

UNIVERSITY OF GHANA

**PERCEPTION OF FINAL YEAR UNDERGRADUATE STUDENTS
OF AGRICULTURE AT THE UNIVERSITY OF GHANA ON SELF-
EMPLOYMENT IN AGRIBUSINESS**

BY

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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN
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DECLARATION

I, Hamida Shiraz, author of this thesis titled “PERCEPTION OF FINAL YEAR UNDERGRADUATE STUDENTS OF AGRICULTURE AT THE UNIVERSITY OF GHANA ON SELF-EMPLOYMENT IN AGRIBUSINESS”, hereby declare that with the exception of references and quotations duly acknowledged, this work was entirely done by me under supervision in the Department of Agricultural Economics and Agribusiness, University of Ghana, from August 2016 to July 2017. I hereby declare that this thesis has never been presented either in whole or in part for any degree in this university or elsewhere.

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DATE

DEDICATION

I dedicate this thesis to the Almighty God for His grace and guidance throughout my academic pursuit and also to my children Abdul Waheed Fuseini Inusah and Iyad-Deen Fuseini Inusah for their understanding, emotional support and prayers during the period of study.

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ABSTRACT

Agriculture has been the backbone of Ghana's economy for several decades. A continuous decline in the agricultural sector contribution to GDP over the years with increasing unemployment among graduates has raised concerns among researchers. The sector is dominated by aging and illiterate population which has negative impact on productivity and technology adoption. The educated youth who can contribute positively to the development of the sector are not taking advantage of opportunities in the agricultural sector. This study assesses the perception of students on self-employment in agribusiness. The factors that influence agricultural students' decision on self-employment in agribusiness and perceived constraints students could face in taking up agribusiness enterprises were examined. The study population was final year undergraduate students in the School of Agriculture at the University of Ghana. A total of 150 students were selected through simple random sampling technique from the cluster of Departments. Descriptive statistics, Probit regression model and Kendall's Coefficient of concordance (W) were used to address various objectives of the study. Results from the study showed that about 86% of the sampled students expressed intention to venture into self-employed agribusiness. Perception index from the analysis was found to be 0.62, indicating that students have a positive perception for self-employment in agribusiness. Significant factors that influence students' decision to take up self-employment in agribusiness were identified as age, sex, department of the respondent, parents' occupation and perception index. Major factors identified and ranked as the main constraints in order of importance were; lack of skills and knowledge, climate change, lack of access to credit, access to land, poor technological knowhow, market unavailability, lack of government support, poor extension service. Majority of the students want to have both theoretical and practical training in taking courses in agriculture. It is recommended that government and the private sector should develop policies and programmes to help address these constraints. Students of Agriculture should be properly oriented regarding the prospects of agriculture and its related businesses as an avenue for self- employed job creation.

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LIST OF ABBREVIATIONS

AEO	Africa Economic Out look
FAO	Food and Agricultural Organisation
FASDEP	Food and Agricultural Sector Development Policy
GSS	Ghana Statistical Survey
GDP	Gross Domestic Product
GoG	Government of Ghana
GYEEDA	Ghana Youth Employment and Entrepreneurial Development Agency
I FAD	International Food and Agricultural Development
IMF	International Monetary Fund
ILO	International Labour Organization
IOM	International Organisation for Migration
ISSER	Institute of Statistical Social and Economic Research
MOFA	Ministry of Food and Agriculture
NYEP	National Youth Employment Programme
NGO	Non-Governmental Organisation
SSA	Sub-Saharan Africa
YIAP	Youth in Agricultural Programme

CHAPTER ONE

INTRODUCTION

1.1 Background

Agricultural sector is a major source of employment in sub Saharan Africa. In Ghana, the sector provides employment for majority of the teeming population. The agricultural sector provides direct and indirect jobs to about half of the nation's labor force (MoFA, 2012). The largest portion of this labour force are rural dwellers who have limited or no formal education (FAO, 2010). As observed in the Ghana's Food and Agricultural Sector Development Policy, over 60 percent of the country's labor force that is employed in the agricultural sector engaged in farming, trading of agricultural commodities and agro-processing for their livelihood (MoFA, 2011). The review report of Ghana's agricultural sub-sector performance revealed a worrying trend of aging and illiterate farmer population with its consequences on productivity and technology adoption (MoFA, 2007). This trend if allowed to continue will have a dire consequence on the ability of the agricultural sector to feed the teeming population and produce the export commodities such as cocoa, cashew among others for the much-needed foreign exchange for economic development (MoFA, 2007). Also, the national goal of modernizing agriculture and encouraging commercial production is being hampered by the aging and illiterate farmer population and the sector's inability to attract the youth and educated populace (MoFA, 2007). With Ghana's population estimated at a little over 27 million in 2015, the youth constituting between 15 – 35 years, accounts for more than 50 percent of the total population (GSS, 2012). Attracting some of these teeming masses of the youth into the agricultural sector is imperative if the country is to produce enough food for her population, industries, and export (GSS, 2012). With high level of education and literacy among the youth as compared with the elderly, it is expected that having the youth replace the aged farmers will help facilitate technology adoption

necessary to propel agricultural productivity and agricultural development in general since these youths are much more educated and will be more productive in the sector (Ekoja, 2004).

According to Ekoja (2004), education is a significant factor in adoption of innovations among farmers for improved agricultural productivity. Illiteracy and old age have also been recognized as limiting factors to farmers' willingness to make use of technologies as well as work on farms (Ismaila *et al.*, 2010). It is therefore important that for Ghana to achieve its policy objective of modernizing agricultural production, the energies and enthusiasm of the youth be tapped by getting them take up farming and other agribusiness enterprises.

However, there is an upsurge in the advocacy for greater participation of the youth, especially graduates of agricultural colleges and faculties in agricultural production marketing (Ojebiyi *et al.*, 2015). For the agricultural sector to grow and achieve the target, there is the need to effectively tap both the endowed human and natural resource. The country has uncultivated land area and fresh water bodies that can be harnessed to produce enough food to meet local and export demand, which is as a result of expanding markets and population growth (FAO, 2013). It is reported that about 6.2million ha of Ghana's 14million ha of agricultural land is uncultivated (MoFA, 2013 and World Bank 2012). The indication is that Ghana has greater potential for agricultural development if necessary support is made available to significantly exploit the available resources.

According to FAO (2013), the traditional production and distribution methods are being replaced by more closely coordinated and better planned linkages between agribusiness firms, farmers, retailers, and others in the supply chain. Considering the dynamics of farming and for that matter agri-food markets domestically and internationally, agribusinesses offer new opportunities for job creation and this calls for private sector participation in playing a

key role in supporting new business models that enable the expansion of rural and urban jobs in the sector (FAO, 2013). This can be achieved through adequate participation and involvement of the youth, particularly young graduates with expertise in agriculture and its related enterprises.

Governments and their development partners have a key role to play in creating a supportive and enabling environment for the growth of agribusiness in Ghana by focusing on programmes such as Youth in Agriculture Programme and National Youth Employment Programme. The youth including young graduates can take these great opportunities not only to provide employment for themselves but also enhancing overall development of the Ghanaian economy.

There is generally high graduate unemployment in the country despite the enormous opportunities available in the agricultural sector. ILO (2015) is of the view that unemployment of any form poses a threat to economic and social development of a nation. Since Government invests a lot to educate the youth to be productive citizens, it becomes a loss of investment in education to the state when absence of jobs renders them unproductive to the nation

1.2 Problem statement

The agricultural sector contributes greatly to the Ghanaian economy by providing employment, generating foreign exchange, producing the needed food stuff to feed the growing populace and provides raw materials to feed the local industries (MoFA, 2011). The sector directly or indirectly supports the Ghanaian population economically, through farming, distribution of farm products and provision of other related services (ISSER, 2010) and MoFA (2012). The agricultural sector in Ghana is dominated by unorganized smallholder farmers who still use rudimentary methods for production (MoFA, 2011). The

sector is also confronted with numerous challenges such as limited access to quality farm inputs, inadequate physical infrastructure and poor access to market information and fair pricing coupled with inadequate human and capital resources. The aged farmer population in the sector has posed a serious challenge to the sector's ability to adopt technology and increase productivity to meet the expanding markets demand created by population growth (MoFA, 2012). There is the need for young people to participate in the agriculture and its related enterprises to salvage the productivity situation in the agricultural sector.

However, the youth that form the active labour force in Ghana are not attracted to the agricultural sector to replace the aging farmer population. These young people reportedly regard farming as an occupation with low income and economic returns and a preserved for the uneducated and unskilled labourers (MoFA, 2011a). Due to this and other reasons, graduates who studied different aspects of agriculture such as agricultural economics and agribusiness, agricultural extension, crop production, animal science/production and soil science are currently looking for jobs in the banking, oil and gas sectors which are not readily available (Ojeyibi *et al.*, 2015).

The world is facing myriads of challenges because of population growth, unemployment and food insecurity. (World Bank, 2012). In Ghana, the unemployment rate keeps on soaring and has hit all segments of youth regardless of their educational level. The youth unemployment according to ILO (2015) is about 11.6% in Africa. These statistics which included the graduates of our institutions are very disturbing, since unemployment is the most serious problem affecting social and economic progress of many nations in the continent (Bosompem *et al.*, 2011).

In Ghana, large numbers of the unemployed graduates enter the job market every year searching for non-existing jobs. It is reported that out of about 250,000 young people that

enter the labor market annually, only 20% are employed in formal sector while the remaining portion are left to strive to survive in the informal sector or remain unemployed (ISSER, 2010). According to Gyampo (2012), for the first time in the history of Ghana, the Unemployed Graduates Association of Ghana was launched in 2011 to protest the alarming rate of youth unemployment among all segments of the youth in Ghana. This poses a threat for sustainable development and effective utilization of human resource base of the country (Zakaria *et al.*, 2014).

Considering the numerous opportunities in the agriculture sector, there are strong indications that graduates who take up farming and agribusiness enterprises as self-employment ventures, are likely to generate not only employment for themselves but also enhancing overall development of the Ghanaian economy. With high level of education and literacy among the youth as compared with the elderly, it is expected that having the youth replace the aged farmers will help facilitate technology adoption necessary to propel agricultural productivity and agricultural development in general (Zakaria *et al.*, 2014).

Government of Ghana over the years has made several efforts to encourage the youth who are mostly university graduates to take up agriculture and its related agribusinesses by initiating programmes such as the Youth in Agriculture Programme (YIAP), Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA) (MoFA, 2007). All these interventions are to attract the youth in to the agriculture sector in effect reducing the alarming rate of youth unemployment facing the country and increasing productivity.

However, it is unclear whether the youth and for that matter agricultural graduates, perceive farming and other agribusinesses as good opportunities to venture. Also, the factors which influence their self-employment and entrepreneurial intention towards agribusinesses and the potential challenges they may face in taking up agribusinesses as self-employment ventures

are unknown. The study seeks to address the under listed questions:

1. What perceptions do students of agriculture hold towards self-employment in agribusiness?
2. What factors influence agricultural students' intention to take up agribusiness enterprises as self-employment?
3. What are the constraints students are likely to face in taking agribusiness as self-employment avenues?
4. Which agribusiness enterprise do students preferred most as their future self-employed enterprise?
5. To what extent do the teaching and learning of agriculture affect students' competency to take up agribusiness enterprises?

1.3 Objective of the study

The main objective of the study is to assess students' perception and self-employment intention in agribusiness. Specifically, the study seeks to;

1. Analyse the perceptions of agricultural students towards self-employment in agribusiness.
2. Determine factors influencing agricultural students' intention on self-employment in agribusiness
3. Analyse the perceived constraints students would face in taking up agribusiness enterprises.
4. Identify the most preferred agribusiness enterprises among agricultural students.
5. Examine the extent to which the teaching and learning of agriculture affect students' competency to take up self-employment in agribusiness.

1.4 Relevance of the study

Self-employment have gained popularity around the world in recent times, this is as a result of the increasing rate of unemployment particularly among the teeming youth. Considering the problems of unemployment and the opportunities in the agricultural sector in Ghana, it is a necessary option to encourage graduates of agriculture to take advantage of these opportunities in the sector. This would not only generate employment but also to fast track the effort of modernizing agriculture in order to enhance food security and create wealth for the growth and development of the economy (Zakaria *et al.*, 2014).

The study of students' perception of self-employment in agribusiness is of relevance to provide empirical evidence that reflects either positive or negative perception of students' intention to venture into self-employment in agribusiness. Therefore, the findings can play a vital role in policy direction by acting as a guide for policy makers.

Also, the study seeks to reveal significant socioeconomic factors that influence students' intention to take up agribusiness as self-employment ventures. The findings will be of relevance in academia by filling the literature and knowledge gap. More specifically, empirical factors that affect agricultural students' intention to take up agribusiness as self-employment ventures.

The study will help Policy makers and implementers to design appropriate policies and programmes needed to address constraints that the youth or students' especially graduates from our tertiary institutions faced in their attempts to venture into agriculture. The perceived constraints when addressed will increase their productivity and income levels and motivate others to take up agriculture and its related businesses as self-employment ventures.

The study will provide information about the most preferred agribusiness enterprise among students. This will give evidence on the type of agribusiness enterprise to venture into in

order to be self-employed and generate wealth for oneself.

The study would provide information to government about the kind of training and enterprise management skills and extent to which teaching and learning of agriculture affect students' competency in taking up self-employment in agribusiness. Findings of this study could be a guide in curricula planning of tertiary programmes to help equip graduates with the requisite knowledge in enterprise development. In all it will provide information to government to help in formulations of policies for the planting for food and jobs policy initiatives with regards to how the youth can be captured.

1.5 Limitation of the study

The limitation to the study is that, it covers only the final year undergraduates' agriculture students so might not be truly representative of the whole agricultural students of the university. In addition, some of the information provided by respondents might not be very accurate because some respondents had not made any sound decisions on the career of their choice after graduation. The sample results may be different from the entire population results. The tools employed for data analysis have their own weaknesses which might influence the outcomes, although this was highly controlled.

1.6 Organization of the study

This study is structured in to five chapters. Chapter one constitutes the introduction, which focuses mainly on the background, problem statement, objectives of the study, justification and limitation of the study. Chapter two reviews the theoretical and empirical literature pertinent to the study. Chapter three describes the research methodology that includes a brief description of the study area, data collection procedures and analytical techniques. Chapter four reports on the results of the study along with discussions. The summary of the major findings, conclusion and recommendations are provided in chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature that supports the entire study. The review consists of concepts, theories and statements that relate to the problem statement and objectives of the study. The chapter opens with a description of 2.2 agriculture in Sub-Saharan Africa, and continues with 2.3 opportunities in the agricultural sector in Ghana, 2.4 the challenges in the agricultural sector, 2.5 relevance of education to agriculture development, 2.6 youth and graduate unemployment in Ghana, 2.7 perception of the youth towards agribusiness as self-employment enterprise, 2.8 challenges to the youth advancement in self-employment, 2.9 empirical studies on youth and self-employment intentions in agriculture and it related businesses, 2.10 global response to graduate youth in agribusiness practice, 2.11 Intention to take up or not to take up self-employment and finally 2.12 influence of gender relating to self-employment issues in agribusiness.

2.2 Agriculture in Sub-Saharan Africa

The agriculture sector in Sub-Saharan Africa is said to have played and continued to play a positive role in the economic development of these nations, this is because the sector has a lot of opportunities with regards to employment, food provision to feed the growing population and raw materials to feed the industries both local and international (Bosompem *et al.*, 2011). The sector also provides the needed foreign exchange for the development of any economy.

According to the World Bank (2012), the sector provides employment to about 65 percent of the labor force and accounts for about 32 percent of the gross domestic product in Sub-Saharan Africa. About two thirds of Africans depend on agriculture for their livelihoods

(FAO, 2010). It is because this and among others that, the governments of the developing countries majority of which are from SSA were urged at the 2003 Maputo Declaration on Agriculture and Food Security to allocate at least 10 percent of national budgetary expenditure to the sector which is aimed at achieving 6 percent annual growth of the agricultural sector (FAO, 2013). Furthermore, boosting Africa's agriculture can create economic opportunities, reduce malnutrition and poverty, and generate faster growth (Naamwintome, 2008). Given agriculture's role in addressing the challenges of unemployment and underemployment in Africa, Agriculture sector employs more than half of the total labor force in Africa (FAO, 2013).

Agriculture is the major development sector in most of African economies. A country like Zambia for instance, has about 97.4 percent of the rural households engaged in agriculture, which is equivalent to about 45 percent of the total population. In Mozambique, about 90 percent of rural households are engaged in agriculture, which is equivalent to about 80 percent of the total population (World Bank, 2012). In Ghana, about half of the total population is engaged in the sector. According to MoFA (2012), 50.6 percent of the total labor force in Ghana is engaged in agricultural sector. Recent surveys suggest that agriculture is also the primary source of livelihood for about 10 percent to 25 percent of urban households (Yeboah *et al.*, 2016). National census data indicates that the number of people employed primarily in agriculture has increased over time (Yeboah *et al.*, 2016). It is undoubtedly clear that agricultural sector is the key to addressing the youth unemployment problems which is at alarming rate of 11.6 percent in Africa (ILO 2015).

However, the agriculture sector offers new opportunities to majority of youth including graduates through; processing, marketing, distribution, and provision of services in the market value chain (Bosompem *et al.*, 2011). It is therefore prudent to put policies and

programs in place to attract the youth who are mostly the graduates from the various tertiary institutions in Africa to take up agriculture and its related enterprises as self-employment opportunities. This can be done by increasing access to land, capital, transportation and infrastructure, adoption of new technology and the need for the institutions to provide basic skills and knowledge (Sumberg *et al.*, 2017). Moreover, the perception of the youth must be taken into consideration to avoid policy implementation failure.

2.3 Opportunities in the Agricultural Sector in Ghana

Traditionally the agricultural sector has been an important sector of the Ghanaian economy in terms of its contribution to export, employment as well as source of raw materials for industry (World Bank, 2012) and IOM (2012). The sector for example, provides direct and indirect jobs to about 80% of the nation's labor force (MoFA 2012). It is undoubtedly clear that the agricultural industry is a sector where job creation is key for its expansion. Ghana is blessed with both natural and human resources. In terms of natural resources, about 5.7 million hectares (74%) out of the total available cultivated land of 7.9 million hectares is used for agriculture. The implication is that about 26% of the total cultivatable land area is currently untapped (MoFA 2012). In addition, the country is blessed with marine resources, rivers, lakes which can be used for fish production. The climatic conditions in the country also support and encourage agricultural production activities. With regard to human resources, the youth who constitute about 20 to, 30% of Ghana total population should be actively engaged in productive agricultural enterprises that will reduce unemployment and increased food sufficiency in the country (GoG cited in Naamwintome, 2008).

However, instead of these youths to be engaged in different agricultural activities, they migrate to the urban areas for better facilities and abandoned the rural areas which serve as the center for agriculture in Ghana. Ayanda *et al.*, (2013) posit that the migration of the youth

from the rural to the urban areas has brought about the current aged farmer population who are unable adopt modern technology to produce to meet the demand of the growing population.

It is against this background that individuals who have had training in agriculture are expected to take up this opportunity not only to increase productivity but also to decrease the unemployment problem been currently faced by the youth (FAO 2010). Aside this, Policy makers and the development professionals are of the view that the agricultural sector can provide solution to the youth unemployment and under-employment currently faced by many African countries including Ghana. (Brooks *et al.*, 2013; FAO 2013; Filmer *et al.*, 2014)

The youth unemployment in Africa, according to ILO 2015 is about 11.6% in Africa. These statistics which includes the graduate of our institutions are very disturbing, since unemployment is the most serious problem affecting social and economic progress of many nations (Bosompem *et al.*, 2011), more importantly policies and programs should be put in place to attract the graduates into self-employment in agribusiness. This could be done by identifying and removing the constraints and barriers such as access to land, credit and infrastructures. Sumberg *et al.*, (2017) posit that the goal of increasing productivities and creating jobs in the agricultural sector is to address the barriers that confront the sector, many of which are institutional. Ironically, most young people for that matter graduates reportedly regard agriculture as occupation with low income and economic returns and as such considering the sector to be the industry for the uneducated and unskilled laborers (MoFA, 2011). A study conducted by Sumberg *et al.*, (2017) showed that the provision of land and agro-inputs, agricultural extension services and agribusiness management training motivate the youth and changes the negative perceptions that they held about agriculture.

2.4 The Challenges in the agricultural sector

The agriculture sector in Ghana is predominantly Smallholding, where producers generally used rudimentary technology to produce about 80% of the country's total agricultural output (MoFA, 2012). The sector is faced with numerous challenges which include land acquisition. In Ghana land is acquired through inheritance, as a result people who want to invest in large commercial farming are discourage, this is as result of the fact that, land tenure system has put more lands in the hands of traditional leaders and individuals (Naamwintome, 2008).

A report by World Bank (2012) indicated that, about 80% of land ownership right in Ghana is under the control of local chiefs and only 20% belonging to the state. Low levels of income are another challenged that is faced by farmers in the agricultural sector. Farmers often earn very low incomes from their farming activities, partly due to poor harvest. Majority of these farmers are not able to adopt improved technology to increase productivity (Assuming-Brempong *et al.*, 2006). Farmers' inability to access credit facilities and subsidies, low access to extension services, poor transportation, storage and processing facilities are some of the challenges facing agriculture in Ghana (Amankrah, 2006). The agricultural sector in Ghana is becoming a preserved for the aged and the average age of a farmer is said to be 55 years (MoFA, 2007). This among others has posed a serious challenge to the sector in ability to adopt technology and increase productivity. The youth are not also willing to undertake agriculture as self-employment venture, due to the fact that there is low income and economic returns (AEO, 2012). Majority of them prefer to migrate to the urban centers with better facilities like electricity, internet services and places of entertainment which are lacking in farming communities (AEO, 2012).

Nationwide review of the implementation of the Food and Agricultural Sector Development Policy, found out that the needed investment and participation has also decreased over the

past decade and this is demonstrated in high national import dependence which is a major cause of food insecurity and low budget allocation to the sector in Ghana (Beyuo *et al.*, 2013 and MoFA, 2012). This high dependence on food import is very risky considering the increasingly volatile and uncertain global market as demonstrated in the food and financial crises in 2007 and 2008 (Spore, 2009). Mostly family-operated farm unit of production is the dominant agricultural production in Ghana Notwithstanding the fact that majority of Ghana's labor force, especially in the rural areas and the informal sector, are employed in the agricultural sector (MoFA, 2007)

Ghana has a higher potential for producing food to meet national, regional and global agricultural demands. Yet current production levels meet only 50 percent of domestic cereal and meat needs, 60 percent of domestic fish consumption and less than 30 percent of raw material needed for agro-based industries (MoFA, 2012). Aside these, the needed investment and participation has also decreased over the past decade (MoFA 2012). Several factors including lack of access to markets, high cost of inputs and low levels of economic infrastructure accounted for this outcome (GSS, 2012). In recent times, the contribution of the agriculture sector to the GDP has fallen as compare to the service and industry sectors (GSS, 2012).

2.5 The relevance of education to Agricultural development

Education in whatever form is relevant in development of an individual life be it political economic or social. Research has also revealed that there exists a positive correlation between education and human survival. Education has been identified as a powerful tool for shaping people's life and making life meaningful (Ani 2007). Investing in the human resource base in Africa is crucial to the development in the Agricultural sector. Education in agriculture provide skills in different forms, which include skills in processing, value

addition, marketing, transportation and machine operation and repairs among others (Moyo *et al.*, 2015).

In a research conducted by Okpachu *et al.*, 2011 on the impact of education on agricultural productivity of small scale rural farmers in Yobe state in Nigeria, revealed that education plays an important role in development process of agricultural sector. The study further revealed that the agricultural sector needed literate to understand and adopt modern technology and complex scientific methods to increased agricultural productivity. According to Ani (2007), the higher illiterate rate in the agricultural sector in most African countries, has resulted in the dependency on the use of the rudimentary tools which makes it increasingly difficult to increase productivity and improve incomes and living standard among farmers. To transform agricultural sector to meet both local and international food demand and to achieve the national goal of modernizing agriculture and encouraging commercial production in Ghana, there is the need to replace the aged and illiterate farmer population with the vibrant and educated youth in the country (MoFA 2007). Education is a significant factor in the adoption of innovations among farmers (Ekoja 2004). Age has also been identified as one of the limiting factor to the understanding, adoption and making use of modern technologies (Ismaila *et al.*, 2010).

The significant role agricultural education plays in the development of the agricultural sector has led to the establishment of various agricultural institutions to provide high quality agricultural education to achieve the developmental programmes of the nation (Jamaluddin and Alias, 1997). However, institutions where agriculture is taught faces numerous challenges partly due to an increasingly advancement of technology in the world (FAO 2010, Kabir, 1995). The world over the years has changed but agricultural education and training have failed to adapt and respond to the realities of rural societies in most developing countries

(Mitchell *et al.*, 2012)

The curricula and teaching methods have not developed to meet the development objectives of many developing countries as well as the demand for the labor market (World Bank 2012). The educational orientation has made it increasingly difficult for university graduates which include agricultural students to become employed (Baah-Boateng, 2012). The public sector used to absorb most agricultural graduates. This is no longer the case, as a result the unemployment rate in Ghana has reach an alarming of 12% in 2005 (GSS 2012).

However, it is arguable that the agricultural sector offered employment opportunities for the unemployed graduates (FAO, 2010). The youth should therefore take advantage of these opportunities not only to improve their economic lives but also improve productivity in the agricultural sector.

2.6 Youth and Graduate Unemployment in Ghana

African Youth Charter defined youth as young people between the ages of 25-35. In Ghana, according to the United Nations Organization and Commonwealth Secretariat, youth are persons within the age bracket of 15 and 35 and according to the 2010 Ghana Housing and Population Census, about 35.1% of the population are youth National Youth Policy defines the youth as young people between the ages of 15 to 35. The World Bank (2012) revealed that, the youth are young men and women who have ample energy and strength both mentally and physically that is needed for growth and development of every nation.

However, majority of the youth living in Africa are there without jobs, and this has become a growing concern among policy makers and governments in many countries (Bosompem *et al.*, 2011). In Ghana, graduate unemployment situation is at it alarming rate and this rises

a concern to many. Baah-Boateng (2012), in his study revealed that 28.8 percent of graduates between the ages of 25 to 35 wait for two years or more before they get employed. There is a decline in share of employment of the youth as population increases at a quicker pace. According to Baah- Boateng (2012), Ghana average rate of economic growth is 5.1 percent and such economic growth was in the services sector and not agricultural and manufacturing sector which can create jobs for a larger number of people in the country. According to Otoo *et al.*, (2009); Asante (2011), unemployment is one of the most serious challenge undermining the social progress of many countries. In Ghana, even though government have introduced and implemented several employment initiatives such as, the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), Youth in Agriculture Programme and Skills Training among others, the situation of youth unemployment is still on the rise. The unemployment rates among youth in Ghana have risen from 16.4% in 2000 and came close to 29% in 2009 (ISSER, 2010)

Encouraging the youth to take up agriculture and it related enterprises as self-employment venture has been an issue of concern to policy makers in recent times. It has also risen up in the development agenda in many countries, as there is evidence that young people shy away from agriculture. They regard agriculture as an occupation with low income and economic returns and majority of people who engaged in farming are uneducated and unskilled (MoFA, 2011a). In Ghana, the agriculture sector has been identified as a key for job creation (Wiggins *et al.*, 2015). According to the national youth policy provision of resources for the participation of the youth in modern agriculture is paramount since it will address the problem of ageing farmer population in the country, reduce the continuous rise of Ghana's food import especially for rice, cooking oil, frozen chicken and meat and also addressed the youth unemployment problem in the country (MoFA, 2011a).

2.7 Perception of the Youth towards agribusiness as self-employment enterprise

Perception is a process by which individuals organize and interpret their sensory impressions to give meaning to their environment. Perception plays an important role in the way people make decisions. Perception, both negatively and positively influence human behavior (Adalat, 2009). Understanding perception is very important because a person behaviour is based on his perception of what the reality is, but not the reality itself (Adalat, 2009). Perception is the way one thinks about something or the impression you have towards something base on the information gathered from the external world by means of sensory receptors. People turn to have different perception towards a thing base on the way that thing is regarded as, perception plays an important role in the way people make decisions. Research have shown that youth are the most important human resource to the development every nation. According to Bahaman et al, (2010), youth are young men and women who have abundant energy and strength both mentally and physically. The youth when given the opportunity, will bring energy, vitality, and innovations into the work force, and can have a transformative impact on economic growth and social development. With this, the youth should be encouraged to be at the forefront of revitalizing agriculture. The youth actively engagement in farming and agribusiness value chain, will serve as means for solving the unemployment and food security problems in the country and ensuring general prosperity of the populates (Zakaria et al., 2014).

The agribusiness establishment provides many employment opportunities for the youth. However, most of the unemployed youth are not willing to accept agriculture as their major occupation because they perceive agriculture to be an occupation with low economic returns and is reserved for the uneducated and the unskilled (MoFA, 2011a)

A study conducted by Ojebiyi et al, (2015), the youth for that matter university graduates have

unfavorable perception towards agriculture and its related enterprise as self-employment ventures and turn to shy away from the sector because is not financially rewarding and a preserve for illiterate and the aged. A study in Mali reveals that the youth perceive agribusiness industry as not profitable and have no intention to pursue agriculture as a self-employment ventures (Feighery et al., 2011). And this has led the industry to be dominated by the elder generation. Also, a study conducted by Ojebiyi et al., (2015) in Nigeria reveals the youth view farming as the preserve of the less privileged in the society and meant for the aged. Attitudes and perception by youths towards agriculture has led to less participation of the youth in agricultural. Lack of startup capital for agriculture graduates and unavailability of infrastructural facilities such as storage, processing and marketing access were major reasons hindering the university graduates for that matter the youth intention to venture into agriculture-related enterprises as self-employment ventures.

A study conducted at Federal University of Agriculture, Abeokuta-Nigeria by Ojebiyi et al., (2015) revealed that majority of the students were willing to venture into agriculture-related enterprises. Reasons were identified to include students' desire to be job creators and self-employed and encouragement received during training. The implication is that, the university graduates will only take up agriculture and it related enterprises not because is financial or economically rewarding but for other reasons as stated.

2.8 Challenges to youth advancement in self-employment

Research and policy makers have identified self-employment as very important in the development of the society (Bosompen et al., 2011). Self-employment, according to Kaplan (1990), empowers citizens, to create, innovate and changes the mind set of an individual. (Booyens, 2011), posit that the positive contribution of self-employment or entrepreneurship on an economic and social development cannot be over emphasized.

The Ghanaian government in view of these has long recognized the fundamental contribution of self-employment on the development of the country. And this form a crucial part of government policies that intend to reward and recognizes those who take up self-employment business opportunities (Bosompen et al., 2011). Many people want to engage in self-employment because they want autonomy, similarly intension and perception as well as stability and growth in the business establishment derive the desire to engage in self-employment (Bosompen et al., 2011).

However, it is worth nothing the fact that in an attempt to undertake self- employment ventures, barriers such as lack of startup capital, unavailable infrastructure facilities, market access, unavailable information on self-employment and the kind of training given to the youth in our institution.

2.9 Empirical studies on youth and self-employment intention in agriculture and its related enterprises

Self-employment in agribusiness is relatively an emerging area that states and governments, especially in Africa, are exploring to solve the ever increasing youth unemployment problem. As a result, not many studies have been carried out on graduates and self-employment in agricultural and its related businesses, hence, the review includes studies on students' perception and intention towards agribusiness as self-employment venture and what measures are to be taken to encourage the graduates to take up agribusiness as self-employment venture. A study conducted by Zakaria *et al.* (2014) to analyse students' perception and intention to take up agribusiness as a future self-employment avenue. The study used descriptive and Chi-square statistics to analyse the objectives. Findings revealed that students generally have positive intention towards taking up agribusiness as self-employment ventures. The study identified challenges in taking up agribusiness as self-employment venture to be lack of

capital, unavailable infrastructure facilities, market access, unavailable information on self-employment and the kind of training given to the youth in the various institution. They also identified crop production as most preferred agribusiness enterprises among students in the University for Development Studies. It was recommended that tertiary students pursuing agriculture and agricultural related programmes should be exposed to practical training in agriculture and be properly oriented on the prospects of agriculture and its related enterprises as an avenue for self-employment upon graduation.

In related study by Ojebiyi *et al.*, (2015) on the willingness of students to venture into agriculture-related enterprises in Nigeria revealed that students were willing to take up agricultural related enterprises as self-employment venture. Major reasons for students' willingness were identified to include students' desire to be job creators and self-employed, lucrative nature of agriculture and encouragement received during training.

Lack of credit or loan facilities for agriculture graduates and unavailability of infrastructural facilities such as storage, processing and marketing accesses were major reasons hindering students' willingness to venture into agriculture-related enterprises. The study further recommends that affordable credit loan facilities should be made available to agriculture graduates as this will sustain their willingness to venture into agriculture-related enterprises. In a way, the quality of training along agricultural value chains, terms of credit and the agricultural technologies, commodities and markets being advanced have a huge influence upon both the livelihoods of youth and the process of agricultural transformation.

The findings of Zakaria *et al.*, (2014) and that of Ojebiyi *et al.*, (2015) are similar in that, both studies indicated that students of agriculture have good intention in taking up agribusiness as self-employment venture. Zakaria *et al.*, (2014) and Ojebiyi *et al.*, (2015) went further to discuss the most preferred agribusiness enterprises students are willing to take as self-

employment venture. Both Zakaria *et al.*, (2014) and Ojebiyi *et al.*, (2015), also identified different challenges students of agriculture may face in taking up agribusiness as self-employment venture in both University for Development Studies in Ghana and that of Federal University of Agriculture, Abeokuta in Nigeria. However, the students of the University of Ghana may also face different challenges in taken up agribusiness as self-employment because of the geographical location for which this study has been carried out. Whereas Ojebiyi *et al.*, (2015), failed to investigate the perception of students towards self-employment in agribusiness, this study investigated the perception of students of agriculture intention to take up self-employment in agribusiness in which the overall perception was said to be positive. Implying that students generally have a positive perception towards self-employment in agribusiness.

In related studies on self-employment intention of individual, Isah & Garba (2015), revealed that, variables such as, self-efficacy, innovativeness and risk-taking propensity were positively related to students' intention, whereas locus of control is negatively related students' intension for self-employment. The study also revealed that there is no significant difference among students on their self-employment intentions. The study was on students' attitudes towards self-employment intention in tertiary institution in Nigeria. A 7-point Likert scale and Analysis of Variance (ANOVA) was used to analyse the various objectives.

However, Halvorsen & Morrow-Howell (2016) work on "A Conceptual Framework on Self-Employment in Later Life" indicated several variables such as family background, age among other socioeconomic factors to have influence on students' intention in taking up self-employment. They concluded that older adults (aging) consistently have a higher intention of venturing into self-employment than their younger counterparts.

2.10 Global response to graduate youth in agribusiness practice

According to World Bank (2013), agricultural production and agribusiness together constitute an average of around 45 percent of the economy of Sub-Saharan Africa. In Sub-Saharan African countries, the share of agribusiness (including logistics and retail) in gross domestic product (GDP) is typically around 20 percent, while the share of agricultural production is around 24 percent for low-income countries, although only a part of production is commercialized (World Bank, 2012).

The role of agribusiness increases with rising incomes. Globally, agribusiness is about 78 percent of value added in the agricultural value chain, but this share varies widely across income levels. Using the country typology from the World Development Report 2008 (World Bank, 2012), the ratio of value added in agribusiness to that in farming is 0.6 in agriculture-based countries (in other words, most of Africa), but the ratio increases to 2 for transforming countries (mostly Asia), 3.3 in urbanized countries (mostly Latin America), and 13 in the United States. The share of upstream and downstream agribusiness in total GDP rises to as much as 30 percent in middle income countries, even as the share of primary agricultural production in the economy is falling rapidly. These trends reflect the commercialization of farming to meet rising demand from urban consumers, leading to higher use of purchased inputs; increased services for machinery repair, finance, and retail; and much greater demand for processing, packaging, and transportation.

An assessment by the World Bank report in 2013 on the global trend of youth employment in agricultural sector indicated that, the regional differences and changes in the proportion of the population aged 15-24 live in rural areas. It was deemed important to know the youth employment situation of the target population (rural youth) across sub-regions and countries, and trends therein.

The World Bank (2013) reported demographic group statistics that varied widely across the globe and is subject to substantial changes over time. Whereas rural youth constituted 16 percent of the population in East Africa in 2005, for South America in the same year was just 3.4 percent. In all sub-regions, the proportion of youth employment in agriculture had declined since 1950, and even sharper decreases are predicted for the future as rural youth employment in agriculture is predicted to constitute only one percent of the total population by the year 2050.

Researchers have identified the huge opportunities agribusiness holds for graduates and youth in Africa and beyond. However, helping graduates to tap these opportunities remains a challenge to governments especially in the developing countries (Owuala, 2000).

There is rising deep anxiety about the rapid increase in the rate of graduates' unemployment in the world. This surge is partly due to the increase in educational attainment and lack of job creation. (Gyampo, 2012).

Owuala (2000), study on tackling youth unemployment through entrepreneurship identified the persistent increase in unemployment as recent global population explosion coupled with the persistent lag in the growth rate of industrial employment in most countries. In the study Owuala (2000), established the importance of small business sectors in the process of economic growth and development. These businesses play a vital role of providing employment to growing number of the unemployed school leavers and those who choose to be self-employed among others. Most countries in Africa have specifically designed programmes such as Graduates Employment Programme in Nigeria and National Youth Employment Programme in Ghana. These programmes are to encourage and assist unemployed youth to establish and operate their own businesses.

According to Owuala (2000), majority of Nigerian graduates entered into self-employment because of the desire to escape from unemployment. This among others has led to the plan by the Chinese government to increase the growth of education which intends to yield a positive result in addressing graduates unemployment (Bai, 2006).

2.11 Intention to take up or not to take up self-employment

Self-employment is said to be working for oneself as a freelance or owner of a business rather than for an employer' (Pearsall, 2001). This suggests that an individual faces two options when it comes to choosing a career, as either to be self-employed or employed in an organization. Intention to take up self-employment or not is based on the attitude as a subjective norm and perceived behavioral control. Most studies on self-employment intentions have used the theory of planned behaviour (TPB) by Ajzen (2006). The TPB postulates that an individual attitude towards a behaviour, subjective norm and perceived behavioural control determine intentions one have to take up or not to take up self-employment. The attitude towards the behavior explains the outcomes of that behavior (self-employment). Perceived behavioral control refers the perceived ease or difficulty in taking up self-employment. Subjective norms refer to the perceived social pressure to take up self-employment. In all the antecedent of intention in TPB determines desirability and feasibility, which again determines self-employment intention. This theory is very similar to Katz's (1992) three hurdles model of entry into self-employment. Katz's first hurdle is aspiration, which talks about an individual intention to become self-employed. The second hurdle talks about how prepared an individual would be to take up self-employment by scanning through his environment gathering resource, networking and obtaining training. This also involves efforts to start a new business and becoming a nascent entrepreneur. The final hurdle in Katz's model is entry into self-employment which involves running the new business and making a living out of it. However, Verheul *et al.* (2012) suggested a model where attitude, subjective

norm and perceived behavioural control determine the preference for self-employment, which in turn determines the intention to start a business and actual involvement in self-employment. The model theories mentioned above suggest that, the preference for self-employment leads to intentions to start a business, to becoming an emerging entrepreneur and eventually entry into self-employment.

The accuracy of Verhaul *et al.* (2012) and Katz (1992) models depends on the degree to which individuals who intend and try to start businesses prefer self-employment and have self-employment as their objective. They also mentioned degree of freedom existing in a society or among a group of people as another issue that may threaten the accuracy of these models. Since it may sometimes track individual self-employment decisions.

Models of self-employment that start with the preference for self-employment are not likely to work well in societies where necessity of entrepreneurship is common. According to Acs, Z. (2006), some people start businesses out of ‘necessity’ and ready to take up self-employment because they have no options. In all an individual self-employment drive could

2.12 Influence of Gender Relating to Self-Employment Issues in Agribusiness

Though self-employment in agribusiness involves the participation of both men and women, it turns out that women (female) are less willing to participate in self-employment in agribusiness as compared to their men(male) counterparts.

According to Goduscheit (2011), psychological and motivational factors, educational background and experience, social and cultural factors and access to capital are some of the reasons that contribute to the lower participation of women(female) in self-employment in agribusiness. Bø *et al.*, (2008), in their study, stated that almost 50% of Norwegian mothers

with children below age 16 still work part time and mothers with small children spend more hours per day on housework than fathers (Vaage, 2012).

Some have argued that women(female) who want to become entrepreneurs must either break with the traditional female role, risk their health, find an unusual partner, or wait till they are 45-50 years old (Ellingsen and Lilleaas, 2011).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter highlights the conceptual and theoretical framework of the study, this is followed by description of analytical methods employed to achieve the research specific objectives. Data collection, population and sampling procedure were described and finally description of the study area.

3.2 The Conceptual framework of the study

Perception is a process by which persons organize and interpret their sensory impressions to give meaning to their environment. Perception plays an important role in the way people make decisions. Perception has both negative and positive influence on human behavior (Adalat, 2009).

The perception students have towards self-employment in agribusiness which is significantly influenced by their background variables, such as age, sex family background, among others. The social and demographic background of parents may have an influence on the perception of students with regards to taking up agriculture as a self-employment venture. Also, the residence of student either a rural agricultural farming community or an urban area where agricultural economic activities do not dominate are possible variables that could influence students' decision or intention to take up agribusiness as self-employment ventures. Undoubtedly, students who live in the rural farming communities will tend to have positive perception for agriculture than a student who lives in an urban area or harbour towns, etc. People having positive perception towards agribusiness as a self-employment venture, will intend to take up agribusinesses as self-employment ventures than those whose perceptions are negative.

Family background of students greatly influences students' perception and decision to venture into agribusinesses as self-employment ventures. Majority of the people who engaged in agriculture are usually the rural dwellers whose parents have little or no education and most at times engaged in agriculture. This significantly influenced students' perception towards agribusiness as self-employment job creation.

Given that government policies and interventions are tailored to support graduates who have good perception about agribusiness and are willing to venture into agribusinesses as self-employment ventures, with available extension service, land as well as capital support, students invariably will face less difficulties and would be potentially successful in agribusiness enterprises. It is worthy to note that the background and the perception of a person (either positive or negative) depends on the outcome and this tends to have both direct and indirect effects on agricultural productivities.

3.3 Theoretical frame work

According to Mugenda & Mugenda (2008), theoretical framework is skeleton that shape and unites all the elements in the study. Research has shown that there are various models and theories that can be followed to examine factors that influence an individual decision to engage in agriculture. Analysis of students' self-employment in agribusiness decision was guided theoretically by the application of the Theory of Planned Behaviour (TPB) developed by Ajzen, (2006). The theory posits that, individual intention or choice is determined by the perception and attitude they hold towards the issue to be chosen. The intention to choose is also influenced by the perception the individual have about the outcome of the choice referred to as 'perceived behavioral control'. If an individual perceived an outcome of a choice to be good he/she is likely to make the choice and vice versa. Thus if students perceived self-employment in agribusiness to be rewarding and profitable enterprise, they are likely to have

the intention of engaging in self-employment in agribusiness after graduation. The reverse is also true. Also societal approval or otherwise of a choice referred to in the TPB as subjective norms, have been identified as exerting influence on individual intention to make the decision or choice. In this case students' parental background, peer influence and influence of other close relatives are likely to have influence in their perceptions and decision towards self-employment in agribusiness.

Subjective norms, in this case include variables from school environment such as teaching and learning of agriculture and parental background as parental education level and employment type among others, Perceived behavioral control will include variable such as students perception of the feasibility of establishing agribusiness enterprise, issues to relating capital sourcing, returns on agribusiness enterprises, and the availability or otherwise of conducive environment to support agribusiness and other agricultural related enterprises.

Students was asked a direct question 'do you intend to take up agribusiness enterprise as self-employment venture after finishing school?' Students' responses to this question as yes/no will constitute the dependent variable in assessing the determinants of students' choice of self-employment in agribusiness. Since this is a binary response variable, binary choice model will be adopted in analysing factors influencing students' self-employment in agribusiness.

The TPB have been applied to examine possible variables that significantly influence students' decision to take up self-employment in agribusiness. Based on this theory, the research attempts to deduce students' decision to engage in self-employment in agribusiness enterprises. The Theory of Planned Behaviour has been used by Tkachev & Kolvereid (1999) and Zakaria *et al.*, (2014) in assessing students' perception for self-employment in agribusiness.

The concern of this study is to find out factors that influence students' intention in undertaking agribusiness as Self-employment venture. This situation can be explained by consumer choice models which basis is rooted in utility theory.

Choice models are able to predict with great accuracy how individuals will react in a particular situation (Rungie, Coote and Louviere, 2011). Random utility theory assumes that the utility individuals derive from a choice object can be partitioned into a systematic component, capturing the attributes of the choice alternatives and the characteristics of the individual decision makers (Rungie *et al.*, 2011). Choice models proposed by Maydeu-Oliviere and Böckenholt (2005) is believed to be the most accurate and general-purpose tool currently available for making predictions about human decision making behaviour (Rungie *et al.*, 2011).

The approach used by Maydeu-Oliviere and Böckenholt (2005) allows one to specify the form of the sample covariance matrix, particularly for the choice models (Rungie *et al.*, 2011). However, the binary choices must be transformed using threshold models, with the transformed data analysed with widely available standard structural equation modelling software (Rungie *et al.*, 2011). McFadden (1974, 2001) used this to derive the conditional Probit model to represent discrete choice (Rungie *et al.*, 2011). Discrete Choice Modelling analyses the choice behaviour of individuals and groups who face discrete economic alternatives (Rungie *et al.*, 2011).

Utility theory is concerned with peoples' choices, decisions and preferences. It is also concerned with people's judgments of preferability, worth, value, goodness, perception or any similar concepts (Fishburn, 1968; Kahneman, 2000a; McFadden, 2012). Utility theory is employed in disciplines such as Economics, Psychology, Statistics, Mathematics and Management Science to predict actual choice behavior or prescribe how rational people ought

to make decisions or both (Fishburn, 1968; Read, 2004). Psychologists are interested in prediction of choice behaviour, whilst statisticians and management scientists are interested in prescription. Economists are also interested in both prediction and prescription (Fishburn, 1968; McFadden, 2012). McFadden (2012) asserts that understanding and modelling consumer welfare is central in economics, with tension between elements of illusion, temperament, and subjectivity in consumer behaviour, and the need for stable, predictive indicators for choice and well-being.

Qualitative response models, which are strongly linked to utility theory, have been widely used in economics to investigate factors affecting an individual's choice from among two or more alternatives. Greene, (2008) Models for estimating dichotomous choices in which the dependent variable is binary also has its root in the threshold theory of decision-making in which a reaction occurs only after the strength of a stimulus increases beyond the individual's reaction threshold (Hill and Kau, (1973), (1981), Pindyck and Robinfield, (1998); Asante et al., (2011); Rungie et al., (2011); Akudugu et al., (2012). The theory posits that when farmers are faced with the decision to adopt or not adopt an innovation, every farmer has a reaction threshold, which is determined by certain factors (Hill and Kau, (1973); Pindyck and Robinfield, (1998); Akudugu et al., (2012). Thus, at a certain value of stimulus below the threshold, no participation occurs while at the critical threshold value, a reaction is stimulated (Lewis (1954); Akudugu *et al.*, (2012)). Such phenomena are generally modeled using the relationship:

$$Y_i = \beta X_i + U \quad (3.1)$$

Where $Y_i = 1$, when a choice is made and 0, otherwise. This means

$$Y_i = 1 \text{ if } X_i \text{ is } \geq X^*$$

$$Y_i = 0 \text{ if } X_i \leq X^*$$

X^* represents the combined effects of explanatory variables ($\beta_i X_i$) at the threshold level.

The model is a binary choice model involving estimation of the probability of adoption of a given practice or participation in a given Programme (Y) as a function of explanatory variable (X). That is;

$$\text{Prob}(Y = 1) = F(\beta'X) \quad (3.2)$$

$$\text{Prob}(Y = 0) = 1 - F(\beta'X) \quad (3.3)$$

This implies that a student has a reaction threshold which is dependent on certain set of factors. A student either participates in the Self-employment P or not. This yields a binary dependent variable, Y_i which takes on the value 0 (for not participating in the Self-employment P) and 1 (for participating in the Self-employment P) and X_i is a set of explanatory variables. The students are concerned with the satisfaction (utility) they will derive from participating in a programme or an activity. Hence, if the Self-employment P provides that satisfaction, they will participate. The linear probability, logit and Probit models are common models employed to estimate factors that influence the probability that a choice will be made (Gujarati (2004); Greene (2008); Gujarati and Porter (2009)).

Another theory that underlines the study is the Push and Pull theory of motivation which proposes that youth are faced with several factors that push or pull a person towards an end state (Barrett *et al.*, 2001). This study which focuses on the perception agricultural students have on self-employment in agribusiness is based on the fact that both push and pull factors influence the youth decision. Based on reviewed literature for instance (Barrett *et al.*, 2001), some push factors limiting the youth from engaging in agribusiness were identified as; constraints in access to land, high land prices, inadequate capital, unavailable information on agribusiness and poor infrastructure. The forms of agribusinesses that a student intends to venture into are subjected to several push and pull factors such as sex, reliability of rainfall,

profitability of agribusiness ventures, easy access to capital, policy support from government, land availability, agricultural knowledge, and the place of residence of students as in urban or rural.

3.4 Data Analysis

3.4.1 Perceptions of agricultural students towards self-employment in agribusiness

To analyze the perception of agricultural students towards self-employment in agribusiness, the perception index approach was employed. The perception index formula is indicated as;

$$n_i = \left(\frac{\sum i}{n} \right) \quad (3.4)$$

n_i Connotes index computed for a particular statement under a main heading

i Connotes the figure assign to a particular scale (e.g.1 = strongly disagree)

n Connotes number of respondents

Equation 3.5 is then generated from equation 3.4

$$M_i = \left(\frac{\sum(n_1+n_2+\dots+n_i)}{c} \right) \quad (3.5)$$

M_i Connotes the index computed for a main heading (e.g. perception towards agriculture)

C Connotes the number of sub-headings under the main headings

$(n_1 + n_2 + \dots + n_i)$ Connotes the summation of the indices computed for the individual statements. The overall perception index was computed from equation

3.5. It is presented in eqn.3.6

$$Q = \left(\frac{\sum M_1+M_2+\dots+M_i}{k} \right) \quad (3.6)$$

Q Connotes the overall perception index

K Connotes the number of the main headings

$(M_1 + M_2 + \dots + M_i)$ connotes the summation of the main headings

The five-point Likert scale was used to analyse the information from students regarding their perception about self-employment in agribusinesses. Some statements adapted from literature review regarding perception indicators of self-employment in agribusinesses were presented to the student to rank on the scale of -2 to 2 (-2= strongly disagree, -1=disagree, 0=neutral, 1=agree and 2=strongly agree). In this case the average score for any possible responded statement have a mean score value = 0. This implies that a mean score above greater than zero indicate a positive perception (agreement) and a mean score less than zero indicates a negative perception or (disagreement) of a student to the respective statement in question.

3.4.2 Factors influencing students' intention in taking up self-employment in agribusiness

In an attempt to analyse statistically significant variable that influence students' intention to take up agribusiness, the Probit regression model was used. Some explanatory factors or variables were considered as presented in Table 3.1. The method of estimation of the Probit model was by maximum likelihood and interpretation of Probit results were based on marginal effects treated as probabilities, which explains the slope of the probability curve relating one explanatory variable to Prob (y=1|x), holding all other variables constant.

The observable dependent variable is defined by:

$$y = \begin{cases} 1 & \text{access if } y^* > 0 \\ 0 & \text{no access if } y^* \leq 0 \end{cases}$$

The Probit model Y follows the Bernoulli distribution with probability

$$\pi_i = \text{prob}(y = 1) = \Phi(X\beta) \quad (3.7)$$

Where π_i is the probability that a student intend to take up career in agriness, X_i is the explanatory variables, β is the regression parameters to be estimated.

In the Probit model the functional distribution of the error is very important to constrain the values of the latent variable into desirable property of probability values of between 0 and 1. The Probit model assumes a cumulative distribution function of standard normal distribution represented by Φ .

$$\begin{aligned}
 \text{prob}(y = 1) &= \text{prob}(y_i^* > 0) = \text{prob}(\beta X + e > 0) \\
 &= \text{prob}(e > -\beta X) \\
 &= \text{prob}(e < \beta X) \\
 &= \Phi(\beta X)
 \end{aligned}
 \tag{3.8}$$

In the case of normal distribution function, the model to estimate the probability of observing a student choosing to go into a career in agribusiness can be stated as:

$$\text{Pr ob}(y_i = 1/X) = \Phi(\beta X) = \int_{-\infty}^{\beta X} \frac{1}{\sqrt{2\pi}} \exp\left[-\frac{z^2}{2}\right] dz
 \tag{3.9}$$

Where,

Y_i is a Probability (dependent variable) that observing a student choosing to go into a career in agribusiness, X is a vector of the explanatory Variables, Z is the Standard Normal Variable ($Z \sim N(0, \delta^2)$) and β is a k by 1 vector of the Coefficients estimated.

Therefore, the Empirical Probit model is specified in the following form:

$$Y = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \beta_9 X_{9i} + \beta_{10} X_{10i} + \dots + \beta_{ij} X_n + U_i
 \tag{3.10}$$

Table 3.1: Description of Independent variables, Measurement and a priori expectations

Explanatory Variable	Measure	a priori expectation
Age	Years	+
Sex	1 if male, 0 otherwise	+/-
Student's Occup. After School	1 = Self-employed, 0 otherwise	+
Occupation of student parent	1 = self-employed; otherwise = 0	+/-
Parent education	1 if educated; 0 = otherwise	+/-
Perception index	Number	+
Student Residence	1 = Urban; 0 = Rural	+
Department	1= agribusiness, 0 otherwise	+/-

Source: Field survey (2017)

Choice of variables for the Probit regression analysis

The choice of variables for the above models was based mainly on related studies such as;

Zakaria et al (2014); Ojeyibi (2013) and Ayanda *et al.* (2013).

Dependent Variable

The dependent variable $(P/(1-P))$ of a Probit regression model is a dichotomous variable that represents the likelihood that a student would venture into an agribusiness or otherwise.

Explanatory Variables

Age of a student: The age of the student was included in the models because it is used as the potential ability to make a decision with regards to self-employment in agribusiness. It

is expected to have a positive effect on the students' decision to take up agribusiness as self-employment venture. Age is measured in years for the Probit model. It is hypothesized to assume a quadratic function, and that very young farmers are considered immature to be able to undertake farming on a larger scale, while very old farmers who grow beyond their economically active age will not be able to undertake rigorous agricultural activities (Nnadi & Akwiwu, 2008).

Sex of students/respondents: Sex of students was considered in the Probit regression estimate and was expected to have either a positive or negative marginal effect on students' intention to take up agribusiness as self-employment venture. This was a dummy variable that a value of "1" is assigned to a student/respondent who is male and "0" otherwise.

Occupation of parent: Parents' occupation was included in the probit estimation and is expected to have a positive or negative effect on students' decision to take up agribusiness as self-employment ventures. A student whose parents are self-employed particularly in the agriculture sector is assigned the dummy value of 1 while those whose parents are being employed by others or work in the government sector is assigned the dummy value of 0. This is because self-employed business individuals dominate agriculture sector. Majority of the students' gained some experience while helping their parents and will have a good intention towards self-employment in agribusiness. Nnadi and Akwiwu (2008) posit that youth whose parents are farmers have greater predicted probability of participation in agriculture than those whose parents are not farmers. This is because the background and orientation of the youth by parents' occupation influences their desire, interests and engagement. He found that parents' occupation positively influenced the youth participation in agricultural production.

It is hypothesized that; students parent occupation has direct and positive influence on their

wards interest to choose from similar profession. Students from farming homes with parents as farmers have greater likelihood to take up agriculture related businesses. On the other hand, students whose parents are in to other professions rather than agriculture and it related enterprises, are not likely to take up farming as a profession.

Parent education: Parent education was considered in the Probit estimation and is expected to have a positive or negative effect on student decision to take up agribusiness as self-employment venture. A student whose parents are educated was assigned the dummy value of 1 while those whose parents are not educated is assigned the dummy value of 0. Mostly, students are influenced by their parents as to the enterprises to be under taken as well programmes of study at the tertiary level. Parents who are educated have greater influence in their wards a career choice than those with uneducated parents.

Students' Perception score: Students' perception about self-employment in agribusiness was included in the Probit estimation and is expected to have a positive or negative effect. Farmers who perceive farming to be an occupation with low income and economic returns are assigned the dummy value of 1 and those who do not are assigned the dummy value of 0. According to MoFA (2011a), the youth are not willing to participate in the programme because they have a negative perception about farming they perceive farming to be an occupation with low income and economic returns. Also, Akudugu *et al.*, (2012) in similar studies, found farmers' perception score of cumbersome procedures for loan application to negatively affected credit demand from the rural banks.

Place of residence of student: Place of residence of the student or respondent as rural or urban was included in the Probit estimation and was expected to be positive or negative. A student who reside in urban are is assigned the dummy value of 1 while those who reside in rural is assigned the dummy value of 0. In Ghana, farming is mainly a rural occupation, but

other forms of agribusinesses that might not be farming are also found in urban areas. It is therefore assumed that the place of resident of a student have influence as to which career path to be taken.

Department of a student: The respondents considered for this study were students of agriculture from the soil science department, crop science, animal science, extension services department and agricultural economics and agribusiness department It is hypothesized that graduates from the agribusiness programmes have greater probability to venture into self-employed agribusiness enterprises than the rest of the graduate with no knowledge in agribusiness.

Hypothesis testing

H₀: Sex has no effect on the likelihood that an agricultural student would venture into an agribusiness.

H₁: Sex has a positive effect on the perception (likelihood) that an agricultural student would venture into an agribusiness.

The above stated hypothesis is repeated for other variables like; Access to capital, policy support from government, profitability of agribusiness ventures, extension support from government, place of residence of student and reliability of rainfall and other variables.

3.4.3 Identification and Ranking of Perceived Constraints in taking up self-employment in agribusiness

The Kendall's Coefficient of Concordance (w) was used to rank the various constraints students are likely to face in venturing into agribusiness enterprises in agriculture and related fields.

The coefficient, (w) is an index that measures the ratio of the observed variance of the sum of ranks to the maximum possible variance ranks. The idea behind this index is to find the sum of the ranks for each constraint being ranked and then analyze the variability of this sum. If the rankings are in perfect agreement, the variability among the sums will be a maximum (Kavale & Mattson, 1983).

The various constraints students are likely to face in venturing into self-employment agribusiness enterprises was identified and ranked in order of highest constraints to the lowest constraint. The ranking by the respondents was collated and the mean ranks of the ranked constraints by the respondent was computed. The Kendall's coefficient of concordance was used to measure the agreement among the ranked constraints by the respondents.

The formula for the Kendall's coefficient of concordance (w) is given

by;

$$W = \frac{12 \cdot S}{[m^2(n^3 - n) - mT]} \quad (3.11)$$

Where T denotes correction factor for tied ranks, m denotes number of judges, S denotes sum of squares deviation, n denotes number of constraints being ranked.

Statement of hypothesis

H_0 : There is no agreement among the ranking of the constraints by the respondents.

H_A : There is agreement among the ranking of the constraints by the respondents.

Validation of hypothesis

The F-ratio test for significance of the coefficient of concordance (w). was employed

$$\mathbf{F\text{-ratio} = [(p-1) w / (1-w)]}$$

Where w is the calculated Kendall's coefficient of concordance. The Kendall's coefficient of concordance is a non-parametric statistic. It is a normalization of the statistic of the

Friedman test and is used for assessing agreement among raters. The Kendall's W value ranges from 0 (no agreement) to 1 (complete agreement) (Corder *et al.*, 2009).

The Kendall's concordance coefficient is more appropriate for study like this than the Pearson correlation coefficient since the Pearson correlation coefficient assumes normally distributed values and compares two sequences of outcomes at a time, but the Kendall's concordance coefficient makes no assumption concerning the nature of the probability distribution which makes it capable to test agreement of any number of distinct outcomes (Legendre, 2005).

3.4.4 Identification of most preferred agribusiness enterprise by students

This objective sort to identify the most preferred agribusiness students would like to venture into. In the analysis, a Five Likert scale was employed to identify most preferred and the least preferred agribusiness enterprise. Descriptive statistics such as mean, frequency distribution tables and percentages were used to analyze the most preferred agribusiness enterprise among agricultural students.

3.4.5 Examine the teaching and learning on Students technical competency to take up agribusiness enterprises

To achieve this objective students were asked to identify the perceived teaching and learning of agriculture on their technical and competencies in taking up agribusiness as self-employment venture. Statements adopted from literature were given to students to identify. Descriptive statistics such as mean, frequency distribution tables and percentages were used to analyze this objective. A mean test on the variables that indicate the areas of training was conducted on Students' competency level in taking up self-employment in agribusiness.

3.5 Data collection

Under this section, the types and sources of data, sample size and sampling technique, survey instrument and the study area were discussed.

According to Saheed (2014) primary sources include interviews, group discussions and talk shows, while the secondary sources include photographs, newspaper, literature and editorials. Regarding the primary sources of data, the sampled students were interviewed on general issues on self-employment in agribusiness and other agricultural related issues using open ended questions captured in a semi structured questionnaire. Questions such as ‘what do you think about self-employment in agribusiness enterprises?, what prospects do you see in agribusiness enterprises in Ghana?, among others were asked to the sampled students and their general comments and responses documented. Narratives gathered from students’ responses to these questions were studied and statements extracted from them to constitute the data for this study. Also secondary sources of data regarding narratives on students’ perceptions towards taking up career in farming and other agribusiness enterprises were gathered from research reports, among others.

From the narratives obtained from students; responses to the open ended questions soliciting their views on self-employment in agribusiness, referred to as data, statements were extracted from them which was ranked on five point Likert agreement scale.

3.5.1 Sampling and Sample size

School of agriculture of the University of Ghana was considered for the study due to the fact that it is the oldest agricultural faculty with vast experience in the teaching and learning of agriculture. The study was conducted on final year under-graduate students pursuing agriculture. The targeted population for the study was because they have gone through the course and have acquired some level of knowledge and skills and were therefore expected

to have in depth knowledge about self-employment in agribusiness.

The total number of final year agricultural students from each department was obtained and that was considered for the sampling frame of the study. Sample size determination formula by Yamane (1967) was used to determine the sample size of this study.

In selecting sampling size from the sampling frame, simple random sampling technique was employed to select the required sample size.

The cluster sampling technique which is a probability sampling method that involves sampling from cluster of the population was appropriate for study. In a cluster sampling, a sample is randomly selected from each cluster of homogenous characteristics.

The main advantage with cluster sampling is how it captures the key population characteristics in the sample. Like a weighted average this method of sampling produces characteristics in the sample that are proportional to the overall population. According to Hudu *et al.*, (2002) cluster sampling works best for population of a homogenous characteristics in a group of clusters with each cluster bearing a homogenous attribute.

The first stage of sampling methods was done by selection of Agricultural students in the school of Agriculture within the college of Basic and Applied Sciences. This was then followed by selection of final year students from; the department of agricultural economics and agribusiness, department of extension, department of crop science, department of soil science and the department of animal science. It was appropriate to target the final year students since they are capable to make inform choices on the issue that reflect their perception about agribusiness. The final stage involved random sampling of 32 students out 48 from agribusiness and agricultural economics students, 32 out of 48 from extension students, 67 out 99 crop science students, 8 out of 12 soil science and 11 out of 18 animal

science students. A total sample size of 150 agricultural students from the school of agriculture was sampled for the study as indicated in Table 3.2.

Table 3.2: Sampling frame

Programme	Population	Sampled
Agric. economics & Agribusiness	48	32
Agricultural extension	48	32
Crop Science	99	67
Soil science	12	8
Animal Science	18	11
Total	225	150

Source: Field survey (2017)

3.5.2 Data Collection Instrument

The instrument employed for the field survey was semi-structured questionnaire and personal interview. Primary data was collected through personal interview because secondary data on the students' was not readily available and those that were available did not meet the study requirement. The questionnaire was designed in consultations with supervisors, some senior members and colleague students from the Department and literature.

3.6 The study area

The study area is University of Ghana. It is located in the Legon suburban, Greater Accra region, about twelve kilometers' northeast of the centre of Accra. University of Ghana is the first and the largest of all the Ghanaian public universities. It was established in 1948 as the university college of Gold Coast, and was originally an affiliate college of the University of London, which supervised its academic programmes and awarded degrees. In 1961, it gained full university status and currently has over 40,000 undergraduates and graduate students (www.ug.edu.gh).

The first programmes originally introduced were liberal arts, social sciences, basic science, agriculture, and medicine, but (partly because of national educational reform Programme) the curricular was expanded to provide more technological-based and vocational courses and post-graduate training.

The specific area of study is the School of Agriculture of the College of Basic and Applied Sciences, University of Ghana. The college aims at providing a world class academic environment through quality teaching, integrated system-wide innovation research and extension to realize tangible results.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the study and the relevant discussions. It includes demographic characteristics of the students' and the background of respondents' guardian, followed by the perceptions of agricultural students towards self-employment in agribusiness, factors influencing agricultural students' decision on self-employment in agribusiness, the result of perceived constraints students are likely to face in taking up agribusiness enterprises, the result of the most preferred agribusiness enterprises among agricultural students and finally the result of the teaching and learning of agricultural on students' competency to take up agribusiness as self-employment venture.

4.2 Demographic characteristics of students

The results on the demographic characteristics of respondents are represented in Table 4.1. Results of the survey indicated that out of the five departments, many (34.7%) are from crop science department with the least (6.7%) coming from the soil science department. Also, majority of the respondents (68%) were male and 32% were females. About (40%) were coming from urban non-farming communities. Majority of the students interviewed (96%) were single, whilst only 4.0% were married. With the age of the respondents, Agricultural Students of University of Ghana surveyed for this study were generally young with a mean age of about 23 years old, whilst the oldest being 37 years old and the youngest was 21 years old. Majority (87%) of the 150-final year students interviewed were 30 years old or younger. This implies that all the students interviewed were in their youthful age and are expected to make sound decisions on their career path after graduation.

Table 4.1: Demographic characteristics of the respondents

Departments	Frequency	Percent (%)
Agric. Economics and Agribusiness	31	20.7
Agric. Extention	23	15.3
Animal Science	34	22.7
Crop Science	52	34.7
Soil Science	10	6.7
Total	150	100
Sex		
Female	48	32
Male	102	68
Total	150	100
Age		
21 – 30 years	130	87
30 years and above	20	13
Total	150	100
Religious affiliation		
Muslim	11	7.3
Christian	139	92.7
Total	150	100
Marital status		
Married	6	4
Not married	144	96
Total	150	100
Nature of residence		
Urban farming	25	16.7
Rural farming	55	36.7
Urban non-farming	60	40
Rural non- farming	10	6.7
Total	150	100

Source: field survey 2017

4.2.1 Background of Students Parents/Guardians

The educational and occupational background of the respondents' guardians were assessed and the results shown in Table 4.2. About 44% of the students surveyed indicated that their guardians had tertiary education, with about 9% of the students guardians had no any formal education. With regard to the occupational background of the respondents' guardians, 41.3% were self-employed in other enterprises. However, it was indicated that only 16% of the respondents guardian are engaged in self-employed agriculture, also about 24% and 18.7 %

of respondents interviewed said their guardians were employed in the Civil/Public Service and Private Sector respectively. This implies that majority of the agricultural students' parents run their own businesses as self-employed. The results of this study is in line with a study conducted by Ojebiyi *et al.*, (2015) in Federal University of Agriculture, Abeokuta Nigeria

Table 4.2: Background of Students Parents/Guardians

Parent background	Frequency	Percent (%)
Education		
No Formal Education	9	6
Completed Basic Education	32	21.3
Completed Secondary Education	43	28.7
Completed Tertiary Education	66	44
Total	150	100
Parent Occupation		
Self-employed in other enterprise	62	41.3
Employed in civil /public sector	36	24
Employed in private sector	28	18.7
Total	150	100

Source: Field Survey Data 2017

4.2.2 Perception of agricultural students towards self-employment in Agribusiness

The distribution of the mean scores of students' perception towards agribusiness as self-employment venture is indicated in Table 4.3 upon completion of the five-point Likert Scale. The result of the survey indicated that students generally agreed with statements such as “agribusiness has a high potential for self-employment in Ghana” and “agribusiness has a high prospect of success in Ghana” with positive mean value of 1.15 and 1.13 with the significance level at 5 percent. This means that respondents have a positive perception about the potential of agribusiness as an opportunity for self-employment and that it has high prospects of success in Ghana. Also statements such as “it is easy to create self-employment in agribusiness” and whether government policies favours the agriculture enterprise creation all

have a negative mean values of -0.18 and - 0.5 respectively. This implies that students generally are yet to be convinced that government programs and policies such as Youth in Agriculture Policy (YiAP) and National Youth Employment Policy (NYEP) favour agribusiness enterprise creation. In all the perception index show a positive mean value of **0.62** signifying an all positive perception since the 0.62 is greater than the average score (0). This is similar to study conducted by Hudu *et al* (2002), Zakaria *et al.* (2014) and Sumberg *et al.* (2017).

Table 4.3: Distribution of the mean score of students' perception

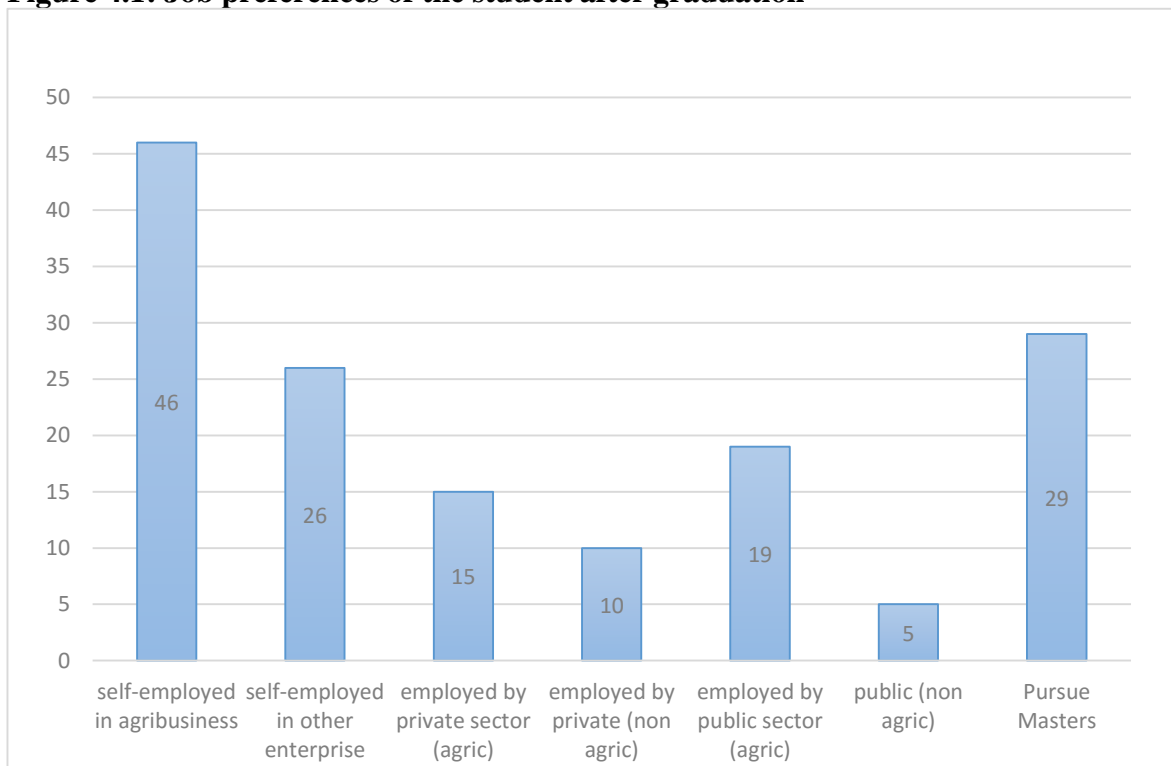
Statement	Min	Max	Mean	Std. Dev	Sign.
It is easy to create self-employment	-2	2	0.18	1.424	0.287
Agricultural related enterprises are very lucrative/ profitable	-2	2	1.11	0.86	0.000
Agribusiness has a high potential for self-employment in Ghana	-2	2	1.15	0.903	0.000
Many Ghanaians have made a lot of fortunes from Agriculture	-2	2	0.73	0.96	0.000
Agribusiness has a high prospect of success in Ghana	-2	2	1.13	0.797	0.000
Agriculture In Ghana has a lot of Potential	-2	2	1.32	0.91	0.000
Government policies favour	-2	2	0.57	1.201	0.000
Agriculture is a risk business enterprise in Ghana	-2	2	0.34	1.169	0.000
Agriculture is a business and not a way of life	-2	2	0.49	1.163	0.000
UG curriculum has equipped me skills to be successful I agribusiness	-2	2	0.61	1.023	0.000
I have acquired technical knowledge to be successful agribusiness	-2	2	0.72	1.017	0.000
Entrepreneur					
Perception Index			0.62		

Source: Field Survey Data 2017

4.2.3 The Job Preferences of the Students after Graduation

Figure 4.1 present the analysis of job preferences of the respondents. It indicates that majority of the respondents representing 46% preferred to be to be self - employed agribusinesses, this could be due to the high graduates' unemployment rate been experience currently in the country. The results also revealed that 19% out of 150 undergraduate students preferred to be employed in either the public or private sector after graduation. Students interviewed agreed to the fact that agribusiness was lucrative enterprise, but quick to add that they preferred to work in banks and international organizations which is invariable the private and public employment. The higher proportion of agricultural students preferred to be self-employed in agriculture and its related businesses is an indication that they want to practice their profession and become job creators. This result agrees with Ayanda *et al.* (2013)'s findings in a study conducted in Kwara State University (KWASU) on students willingness to venture into agriculture-related enterprises after graduation.

Figure 4.1: Job preferences of the student after graduation



4.3 Factors influencing Agricultural students' decision on self-employment in Agribusiness

In Table 4.4 variables such as sex, department, parent occupation and perception of the respondent all have positive values with the significant level of 5%. The results of this study is in line with the findings from authors like Adalat (2009), Bahaman et al. (2010) and Zakaria *et al.* (2014). There exists a positive relationship between the student decision to take up self-employment in agribusiness and perception indices. Again, those students whose parents have their private businesses are more likely to enter in to agribusiness than those whose parents are employed in the other sectors. On the other hand age and sex have negative values, which mean that the older people have no intention of taking up self-employment in agribusiness. With the sex, the indications are that female respondent have the intention of taking up self-employment in agribusiness.

Table 4.4: Factors influencing agricultural students' decision on self-employment in agribusiness

Variable	Coefficient	Std. error	P-Value	Marginal effect
Age	-0.135*	0.0814	0.096	-0.0031
Sex	-2.188***	0.625	0.000	-0.0430
DepartmentDummy	1.597**	0.521	0.002	0.0206
DummyOccupation_Af	1.231***	0.506	0.015	0.0347
DummyPaentsOccp	2.517***	0.544	0.000	0.1588
Parent Education	0.059	0.254	0.813	0.0013
ResidenceDummy	0.548**	0.541	0.031	0.0120
Perception index	0.135***	0.050	0.007	0.0030
Constant	3.321	1.555	0.033	
Log likelihood	= -24.017			
Number	= 139			
Wald chi2 (16)	= 46.75			
Prob > chi2	= 0.000			
Pseudo R2	= 0.5806			
Significance level = *** 1%, **5% and *10% respectively				

Source: field survey (2017)

From Table 4.4, explanatory variables with their coefficients, standard errors and significant levels are presented.

The overall Probit regression model was statistically significant since $\text{Prob} > \chi^2 = 0.000$.

Age: Age of the respondents was negative and significant at 10%. From Table 4.4, it is showed that a one-year increase in the age of a respondent decreases the probability to venture into self- employed agribusiness by 3 percent. This means that an increase in the age of a graduate, decreases the probability to take self-employment businesses other than agribusiness. Results are in line with Halvorsen & Morrow-Howell (2016) findings that younger trainees are more likely to venture into self-employed agribusiness.

Sex: The gender of a respondent was negative but significant at 5% level. Given that a respondent is a female, the probability that she will venture into self-employed agribusiness decreases by 4.3 percent than the male students.

Department: This variable was positive and significant. Given that a respondent is from the department of agricultural economics and agribusiness, the probability that he/she will take up an agribusiness venture increases by 2.06 percent otherwise decreases if a student is from other department.

Occupation after school: This explanatory variable was dummied, students who desired to get employed by themselves were at 5 percent significant level with 3.47 percent probability of likelihood to venture into self-employed agribusiness.

Parent occupation was positive and significant. Students whose parents were self- employed were willing to venture into self-employed agribusiness with a probability of 15.8 percent than students whose parents were not self-employed.

Parent's education: This variable was positive and not significant.

Residence: Results presented in Table 4.4 show that, students who have rural residence status had 1.2 percent probability of an intention to venture into self-employment agribusiness than students' who have urban residential status.

Perception: Perception indices were computed for all the respondents, results presented in Table 4.4 indicates that, an increase a perception index of a respondent increases the likelihood that a respondent take up a self-employed agribusiness enterprise by 3.09 percent. Perception was positive and significant at 5 percent significance level.

4.4 The perceived constrains students are likely to faced taking up agribusiness enterprises

The result on the constraints agricultural students' are likely to face was analysed using Kendall's coefficient of concordance of which the results is presented in Table 4.5. Lack of skill and knowledge had a mean value of 1.385 and was ranked 1st among the constraints agriculture students faced, this is followed by climate conditions with the mean value of 1.382. Then no access to credit ranked 3 with mean value of 2.028, no access to land had a mean value of 2.508 was 4th, Poor technological knowhow had mean value of 3.178 was ranked 5th and Market unavailability and Lack of Government support were ranked 6th and 7th with mean values of 3.179 and 3.218 respectively. Poor extension services with mean value of 3.566 was ranked 8th. In all the constraints has w value of **0.83** indicating **83%** agreement level in their ranking among all the respondents. This implies that agricultural students would like to take up agriculture-related enterprises as self-employment ventures if infrastructural facilities such as processing, storing and marketing agricultural produce are made available. Special credit loan facilities directed at agriculture graduates would have also induce their interest to take up agribusinesses as self-employment ventures. It is however clear that results obtained

in this study is in agreement with what was reported by Bosompen *et al.*, (2013), Ojebiyi *et al.* (2015), Zakaria *et al.* (2014) and Tkachev & Kolvereid (1999).

Table 4.5: Perceived constraints likely to be faced by students

Constraint	Mean	Rank
Lack of skills and knowledge	1.385	1 st
Climate change	1.832	2 nd
No access to Credit	2.028	3 rd
No access to land	2.508	4 th
Poor technological knowhow	3.178	5 th
Market unavailability	3.179	6 th
Lack of Government support	3.218	7 th
Poor extension services	3.566	8 th
Test Statistics		
N	150	
Kendall's (W)	0.83	
Chi-Square	1464.934	
Df	7	
Asymp. Sig.	0.000	

Source: Field survey (2017)

4.5 The most preferred agribusiness enterprises among agricultural students

The most preferred agribusiness enterprises by respondents were measured on a three points Likert Scale as ‘Not preferred at all’, ‘somewhat preferred’ and ‘most preferred’ in Table 4.6. The agribusiness enterprises type were categorized as “crop production”, “agricultural marketing and distribution” “livestock and poultry enterprise”, “agro-processing and storage”, “supplies of agrochemical and seeds”, “distribution of farm machineries” “fishery and aquaculture”, “beekeeping/snail/mushroom production” and finally “agro-forestry and tree crops”. The results of the analysis presented in Table 4.6 revealed that, 82.67% out of the 150 respondents indicated crop farming as the most preferred enterprise. Also, out of 150 respondents, 81.33% preferred to go in agricultural marketing and distribution. Bee keeping and agroforestry are the least preferred agribusiness enterprise at 53.33% and 40.67% respectively. This result is similar to that of Zakaria *et al.*, (2014) in their study on perception of agricultural students of University for Development Studies in taking

agribusiness as self-employment opportunity. This is also similar to (Ojebiyi *et al.*, 2015) findings on willingness of students to venture in agricultural related enterprises in Nigeria. Crop production, livestock and poultry production and agro-processing and marketing are identified as the most preferred agribusiness enterprises among the students.

Table 4.6: the most preferred agribusiness enterprise

Agribusiness Enterprises	Not Preferred at all	Percent (%)	Somehow Preferred	Percent (%)	Most preferred	Percent (%)	Total
Crop production	14	9.33	12	8.00	124	82.67	150
Agricultural marketing and	6	4.00	22	14.67	122	81.33	150
Livestock and Poultry	9	6.00	24	16.00	117	78.00	150
Agro-processing and	11	7.33	33	22.00	106	70.67	150
Supplies of agrochemical	15	10.00	32	21.33	103	68.67	150
Distribution of farm	15	10.00	39	26.00	96	64.00	150
Fishery and Bee	22	14.67	48	32.00	80	53.33	150
keeping/Snail/Mushroom	25	16.67	45	30.00	80	53.33	150
Agro-forestry and Tree	35	23.33	54	36.00	61	40.67	150

Source: Field survey (2017)

4.6 The effect of teaching and learning on the Students' competency level in taking up self-employment in agribusiness enterprises

From Table 4.7, the mean test conducted on the variables indicate the areas of training that were significant and need to be considered to increase students' competency level in taking up self-employment in agribusiness. It was revealed that, the following training areas were significant at 5% level; theoretical training in crop production, theoretical training in agribusiness and economics, practical training in animal production, practical training in soil science, practical training in agricultural mechanization, and practical training in agribusiness and economics.

Table 4. 7: Students' competency level in taking up self- employment in agribusiness

Variables	Mean	Std.	Sig.	Rank
Theoretical training in animal production	0.14	1.21	0.158	8
Theoretical training in crop production	0.43	1.144	0.000	2
Theoretical training in soil science	0.08	1.277	0.444	10
Theoretical training in agriculture	-0.16	1.182	0.099	7
Theoretical training in agribusiness	0.26	1.184	0.008	5
Practical training in animal production	-0.31	1.295	0.004	3
Practical training in crop production	0.01	1.316	0.901	11
Practical training in soil science	-0.34	1.192	0.001	4
Practical training in agribusiness and Economics	-0.54	1.23	0.000	1
Practical training in agribusiness and Mechanization	-0.21	1.298	0.046	6
Practical training in entrepreneurial skills	-0.11	1.359	0.309	9

Source: field survey (2017)

The effect of teaching and learning on the student competence level in taking up self-employment in agribusiness enterprises was analysed by the use of mean and rankings.

Result presented in Table 4.7 revealed that the prioritised competency level of students in taking up agribusiness as self-employment were ranked from first to last based on their means as; practical training on agribusiness and economics (0.54) followed by theoretical training in crop production (0.43) the practical training in soil science (0.34). The least ranked competency level was indicated as practical training in entrepreneurial skills which had a mean of (0.11).

Result obtained from the study is in agreement with that of Zakaria *et al.*, (2014) who found that students have competency in theoretical training and therefore recommend that students should be exposed to practical training in Agriculture and Agribusiness. This buttresses findings of Ayanda *et al.*, (2013) and Ojebiyi *et al.*, (2015).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section of the study presents summary of the findings of the study, the conclusions and the policy recommendations suggested.

5.2 Summary of the result

The study collected cross-sectional data on final year undergraduate agricultural students in the School of Agriculture, University of Ghana. The main objective of the study was to analyse agricultural students' perception and self-employment intention in agribusiness. The specific objectives were: to analyse the perceptions of agricultural students towards self-employment in agribusiness, to determine factors influencing agricultural students' decision on self-employment in agribusiness, to analyse the perceived constraints students could face in taking up agribusiness enterprises, to examine the most preferred agribusiness enterprises among agricultural students and finally examine the extent to which the teaching and learning of agriculture impart on students' knowledge and competencies to venture into agribusiness. The total sample size for the study was 150 students. The simple random sampling technique and cluster sampling were used in the sampling process.

The study employed descriptive statistics such as frequency, percentage, means and standard deviations with tables and graphs in the presentation of results. The study employed statistical methods such as the Probit regression model, the Kendall's Coefficient of concordance (W) and the test of mean to address various objectives of the study. Results from the data analysis indicated that, majority of about 86% of the sampled students were willing to venture into self-employed agribusiness. The overall perception index was found to be 0.62.

The factors that influence students' intention to venture into agribusiness were, age, sex,

department of the respondent, occupation of the student's parent and perception index.

The major factors identified and ranked as the main constraints in order of importance were as follows: lack of skills and knowledge on specific agribusiness selected, adverse effect of climate change, limited access to credit, poor technological knowhow, wide range of product, market unavailability, lack of Government support and poor extension services.

Theoretical training in crop production, theoretical training in agribusiness and economics, practical training in animal production, practical training in soil science, practical training in agricultural and mechanization, practical training in agribusiness and economics have been given attention by the School of Agriculture since they were the significant (at 5 percent level). The most preferred agribusiness enterprise areas were identified as: food crop production, agricultural produce marketing and distribution, livestock and poultry enterprise, agro-processing and storage, supplies of agrochemical and seeds, distribution of farm machineries, fishery and aquaculture, the rest are bee keeping/snail/mushroom and lastly production of agro-forestry and tree crops.

5.3 Conclusions

Undergraduates offering agriculture in the University of Ghana have a positive perception about self-employment in agribusiness. The male and younger trainees who resided in rural areas and whose parents were engaged in self-employed business were likely to engage in self-employed agribusiness.

5.4 Recommendations

Based on the findings, the study makes the following policy recommendations:

1. Policy makers and implementers need to do more by way of vigorous implementation of policies and programmes encouraging broad based participation of the youth, especially graduates from our tertiary institutions in self-employment in agribusiness.
2. Entrepreneurship training and enterprise management skills should be incorporated into the curricula of tertiary programmes to help equip graduates with the requisite knowledge in enterprise development and management.
3. The Ministry of Food and Agriculture, should assist tertiary institutions in educating students offering agricultural related courses to develop interest in taking up self-employed agribusinesses through organising seminars and workshops that provide further hands on training to students.
4. Since the study revealed that increasing in age (aged) is negatively related to students' intention to venture into self-employment in agribusiness, there is the need for policy makers to target and encourage the old in to self-employment in agribusiness through workshops, seminars and other training programmes.
5. Also since female students' (women) are more willing to venture into self-employment in agribusiness as compared to their male (men) counter parts, MoFA and other organizations should actively design specific policies to attract the female graduates into self-employment in agribusiness enterprises.
6. The urban residents should be targeted and encouraged to take up agribusiness as self-employment venture by focusing and addressing the challenges such as access to credit, land

and entrepreneurship development, among others, during MoFA capacity building.

7. Both government and the private sector (NGO's) should help address constraints such as climate change issues, access to land issues, capital acquisition and other related factors that would attract the graduates to take up self-employment in agribusiness.

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APPENDICES

Appendix A: Questionnaire

Department of Agricultural Economics and Agribusiness

College of Agriculture and Consumer Sciences

University of Ghana, Legon

This questionnaire is seeking your opinion in an effort to solicit information to write on the thesis topic “Assessing students’ Perception of self-employment in Agribusiness among Final Year Agricultural Students of University of Ghana.” The study is being conducted in partial fulfillment of the award of Master of Philosophy degree in Agribusiness. Information obtained will be strictly kept confidential and only be used for academic work.

Respondent’s name..... Questionnaire number.....

Date...../...../..... Phone Num. of respondent.....

(Please tick where appropriate)

SECTION A: Demographic Characteristics of Respondent

What is your sex?

Male 2. Female

How old are you?

What do you want to do after graduation?

1.self-employed in agribusiness

2.self-employed in other enterprise

3.employed by private sector (agric)

5.employed by private (non agric)

6. employed by public sector (agric)

7.public (non agric)

8. Pursue Masters

What is your religious affiliation?

Muslim

Christian

Others

What ethnic group do you belong to? 1. Akan 2.Ewe 3.Ga & Dangme 4. Mole
Dagbani

5. Guan 6. Others

What is your marital status? 1. Married 2. Not married

Which region and district do you come from?

Region 2. District

Is your place of residence rural or urban?

1. Urban farming 2. Rural farming

3. Urban non-farming 4. Rural non- farming

What is the educational background of your parents or guardian?

1. No Formal Education 2. Completed Basic Education

3. Completed Secondary Education 4.Completed Tertiary Education

What is your household-head's occupation?

1.Self-employed in agriculture 2.Self-employed in other enterprise

3. Employed in civil /public sector 4. Employed in private sector

SECTION B: Perception of Student to engage in Self-Employed Agribusiness

Would you like to venture into agribusiness? 1. Yes [] 2. No []

Give reasons.....

What determines success in agribusiness? (*Tick as many as possible*)

achieving profitability Yes [] No []

job security Yes [] No []

dealing with technological innovations Yes [] No []

competency and intellectual capital Yes [] No []

Identify and rank statements from **1 to 6** bellow, what should be done to engage graduates into self-employed agribusiness where **1** is the most pressing statement and **6** is the lest statement.

make it easier for students to get access to land []

make it easier for students to get access to capital []

educate student about the importance of agribusiness []

introduction of modern technology in agriculture []

training should be practical oriented []

training should be theoretical oriented []

Perception of Students Regarding the Prospects of Agribusiness (tick where applicable)

Factors	1 Strongly Disagree	2 Disagree	3 Indifferent	4 Agree	5 Strongly Agree
It is easy to create self-employment in agribusiness					
Agricultural related enterprises are very lucrative/ profitable					
Agribusiness has a high potential for self-employment in Ghana					
Many Ghanaians have made a lot of fortunes from Agriculture					
Agribusiness has a high prospect of success in Ghana					
Agriculture In Ghana has a lot of untapped potential					
Government policies favour agriculture enterprise creation					
Agriculture is a risk business enterprise in Ghana					
Agriculture is a business and not a way of life					
UG curriculum has equipped me skills to be successful in agribusiness					
I have acquire technical knowledge to be successful agribusiness entrepreneur					

Distribution of Students' Preference of Agribusiness Enterprises

Agribusiness Enterprise	1 Strongly Disagree	2 Disagree	3 Indifferent	4 Agree	5 Strongly Agree
Crop production					
Livestock and Poultry Enterprise					
Agro-forestry and Tree crops					
Agro-processing and storage					
Fishery and Aquaculture					
Bee keeping/Snail/Mushroom Production					
Supplies of agrochemical and seeds					
Agricultural marketing and distribution					
Distribution of farm machineries					

On a scale of 1-5, where 1=strongly disagree, 2=disagree, 3= indifferent, 4= agree, 5= strongly agree, consider the statements below and indicate the extent to which you agree or disagree to them describing your opinion on how these factors influence your decisions to venture into agribusiness.

Factors	1 Strongly Disagree	2 Disagree	3 Indifferent	4 Agree	5 Strongly Agree
Agribusiness ventures are not respected					
Agribusiness is profitable					
Easy access to capital for agribusiness ventures					
Agribusiness has policy support from government					
Agribusiness has extension support from government					
agribusiness ventures are age dependent					
Agribusiness ventures are gender dependent					
Agribusiness ventures are place of residence dependent					
Agribusiness ventures are marital status dependent					
Agribusiness ventures are current occupation dependent					
Level of training in agriculture and it related field					
Level of perceived risk in agribusiness					

On a scale, where 1= not high, 2= slightly high, 3=moderately high, 4= much high, 5= very much high, consider the statements below and indicate **the extent of your perceived level of training** offered by the university of Ghana, that would influence your likelihood to venture into agribusiness

Variable	1 Not High	2 Slightly High	3 Moderately High	4 Much high	5 Very Much high
Theoretical training in animal production					
Theoretical training in crop production					
Theoretical training in soil science					
Theoretical training in agricultural mechanization					
Theoretical training in agribusiness and economics					
Practical training in animal production					
Practical training in crop production					
Practical training in soil science					
Practical training in agricultural mechanization					
Practical training in agribusiness and economics					
Practical training in entrepreneurial					

Identify and rank perceived constraints you face in your attempt to venture into agribusiness

Number	Constraints	Tick	Rank (<i>from most to least</i>)
1	Access to Credit		
2	Access to land		
3	Market availability		
4	Government support		
5	Technology		
6	Extension services		
7	Climate change		
8	Lack of skills and knowledge		
9	Agriculture is a risky venture		
10	Farmers work hard for little reward		
11	There are modern jobs		

On a scale of 1-5, where 1=strongly disagree, 2=disagree, 3= indifferent, 4= agree, 5= strongly agree, consider the statements below and indicate the extent to which you agree or disagree to them describing the extern teaching and learning of agriculture impart on your technical competence to venture into agribusiness

enterprises

Statements	1 Strongly Disagree	2 Disagree	3 Indifferent	4 Agree	5 Strongly Disagree
Pursuing agribusiness in the university is the right choice					
Agribusiness enterprises benefit my status as a university student					
UG curriculum has equipped me skills to be successful in agribusiness					
UG has offered me value experience to engage in agribusiness					

Thank you

Appendix B:

Appendix C: