sector and it depends on donors, thus lowering growth in the sector. As a result of the poor growth in the sector, the demand for imports increases to supplement the domestic output. This is a piece of evidence that the agricultural sector in Ghana is facing some challenges that prevent high productivity in the none-cocoa subsector.

Table 3 below shows the trend of major crops’ production in the country from 2007 to 2016. According to the table below, maize production from 2007 to 2010 was increasing

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and from then to 2016 the production was fluctuating. As referenced earlier in figure 2 above, from 2017 the import of maize started increasing again which might have been caused by low productivity of maize.

According to a study done by the department of engineering at Kwame Nkrumah University in 2014, maize is the most important cereal crop in Ghana and is mostly practiced by smallholder farmers (Agyare, Isaac, Sogbedji, & Clottey, 2014). None of the farmers use irrigation methods, but they depend on the rain.

As per the Kwame Nkrumah University study, about 67% of subsistence farmers consider maize production as their main source of food and income (Agyare, Isaac, Sogbedji, & Clottey, 2014). However, that does not change the fact that there are other challenges associated with maize production. The study done by Kwame Nkrumah University students made mention that about 75% of the farmers do not have access to credit facilities which is the same challenge that other smallholders face as well. They also mentioned that some challenges are the high input costs, low price for their produce and lack of readily available market after they have harvested (Agyare, Isaac, Sogbedji, & Clottey, 2014).

As per the Kwame Nkrumah University students, maize is the main crop that requires more fertilizer, which the farmers cannot afford because they lack access to credit facilities. They also added that the farmers face challenges when it comes to proper use of the farming requirements, proximity to the market, and labor requirement for application of fertilizer (Agyare, Isaac, Sogbedji, & Clottey, 2014). Based on the challenges that the maize farmers face, that would have been the contributing factor to the fluctuating productivity of maize between 2007 and 2016 as shown by table 3 below.

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Table 3: Annual Production of Major Food Crops in Ghana, (000mt)

Crop	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Maize	1,220	1,470	1,620	1,872	1,683	1,950	1,764	1,769	1,692	1,722
Millet	113	194	246	219	183	180	155	155	157	159
Rice (paddy)	185	302	391	492	463	481	570	604	641	688
Rice (milled)*	111	181	235	295	278	332	393	417	443	475
Sorghum	155	331	351	324	287	280	257	259	263	230
Cassava	10,218	11,351	12,231	13,504	14,240	14,547	15,990	16,524	17,213	17,798
Cocoyam	1,690	1,688	1,504	1,355	1,299	1,270	1,261	1,299	1,301	1,344
Plantain	3,234	3,338	3,563	3,538	3,619	3,556	3,675	3,828	3,952	4,000
Yam	4,376	4,895	5,778	5,960	5,855	6,639	7,075	7,119	7,296	7,440
Groundnut	302	47	485	531	465	475	409	427	417	426
Cowpea	119	180	205	219	237	223	200	201	203	206
Soya bean	50	75	113	145	165	152	139	141	142	143
<b>Total</b>	<b>21,662</b>	<b>23,871</b>	<b>26,487</b>	<b>28,159</b>	<b>28,496</b>	<b>29,753</b>	<b>31,495</b>	<b>32,326</b>	<b>33,277</b>	<b>34,631</b>

Source: Regional and District Cropped Area, Yield and Production Estimates (2007 – 2016) - Statistics, Research and Information Directorate (SRID), MoFA.

Note: \*Milled rice from 2007 to 2011 used extraction rate of 60%; from 2012-2016 extraction rate of 69% of paddy was used (based on revised industry records). The total annual production for all major crops does not include milled rice.

As per the Maputo protocol discussed above, Ghana agreed to meet a 10% target for public expenditure on agriculture, however, in 2017, the Ghana Agriculture Sector Policy mentioned that the expenditure has been declining (World Bank, 2017). The World Bank estimated that between 2001 and 2014, the spending on agriculture was averaged to 5% of the total spending.

Table 4 below is providing more data estimates of the share of Government Agriculture Expenditure (GAE) in Government Total Expenditure (GTE) between 2012 and 2015. This data was prepared by the Regional Strategic Analysis and Knowledge Support System (ReSAKSS).

According to the ReSAKSS report, these analyses were made to track the Maputo Protocol of 10% target (Benin, 2019). As per the table below, the GAE has been decreasing over the four years, starting with 1.7% in 2012 and ending with 0.5% in 2015. As such, Ghana's GAE did not meet the Maputo Protocol. Also, Ghana's Government Agricultural

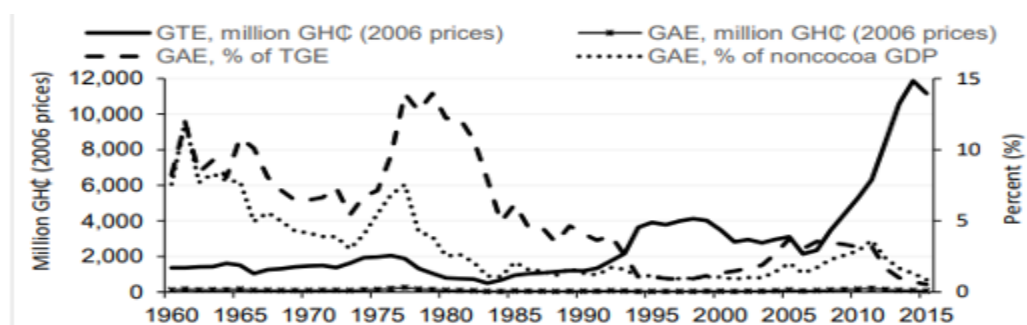
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Expenditure on none-cocoa subsector was investigated. Figure 7 below taken from the ReSAKSS report shows the GAE for none-cocoa subsector between 1960 and 2015. The trend of the GAE percentage change of none- cocoa GDP has been decreasing over the years as well as the GAE percentage change of the GTE.

Table 4: *Expenditures of the General Government Sector on Agriculture in Ghana*

Indicator	2012	2013	2014	2015	Average
GTE, million GH¢ at 2006 prices	8,448.27	10,578.86	11,874.07	11,169.17	10,517.60
GAE, million GH¢ at 2006 prices	141.21	106.16	86.61	59.44	98.36
Share of GAE in GTE, %	1.7	1.0	0.7	0.5	1.0

Source: Authors' calculations based on CAGD (2018) and deflators from GSS (2017).  
Notes: GTE = government total expenditure; GAE = government agriculture expenditure.



Source: Authors' calculation and illustration based on Benin (2016), CAGD (2018), GSS (2017), and World Bank (2017).  
Notes: GTE = government total expenditure; GAE = government agriculture expenditure. Noncocoa is all agriculture (crops, livestock, forestry, and fishery) except cocoa.

Figure 7: General Government Expenditure on the Noncocoa Subsector in Ghana

A portion of the public expenditure on agriculture is used for subsidies, however, the World Bank report claims that the subsidies are not enough and they bring low returns (World Bank, 2017). Some of the subsidies include fertilizers which farmers get through the Ministry of Food and Agriculture and COCOBOD for cocoa farmers. Apart from

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subsidies, Ghana also taxes its farmers like the cocoa farmers of about 20% per bag (Vigneri & Kolavalli, 2017).

Even though subsidies are made available, all farmers still face some operational challenges that prevent them from producing enough maize demanded by the nation as mentioned above, thus making many people and businesses to import it. In addition to the challenges mentioned above, both maize and other non-cocoa producing smallholders face the challenge of late announcements in regards to when and how the subsidies programs will be implemented each year (World Bank, 2017). As a result of the late announcements, the fertilizers to the farmers get delayed. Also, agricultural Research and Development do not get enough funding. The African Union set a funding standard of 1 % target of agricultural output. Ghana is currently at 0.7 % which is less than the 1% standard set by the African Union (World Bank, 2017).

Apart from public spending on agriculture, Ghana's agriculture is threatened by climate change. The World Bank report mentioned that smallholder farmers will be adversely affected by the change in the climate. As of 2015, the change in climate was projected to make agricultural products expensive. Rice, for example, was estimated to have a 60% price increase (World Bank, 2017). The increase in price was good for the farmers but that was caused by small projected productivity as a result of the climate change.

In addition, very few young people want to practice agriculture, thus making the sector full of old people who did not get a chance to be in school. This increases the illiterate rate in the sector (World Bank, 2017). This is one of the contributing factors to

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the wrong use of technologies and agro-chemicals. As per the report of the Ministry of Agriculture, farmers in Ghana are not familiar with some irrigation methods, water management practices, appropriate tillage, and environmental degradation (World Bank, 2017). As such, farmers need to be armed with efficient agricultural management practices.

Ghanaian farmers try by all means to do their best with the limited resources and knowledge they have to bring the best productivity. However, they still have challenges with transporting their goods from rural areas to the market place as mentioned earlier. The transport is inadequate and the roads are not good for the transportation of goods to the markets, thus farmers are demotivated from producing more and rather prefer growing only for consumption (Ministry of Food and Agriculture, 2007). Farmers also face the challenge of lacking market skills which are caused by the lack of market orientation between producers and processors (Ministry of Food and Agriculture, 2007).

### Research Questions

- What are the main challenges that force Berekuso subsistence corn farmers to still practice subsistence farming in the 21 century instead of transitioning to agribusiness?
- What can be done differently to help subsistence corn farmers to transition to agribusiness?

### Research Objectives

- Understanding the different challenges that Berekuso subsistence maize farmers face.

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- Exploring how Berekuso subsistence corn farmers can be enhanced in scaling up and transitioning to agribusiness, taking into consideration the challenges they face under the agricultural sector.

### Significance of the Study

The study is very crucial since its main focus was exploring different alternatives that subsistence corn farmers can use, to overcome the challenges they face which lead to low productivity. Secondary research provided some of the challenges that subsistence farmers face in Ghana and other parts of the world a few years back. Some attempts have been done by the government to help farmers overcome the challenges, however that is not enough because they still do not get access to most of the resources like the subsidies for example. As such, the primary research helped with more reliable information as to how the farmers are willing to transition to agribusiness and getting to know some of the challenges they are currently facing.

Focusing on improving subsistence agriculture will enhance the economy for the better. As per the World Bank, the Ghana economy has been improving positively lately in the years between 2016 and 2017 ("Overview", n.d.), however, this does not mean that Ghana has reached a threshold where their economy does not need to be boosted anymore: major steps to enhance the economy even better are needed and that is what this project investigated throughout the paper. Also, when subsistence farming is improved, there is a high possibility that production will increase and that will end up reducing dependency on imported goods.

Finally, the results obtained will help the Ministry of Agriculture in Ghana to understand the current situations of most subsistence farmers, and the reason why

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productivity is declining in the sector. This will give them updated data about the challenges subsistence farmers are facing and not relying on past data. In case of any improvements to be implemented by the government in the sector, they will have a fair idea of what they can do to enhance subsistence farmers, other than depending on their assumptions on what they think farmers need.

The secondary research in chapter two mentioned that most farmers in the rural areas are left out most of the time, when there are programmes the government is implementing. Nobody cares that much about what is going on in rural areas. This research presents the challenges and grievances faced by the majority of farmers to the Ministry of Agriculture.

### Organization of the Study

This study is made up of five chapters. Chapter one of the study introduces the study topic and it includes the background of agriculture in Ghana, the economic structure, the problem statement, the research questions, objective and the significance of the study. Chapter two is the literature review, where it reviews existing literature relevant to the study. Chapter three is the methodology and it presents the procedure used to carry out the research. That include data collection method and data analysis. The fourth chapter presents the findings from the primary research and the last chapter provides a conclusion and recommendations on the results of the research.



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### CHAPTER 2: LITERATURE REVIEW

This chapter focuses on the different existing literature associated with the research topic “Challenges Facing Ghanaian Subsistence Maize Farmers in Scaling up and Transition to Agri-Business”.

Literature reviewed for this study has been taken from other studies done in Asia and other countries in Africa. This chapter is classified into five categories based on the types of literatures, research questions, results and recommendations.

The first part of the chapter is focusing on the challenges that prevent smallholders to migrate from subsistence to commercial agriculture. This is based on studies that were done in different parts of the world. This include Asia and the Pacific, Southern Africa, Eastern Africa and Africa in general.

The second part of the chapter focuses on the different methods or strategies to invest in subsistence agriculture. This is based on the different reforms and policies that African governments need to establish.

The chapter also gives insights as to why subsistence farming is important for the African economy including Ghana. The fourth part is about the production of maize especially in Ghana. This part explores the different aspects of maize production techniques in different parts of Ghana. It will also give more insights on what Ghanaian maize farmers can do differently to achieve high productivity.

#### 2.1 Challenges that Prevent Smallholders from Transitioning to Agribusiness in Asia

In a study prepared by the United Nations on Sustainable Agriculture and Food Security in Asia and the Pacific, there are threats that hinder smallholder and commercial

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farmers in Asia and the Pacific. Some of the challenges include climate change, environmental degradation, irrigation, access to water, shrinking forest and many others (United Nations n.d.).

According to the United Nations, Asia's staple food is rice. The cultivation of rice requires three times more water than other cereal crops, which was not easily accessible. However, the governments are said to have subsidized the construction of inefficient irrigation systems that allowed farmers to pump more water from the rivers (United Nations n.d.). Even though this has been made accessible somehow, the pollution caused by these inefficient irrigation systems leads to other environmental problems.

Land degradation is also another challenge that many farmers face in Asia. So much land is said to have been lost due to land degradation which expands deserts in the continent. Part of the causes of land degradation is over intensive cultivation (United Nations n.d.). As per the UN, intensive farming is a result of policies that forced smallholder farmers to crop intensively on steep slopes which promotes erosion. Climate change is another challenge faced by smallholder farmers.

In Asia and the Pacific, there is a higher concentration of carbon dioxide in the atmosphere which increase temperatures and variable rainfall, thus affecting other crops. This also led to other natural disasters like floods and storms (United Nations n.d.). All the above challenges that Asian and the Pacific farmers face lead to low productivity and uncertainty in their agricultural yields.

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### 2.2 Challenges that Prevent Smallholders from Transitioning to Agribusiness in Africa

According to Birju Patel (2016) in the World Economic Forum on Africa, there are four major crisis that hinders the success of small scale farming in Africa. This includes climate, technology and education, financing, and policy and infrastructure. Because of these challenges, smallholder farmers in Africa are still categorized among the poorest in the world.

El Nino weather is one of the strongest and longest events that have been recorded since the 1950s (Patel, 2016). This weather had a lot of negative effects on farmers in sub-Saharan Africa. There was a 20% decrease in cereal production that was recorded. Smallholder farmers cannot protect their farms from such weather conditions, as a result, their fields are harshly affected and they cannot do anything with that. They only key way to deal with these challenges is to implement adaption strategies like shifting from traditionally grown crops to cash crops.

As per the article, the productivity of agriculture in Africa is 36% and it is the lowest in the world. This is because the sector lacks innovation, science and technology to maximize skills and training. Patel claimed that the reason for this is because those who are trained in agriculture do not practice it, but they end up growing bureaucracies (Patel, 2016). Therefore, there is a need for African governments to create training initiatives that will help farmers throughout their farming process.

Another challenge is the policy and infrastructure where African governments impose high import duties and border bureaucracy. Therefore, to control hunger in Africa,

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the government needs to have policies that will help small scale farmers come out of poverty since it is said that they are the centre of poverty (Patel, 2016).

South Africa is one of the African countries where the government needs to intervene in the agricultural sector. Emerging farmers in this country face numerous challenges that prevent them from scaling up to commercialization. In a study conducted in South Africa in the Eastern Cape Province, Khapayi and Celliers (2016) investigated the limiting factors that prevent emerging farmers from progressing from subsistence to commercial agricultural farming. The study was based in King Williams Town where 50 households were used as a sample for the research. Questionnaires surveys were structured for this research.

Some of the challenges that the authors found were: poor infrastructure, lack of transportation to the markets, lack of marketing skills, poor market infrastructure and many more factors. He also added that the South African agricultural economy does not accommodate emerging farmers; there is an insufficient support system to support disadvantaged farmers. This prevent them from taking advantage of opportunities that the government is providing. In the year 1997, interest rates and export subsidies were ended and by late 1998, all marketing control boards were privatized. As a result, emerging farmers found it difficult to enter into the formal agricultural markets. This is one of the major constraints preventing emerging farmers to enter into the commercial industry in most countries.

In the rural areas, emerging farmers have been affected by poor infrastructure, lack of property rights, high rate of illiteracy, lack of access to credit facilities, poor entrepreneurial skills and innovative production. Emerging farmers are also prevented by

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poor financial and social capital and limited access to legal resources. As such, they are trapped and forced to operate in the subsistence sector of agriculture.

According to Khapayi and Celliers (2016), South African government implemented policies, programs and increased government and agricultural spending in the past years like many other African countries did, as a way of supporting emerging farmers. Even though this was done, there is no significant proof that the implementation worked or met its goals. This is because emerging farmers still live within the poverty line and face challenges from transitioning to commercialization.

As a result of the government's failure to help emerging farmers to transition to commercialization, there has been an increasing demand for scientific knowledge and a clear understanding of the challenges that these farmers face. The better understanding of the different challenges that these farmers face will help in formulating policies, development strategies as well as programs that can be used to support the transitioning of these farmers. Therefore, he recommended that the government should take responsibility for these challenges by providing planned workshops to all farmers to equip them with marketing knowledge (Khapayi & Celliers, 2016).

Uganda is also another country that faced challenges almost the same as the one faced by South African emerging farmers. Like other African countries, accessing financial services is another challenge for farmers who intend to transition to the commercial sector. Smallholder farmers in rural areas are excluded from getting access to financial services.

According to Anderson, Leach, and Gardener (2016) as quoted by the World Bank report, in 2016 about 25% of adults were excluded in the rural areas whereas in the urban areas it was only 14%. They added that only 10% of Ugandan subsistence farmers had

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bank accounts and 7% had access to credit. The amount of financing available for smallholder farmers remains inadequate which has been another challenge forcing subsistence farmers to remain where they are.

On the other hand, Uganda's agro companies are said to be small and informal, as such, they produce low-quality products with limited innovation. Another challenge faced by Ugandan smallholder farmers is the size of household landholding which is decreasing as mentioned by Walker et al (2018) in the World Bank Report (World Bank, 2019). In response to these challenges, the Ugandan government established programs to help the agricultural sector. They adopted the National Agriculture Policy and the Agriculture Sector Strategic Plan. These programs aim to transform subsistence farming into sustainable commercial agriculture by 2020. One of the recommendations made by the World Bank in this response to the above issues, they suggested that the government of Uganda could establish a Technical Support Unit (TSU). This is aimed at strengthening the capacity of government bodies and the private sector in the design and implementation of the Uganda Agricultural Insurance Scheme program as a way of investing in the sector (World Bank, 2019).

### 2.3 Investing In Subsistence Agriculture

According to the High-Level Panel Expert Report, The State of Food and Agriculture (2012a) report highlighted the fact that there is a low level of capital in smallholders in sub-Saharan Africa. They said this after conducting a study of constraints to smallholder investing in agriculture in different contexts with policy options for

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addressing these constraints (Bosc, Berdegué, Goïta, & Gitz, 2013.). They also identified that more smallholders suffer from hunger.

Several factors contribute to the food insecurity of smallholder farmers and one is the fact that they have insufficient food provision as a result of having little income (Bosc, Berdegué, Goïta, & Gitz, 2013.). As such, smallholders are forced to live in poverty which then becomes a threat to economic development. As a result of this, investing in smallholder agriculture is now an international agenda to improve these situations. This investment needs to take into consideration the fact that smallholders are providers of food, and not only for their families but globally as well.

Even though the government of many smallholder farmers is not investing enough in these sectors, the smallholder farmers remain keen to invest in their agriculture if some conditions are met. According to the report, smallholders use family labor force in their production process. Physical capital is not the key investment in smallholder farming but other aspects that include human capital (Bosc, Berdegué, Goïta, & Gitz, 2013). As per the report, the government needs to invest in rural areas to give farmers peace, and that includes the smallholders as well.

The HLPE also recommended that the government needs to take into consideration, implementation and design of medium long term strategies and reforming some policies to increase the capacity of smallholder sector to enhance development. They also suggested that the government should bring access to natural assets for smallholders and providing a favourable investment climate (Bosc, Berdegué, Goïta, & Gitz, 2013).

According to Jones (2015), to boost African agricultural productivity also requires the African governments to consider several factors. One of the factors includes developing

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high yields of crops. In this case, Jones (2015) suggested that there should be increased research in plant breeding which will take consideration of the different soil types in Africa. Boosting irrigation is another factor to be considered, where governments need to consider the effects of climate change by providing more irrigation methods (Jones, 2015). Africans also need to increase the use of fertilizers based on the soil fertility of every place.

Smallholder farmers have been threatened by the infrastructure in the rural areas which prevents them from getting access to the market. As such, African governments need to improve market access, regulations and governance by providing better incentives to farmers. Smallholder farmers are also threatened by access and use of technology. Jones also added that Africans must consider providing better use of information and technology to help them in choosing better crops for growing, and in fertilizer and pesticides selection. Lastly, Africa is known for having a lot of uncultivated lands while the majority of farms in the continent only occupy less than 2 hectares. Therefore, governments need to provide land reforms that will suit farmers and increase productivity (Jones, 2015).

In 2017, Dr Akinwumi Adesina the president of the African Development Bank claimed that the “future of African youth lies in agriculture”. He claimed that this can be done by making agriculture “cool” and profitable for young people. He also added that there is a desire to help rural people’s way of agricultural practice to business. This statement made by Adesina is under discussion on online platforms like the Engaging African Youth in Agribusiness in a Changing Climate.

Many young people seem to agree with Adesina’s point. They think is of great benefit to involve young people in agriculture and agribusiness to meet some of the



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Sustainable Development Goals like ending extreme poverty, zero hunger and gender equality.

In most African countries, the majority of the youth is running away from practicing agriculture, as a result, the government need to be responsible for the gaps in youth engagement in agriculture. The government need to invest in youth by providing financial support and increasing spending on youth initiatives together with agricultural value chains (Akinwuimi, 2017). The youth also need to be empowered through opportunities to engage in agribusiness and connecting them with the private sector and other development agencies. Apart from that, the youth also need proper training on agribusiness to break the barriers especially in youth living in rural areas. Such barriers include lack of agricultural information and technology, and agribusiness. The youth will also need access to weather data and climate for agriculture since many farmers have been relying on the traditional weather knowledge for their agricultural practices (Akinwuimi, 2017).

### 2.4 Reasons to Consider Subsistence Farming in Africa

Smallholder agriculture is the dominant sector practiced by most sub-Saharan African families. Douglas Gollin in this study investigated the issues relating to the current status and future trends affecting smallholder agriculture in sub-Saharan Africa (Gollin, 2014). According to Gollin (2014), this sector is self-employed and it employs a larger portion of women in Africa since production is aimed for consumption mostly. As such, there are very few subsistence farmers that employ a larger number of employees.

Surveys also show that majority of the subsistence sector productivity is consumed by households and very little sent to markets. He added that as per Uganda Bureau of

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Statistics (2006, pp. 56-59), two-thirds of cooking bananas, and three-quarters of cassava are consumed by the producing households in Uganda.

In Ghana, on the other hand, Gollin mentioned that according to Wiredu et al (2010, p. 7), about 80 % of maize production in the Northern region is consumed by producing households. This sector of agriculture is mostly practiced in rural areas. As such, most subsistence farmers commit themselves fully to their farms. An argument made by Haggblade et al (2010) claims that the importance of rural non- farm employments have been increasing because there is an increasing rural-urban migration. As such, agriculture share of total employment has been declining in most African countries (Gollin, 2014).

From this sector of agriculture, most Africans benefit from it. As per the author, the dependence in a large amount of labor force which is mostly family helps to reduce costs as compared to hired labor. Family labor is easy to work with since they are flexible and they understand the different seasons of productivity, and as such, it is easy to mobilize such labor in during busy times of the production. The same applies to the highly commercialized countries where they prefer family labor than hiring workers for their small farms.

The United States is a great example where they rarely use hired employees for their farms, not unless it is the largest crop farm. In developing countries, smallholder farming is said to reduce poverty and contribute significantly to economic growth. As such, African governments are expected to enforce certain policies that will help smallholder farming (Gollin, 2014).

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### 2.5 Maize Production in Ghana

As stated by Darfour and Rosentrater (2016), maize is used in different traditions and cultures and some is used to feed poultry. They mentioned that a huge amount of maize produced is used by households of producers for consumption and about 20% to 25% of total maize marketed is used for industrial purposes.

During maize harvesting period, they mentioned that it have to be stored well, however there are few challenges farmers face during the storing process. They argued that while maize is stored, there are numerous insects and mite infestation that attack the maize, as such, there is a need to control it (Darfour & Rosentrater, 2016). They mentioned that to control this attack, corn farmers use traditional and modernized techniques.

Under the traditional ways, farmers allow the maize to dry in the field and on-platform drying. As per the authors, the on-platform is an extended drying which occurs at the homesteads where maize cobs will be hanged or put in a place where they can easily dry (Darfour & Rosentrater, 2016). Some of the modernized techniques include the use of metal silos to store dried maize grains to prevent exposure to insects. Farmers also use solar dryers to reduce moisture from the grains and they use chemicals like fumigants to control insecticides (Darfour & Rosentrater, 2016).

### 2.5 Lessons and Critics in Relation to Ghana

Starting with the Challenges that Prevent Smallholders from Transitioning to Agribusiness, all the pieces of literature are investigating the same problems. In Asia and the different parts of Africa, smallholders are facing similar challenges which include

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lack of access to financing, poor infrastructure, competition in the market, lack of knowledge and many more. Even though the African governments have placed policies for assisting the agricultural sector, studies show that very few farmers get help from the government.

The rural areas' farmers are neglected by the government in almost everything. In Uganda for example, according to the World Bank report, about 25% of adults are excluded in the rural areas whereas in the urban areas it is only 14%. This is a problem that African smallholders face in general. All these challenges are the real cause of decreasing productivity in most African countries.

Concerning the research topic, these pieces of literature show that it is not only Ghanaian farmers that are having challenges in transitioning to agribusiness but all farmers. Most of the challenges faced by smallholders in different countries are the same as the one faced by smallholder farmers in Ghana. This helped in the current study in identifying what can be done differently so that smallholders can be assisted, taking into consideration the current challenges they are facing already.

On the other hand, investing in agriculture is one of the crucial points. Douglas Gollin made mention that agriculture is the dominant sector practiced by most sub-Saharan African families and it plays a crucial role in economic development. Some authors suggested different ways of investing in agriculture which include empowering young people by involving them in agribusiness. Adesina claimed that making agriculture “cool” and profitable for young people will be the first thing to be considered.

On the other hand, he claimed that “the future of young people lies in agriculture” which can be debated because some authors claimed that young people run away from

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rural areas to look for non-farming jobs in the city. Patel (2016) claimed that those who are trained in agriculture do not practice it but they end up growing bureaucracies.

Lastly, according to the HLPE report, some people claimed that “smallholders will never be “competitive”; they are among the poorest populations and the main policy focus should be the provision of social safety nets and education to help the youth migrate and find employment outside agriculture” (Bosc, Berdegué, Goïta, & Gitz, 2013.).

Based on the above statements, it is clear that some people are being irrational when making statements. They do not consider the impact and strength of agriculture in the African countries economy. When young people move away from agriculture, a lot can go wrong in the sector and economy as well. Productivity will decline and the GDP will also decrease. Based on their literature review, it is clear that there are adjustments that need to be done in the sector as Africans and that is what the entire study will be focusing on investigating and bringing updated ideas to help subsistence farmers and the entire agriculture sector.

Likewise, Ghana has to play a role in the agricultural sector. The fact that there are many countries that are facing the same challenges under the subsistence sector of agriculture does not mean that Ghana should relax. Instead, Ghana needs to use some of the ideas suggested by the research experts in this field in order to enhance the sector. One of the most important points suggested by the experts was investing in subsistence agriculture and involving young people in this field. This will also go in line with certain policy enforcement and reforms.

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While investigating the different measures Ghana can use, the study will be of great use because of the information that will directly come from the farmers. It will help Ghana to get the facts on what smallholder farmers face as challenges when transitioning to agribusiness, and will also help in making sure that they provide ideas on how investments in agriculture can be done.

The truth is, relying on the old and some misleading information from the different people will not help smallholders well, but finding the truth from them and suggestions will help in improving and increasing the productivity of their production. The information provided by the kinds of literature is a guide towards the study areas that this research should focus on

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### CHAPTER 3: METHODOLOGY

This chapter elaborates on the different techniques and structure of collecting data for the research. As much as the study focuses on subsistence corn farmers, the challenges faced by subsistence corn farmers are the same as the challenges faced by most if not all subsistence farmers in Ghana.

The main questions that the research tries to answer are: i) what are the main challenges that force Berekuso subsistence corn farmers to still practice subsistence farming in the 21 century instead of transitioning to agri-business? ii) What can be done differently to help Berekuso subsistence corn farmers to transition to agribusiness? The main objectives on the other hand, are: i) Understanding the different challenges that Berekuso subsistence maize farmers face and exploring how Berekuso subsistence corn farmers can be enhanced in scaling up and transitioning to agribusiness, taking into consideration the challenges they face under the agricultural sector.

#### 3.1 Research Design

For this study, qualitative research was used in order to get direct experiences of the farmers based on the challenges they face. Qualitative research seeks an in-depth understanding of a social phenomenon within a certain natural setting (University of Utah, n.d). It depends on direct experiences of human beings. In qualitative research, there are various ways of collecting data but there are assumptions that “knowledge is subjective and the researcher learns from the participants as a way to understand their lives” (University of Utah, n.d).

To earn the trust of the participants, the researcher needs to be neutral while the research process is in progress with the participants. With the qualitative research, it was

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easy for this study to get the direct experiences of subsistence corn farmers and their ideas on what they think should be done to help them scale-up and transition to agribusiness.

### 3.2 Research Scope

This study was executed in the Eastern region of Ghana, specifically Berekuso. Berekuso was chosen because it is where most farmers are located, and it is a convenient place for an Ashesi student to carry out research in terms of geographical location and relevance to the study.

The study targeted subsistence corn farmers, and to have reliable results it focused on a range of ten to twenty subsistence corn farmers. Focusing on the Eastern Region for this study was more useful because the production of corn is mostly practiced there (Ministry of Food and Agriculture, 2017).

Between 2014 and 2016, the Eastern region has been the second-largest producer of maize. Based on figure 8 below, about 403 068.72 mt of maize was produced between 2014 and 2016. The larger size of the farming population enabled access to an adequate sample size.



(Ministry of Food and Agriculture, 2017)

*Figure 8: Maize Production in Ghana by Region*



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### 3.3 Sampling Strategy

For the study, selective or purposive sampling was used. This method is used by researchers that are doing detailed information about their study ("Qualitative Sampling Techniques - Statistics Solutions", n.d.). For the study to be effective, research was done about the farmers before they were selected to participate in the study. The research that was done was not based on gender or age, it was only focusing on subsistence corn farmers. The sample size was meant to range between ten and twenty participants, which ended up being fifteen participants. The reason why it did not make it up to twenty was that when assessing the responses, the responses began to be repetitive after the fifth participant.

### 3.4 Data Collection

For the in-depth research, an interview guide was used as data collection method. It had a set of structured questions for use during the interviews. Because the study was based on in-depth research, the interviews lasted for 30 minutes to 40 minutes for each participant in order to get all the required and necessary information for the study. Before the farmers were interviewed, permission was asked for their consent to be part of the interview session. Participants were not forced to participate but they did it voluntarily. Throughout the interview session, the responses were written down on printed interview guide. If there was a need to record their responses, the researcher would have asked for permission to do so.

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### 3.5 Data Analyses

After the study was carried out, the data was analyzed using thematic analysis. Thematic analysis is a method used to analyze qualitative data ("Thematic analysis - The University of Auckland", n.d.). In this case, responses and questions were themed according to its importance and similarities.

### 3.6 Reliability and Validity

According to Nova South Eastern University, reliability is the extent to which results are consistent and accurately represent the population being studied (Golafshani n.d.). The validity, on the other hand, determines if the study measures what it was intended to measure and how truthful are the results (Golafshani n.d.).

Throughout this study, all participants were asked the same questions from the same interview guide. Since most of the participants were fluent in the local language, all questions were asked using the local language to avoid the language barrier. To make sure that the questions were well understood by the participants, explicit and precise explanations were given to them.

For validity, pilot tests were used. In this case, few student farmers who run their projects outside Berekuso were conducted to test the feasibility of the study. This was done to test if the participants understood the questions and what the study needed. This was done before the actual primary research was done.

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### 3.7 Ethical Considerations

Before going out to the field to carry out the research, a research proposal was sent to the Institutional Review Board (IRB) of Ashesi University to seek for approval to continue conducting the primary research. During this process, a summary of the study and the set of questions to be used was sent to the IRB for the approval. The main aim for the approval from the IRB was to check if the questions respect the interviewees' privacy, if the questions were not sensitive and if there was confidentiality and anonymity of interviewees' data during the study.

### 3.8 Limitations

As a non-Ghanaian student, the language barrier had a negative effect during the primary data collection. Most of the farmers in the area were not fluent in English but the local language. As such, I had a local assistant who was fluent with the local languages, to assist during the interview session. I found it hard to empathize with the farmers in the challenges they faced. It was hard for them to understand what I was saying until my assistant tells them.

During the data collection process, I had to network with many people who connected me with the farmers. All the people who assisted in the process made me incur costs that I did not budget for at the beginning. However, it was worth spending that much when comparing with the feedback I got from the farmers as well as making the study effective.

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### CHAPTER FOUR: RESULTS

#### 4.1 Introduction

This chapter presents the findings from the primary research that was done. Data was collected from subsistence maize farmers in Berekuso using interviews. The results are presented based on the objectives of the study which are: understanding the challenges that Berekuso subsistence maize farmers face and exploring how Berekuso subsistence corn farmers can be supported in scaling up and transitioning to agribusiness, taking into consideration the challenges they face under the agricultural sector.

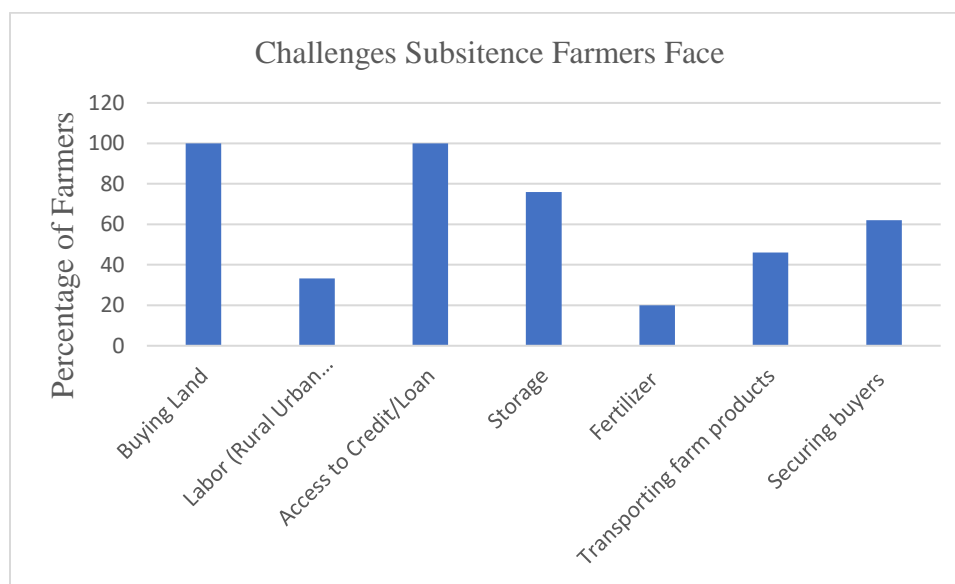
In analyzing the data, responses were grouped into themes according to their similarities of the ideas or feedback the farmers gave. After the responses were themed, a graph was extracted to visualize the data more precisely.

#### 4.2 Understanding the different challenges that Berekuso Subsistence Maize Farmers Face

From the secondary research done in the previous chapters, the author familiarized herself with various challenges that Ghanaians subsistence farmers face as well as other subsistence farmers across the world. Based on the data provided, subsistence farmers face challenges with storage, transportation, access to loan or credit facilities, access to the market and many more. This was based on studies done two to three years ago. That secondary data alone was not good enough for the reliability of this study in terms of identifying the challenges that the Berekuso corn farmers face currently. As such, the primary research was very crucial to understand the current state of the crisis under the subsistence maize production sector in Berekuso. As time changes, opportunities and

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resources change as well, therefore, getting the direct experiences of these farmers made the study more reliable other than only depending on secondary data that was prepared a while ago. The Graph below shows the different challenges that Berekuso maize farmers face.



*Figure 9: Challenges Subsistence Farmers Face*

### *4.2.1 Buying Land*

Subsistence maize farmers in Berekuso have the challenge of not having enough land to use. Based on the graph above, 100% of the participants raised concerns about land issues that hinder their productivity. Participants mentioned that it is very hard for them to transition to agribusiness due to the small amounts of land they own. They even rent the land they use currently for growing maize and other crops. Leasing the land is very expensive for almost all the farmers, as such, they find it hard to increase productivity because of the small land they own.

Most farmers lease one to two hectares of land, which do not favor them to have high productivity or even transition to agribusiness. Some farmers mentioned that in order

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to transition to agribusiness, they need to own at least 3 or more hectares of land which will give them better productivity.

One farmer who produces maize and pineapples mentioned that he once tried large scale production for both crops, but it happened that the rent for land was very expensive. As the hectares of land increases, the rent for the land increases as well.

Farmers also raised concerns that the protocol for renting land is unfavorable to them. Farmers have to pay for rent prior to production. It happens most of the time that the amount of output they get from the production does not cover the cost of production as well as the rent paid for the land.

Farmers end up not having money to farm again for commercial purposes because they always make a loss, which is why they prefer producing for family consumption and sell if they have more than they can consume. Farmers also complained that it is hard to permanently own land for themselves because buying land is very expensive. Even if it happens that one get money to buy some small portion of land, production still does not meet the point where it can be for commercial purposes.

### *4.2.2 Access to Loan or Credit Facilities*

From the literature review, farmers in rural areas in Uganda reported being left out from many programs the government provide. This is the exact same feeling that subsistence maize farmers in Berekuso feel. From the graph above, 100% of farmers do not have access to credit. Farmers mentioned that when they try to apply for the loan, they are told that they do not meet the standards required to get the loan, as such they are forced to use the little money they have to produce exclusively for consumption.

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Some farmers mentioned that even if they had access to the loan, they would not have taken it because that will be another expense that they would have not been able to pay because of the costs that come with acquiring of land and productivity uncertainty. The

Berekuso farmers mentioned that the agricultural banks they know are far away from them. Even in those banks, they are not granted the loans because of certain standards they couldn't meet. However, one farmer mentioned that even if they were granted, it would have been hard for them to pay if they are unable to sell their products well.

### *4.2.3 Storage after Harvesting*

Figure 9 above shows that 76% of maize farmers have a problem with storage and 24% do not have problems. Farmers do have good storage that will allow the maize to dry well and prevent it from getting rotten.

Farmers also expressed concerns about the type of material they use to make their storage. Some of the materials favor some crops but not the maize. Farmers do not only grow maize but they also grow other crops which make it harder for them to have storage for each and every crop. As such, some farmers use the maize right after harvesting or use it while it is still in the field.

Most farmers said maize gives them some form of income: they usually sell the maize straight from the farm so that it does not give them stress for storage. Some farmers who farm cassava and plantain apart from maize mentioned that the fact that they are used to selling their products right after harvest, they also do the same for maize to avoid storage costs.

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### *4.2.4 Securing Buyers*

As shown by the graph above, 60% of farmers have issues with securing buyers. They mentioned that getting the buyer is not hard but getting a loyal buyer that will pay a fair price is challenging.

Buyers from places as far as Accra come to Berekuso to buy maize but the price they pay is very little. Farmers are aware of the standard prices buyers charge in the markets of Accra after buying from them, and they said it is two or three times higher than the price they buy from them. They mentioned that they got to know this was happening after they got access to Esoko price updates for each and every region.

Esoko is a service that deals with updating agricultural profiling and services by updating their prices across Ghana. They have a managed website that keeps the updates and also provide the prices through other platforms like mobile phones. As of today, farmers are no longer able to get the price updates from Esoko for reasons they do not know.

Buyers sometimes make pre-order of the maize while it is not ready, however, they do not keep their promises to purchase based on the agreements they had established with the farmers. Usually, they see faults with the maize and start making negotiations on reducing the price yet they have already asked for discounts earlier. Farmers end up not making profit because of the way buyers buy their products. They also find it hard to maintain their customers because they keep on looking for better customers who will buy their products very well without making empty promises or deceiving them.



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### *4.2.5 Transportation*

Since buyers usually come to them when they buy their crops, the majority of the farmers did not express challenges with transportation. However, less than half of the farmers expressed concerns about transporting the maize from the field to their homes after harvesting.

Figure 9 above shows that 46% of farmers have challenges with transportation of harvested produce from the farm to their homes. The main problem is that farmers grow the maize in the bushes far away from home. There are no proper roads suitable for a car or truck to use where they grow their crops. As such, farmers have the difficulties of carrying the maize from the field to their homes.

Some farmers mentioned that they hire cars to take their harvest from the field to their homes. However, some fields are not accessible by car and in that case, they pay people to carry the maize from the farm to their homes by carrying on their heads. Since they are subsistence farmers, they have not seen the dire need for investing in trucks for themselves as they do not have high productivity. However, if they were practicing agribusiness, they would have invested in trucks or cars since productivity is assumed to be high.

### *4.2.6 Labor*

Most of the farmers interviewed expressed little concerns about labour. Only the large scale subsistence farmers had few challenges with acquiring labour. From the graph above, only 33% of the farmers expressed challenges with labour. They mentioned that they only get seasonal farmers because having permanent farmers is expensive. As such,

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they have to have at least one permanent worker who will monitor the fields every day. Small scale farmers on the other hand, mentioned that they usually go to the fields with their children to help and that is why they do not have problems with labor.

### *4.2.7 Access to Fertilizer*

Figure 9 above, 20% of the farmers do not have access to fertilizer. Some of the farmers mentioned that each bag of fertilizer cost GH150 (\$26.48) which they do not have, so they grow the maize without fertilizer but they look for fertile soil. Due to the fact that they do not use fertilizer to boost their crops, they end up having little harvest. Sometimes they use manure but that is also not enough for their crops. Some farmers also mentioned that they prefer growing organic maize and for that reason, they do not need any fertilizer or chemicals for their crops. Likewise, with this choice, farmers end up having little harvest.

### 4.3 How Berekuso subsistence corn farmers can be assisted in scale up and transitioning to agribusiness

While understanding the challenges that Berekuso maize farmers face, the study also found out how these farmers want to be helped in order to transition to agribusiness. Farmers gave various responses on how they think they can be helped with the challenges they are facing. They mentioned that the government should provide processing factories for different crops in each and every region to prevent buyers from exploiting them.

One farmer made explained that because of how the buyers exploit them during the harvesting period, they end up making losses. In his recent production, he used inputs worth

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Gh1000 but after harvesting he got GH360. That is one reason that discourages farmers to produce more because their market is not favorable for them. They also added that if they can get the Esoko price updates every month, they would be able to monitor the price charged for their products.

Farmers also recounted that if they can have access to credit facilities they will be able to buy fertilizer, spraying machines and chemicals to treat their crops. The credit facilities have terms that do not favor them, so if they can modify those terms taking into consideration the challenges they face, maybe somehow they can have access to it.

Farmers are also hoping that if they can have investors who trust them and can invest in their farming, they will be able to increase their production to the next level. As much as they need help, they believe that being hardworking and taking good care of their farms will also help them get a better harvest. As such, they need trained individuals who can give advice on how to take good care of their farms because they believe they have limited knowledge.

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### CHAPTER 5: CONCLUSION

In this study, challenges facing subsistence farmers in Asia, and other countries of Africa have been explored. These challenges are almost the same throughout the different parts of the world. In some countries, their governments have done a great job in helping subsistence farmers to transition to agribusiness. However, most African subsistence farmers still face a lot of challenges and there is nothing much that the governments have done to help the farmers. Programs are established to help the agricultural sector but fewer people have access to these programs. The subsistence farmers who live in rural areas are always left out in these programs. This also includes Ghanaian subsistence farmers as provided by research.

This study was aimed at finding the challenges that Ghanaian subsistence maize farmers encounter in the agricultural sector, which prevent them from scaling up their production and transition to agribusiness. The study targeted subsistence maize farmers in the Eastern region, in Berekuso. The research was done and results were presented. In overall, the challenges expressed by Berekuso subsistence maize farmers are almost the same challenges identified in the secondary research. The reason why food import in Ghana keeps on increasing is that there are few farmers in the commercial sector.

The majority of the farmers are subsistence and those farmers have numerous challenges that hinder them from producing more. Subsistence farmers, in general, are in a development trap, which is why they cannot scale up unless an external help rescues them. They do not find it profitable to try to scale up because of the risk of making huge losses if the market turns against them. In this case, the government is the only hope that can help them out of this situation. In the interview done with the farmers, all the farmers

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were talking about what the government can do for them and only one person thought that having investors too can help them.

Looking at the concerns of Berekuso farmers and the challenges they face, the government or any political person can help in connecting farmers with potential investors. The Member of Parliament of the Eastern region can help in making ways in which the farmers can have access to the subsidies that the government provides, as well as making sure that his people are also part of the programs implemented by the government. The Member of Parliament is the main person who knows what his people need and knows how to have access to the programs set by the government. His responsibility will be making sure that his region is not left out. In this case, farmers will be able to get access to credit loans, to the fertilizer subsidies and many other programs which will assist them in increasing their productivity.

Once productivity increase, it will be helpful to connect farmers with factories that will help invest and buy their products. Maize farmers in a small region in Swaziland are given access to microloans for farming. Terms and conditions for these loans are favorable for the farmers and take into consideration the challenges they face.

At the end of their harvest and selling, they pay back the loan with the minimum interest. If it happened they did not get a good harvest, they only pay the interest for that current year and are allowed to pay the debt on their next harvest. They also do not struggle with the market, the Member of Parliament made sure that he connects the farmers with commercial milling facilities in the country that buy their maize after harvest. Even though that milling come with their terms and conditions, farmers are still

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guaranteed that they have market for their maize after harvest. The same thing can be done for Berekuso or Eastern region farmers so that productivity can increase.

The research in Chapter one made mention that the agricultural sector contributes significantly to the country's economy. A lot of farmers in this sector are said to be subsistence, as per the research above. As such, focusing on helping the subsistence farmers will boost the agricultural sector, the economy and the standard of living of most Ghanaians. Therefore, the government has a huge responsibility since subsistence agriculture is the dominant sector.

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